Richard J. Chacon
Rubén G. Mendoza

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The Ethics of Anthropology and Amerindian Research

Richard J. Chacon • Rubén G. Mendoza
Editors

The Ethics of Anthropology and Amerindian Research

Reporting on Environmental Degradation and Warfare

Springer

Editors
Richard J. Chacon
Department of Sociology and Anthropology
Winthrop University
Rock Hill, SC 29733, USA
chaconr@winthrop.edu

Rubén G. Mendoza
Institute for Archaeological Science,
Technology and Visualization
Social, Behavioral, and Global Studies
California State University, Monterey Bay
Seaside, CA 93955, USA
rumendoza@csumb.edu

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For his indefatigable and lifelong commitment to accurately reporting Amerindian ways of life and the plight of native people, we respectfully dedicate this work to Napoleon Chagnon.

Foreword

The most revealing moments in ethnographic research often emerge in conflict. At such times, structure – cultural structure, the structure of power and history – clarifies. As with society, so with an academic discipline such as anthropology: in conflict, the issues that matter bare themselves. They matter, of course, most at the moment they arise, but not surprisingly are often simply the latest iteration of issues that have emerged time and again. It should not strike anyone as odd that a discipline as large and varied as anthropology – and now, with historical depth – should periodically be rent by conflict. *The Ethics of Anthropology and Amerindian Research*, however, makes clear the depths to which the discipline has fractured in recent years.

To say that *Ethics* is needed – or that more works plumbing these and related topics, in sustained analysis, should follow – is an understatement. The recent history of anthropology has been marked by episodes in which the principal professional organization in America, the American Anthropological Association (AAA), has sought, in policy and resolution, to clarify anthropological ethics, the place of science, and concepts such as indigeneity, human rights, and race; and has critiqued the practice of specific anthropologists or projects. Despite oft-laudable (if naive) intention, the results have not always been salutary. Indeed, one infamous case—the AAA's response to the accusations of Patrick Tierney in *Darkness in El Dorado* against the anthropologist Napoleon Chagnon—revealed an incautious use of evidence and methodology as well as a destructive rush to judgment.

Richard Chacon and Rubén Mendoza, the editors of *Ethics*, and their fellow contributors detail research – their own and others – caught up in these recently spun-related webs of intrigue and accusation. Significantly, *Ethics* builds on three recent books edited by Chacon, two with Mendoza and one with David Dye (Chacon and Dye 2007; Chacon and Mendoza 2007a, b). Here and elsewhere they (and others whose work is not represented in these volumes) provide evidence and analyses deep in time of the violence and brutalities of warfare or of subsistence hunting that often displays little or no concern for what today might be labeled conservation or sustainable practice (see also Krech 1999, 2012). Of the 17 essays in *Ethics*, framed by the introduction and conclusion, ten speak especially to

violence or warfare, five in particular to ecology and conservation, and two to both. The majority of the contributions are authored by archaeologists and the remainder by cultural anthropologists along with others. Five contributors are of native ancestry. The essays range widely, from head and limb removal in warfare in the Ohio valley, blood sacrifice among the Maya, and the sophisticated strategies and tactics developed to prevail in war; to the question of sustainability of hunting practices among the Maya and the Achuar of the Ecuadorian Amazon; and to metacritique of representations of Amerindians in museum exhibitions and film (e.g., Mel Gibson's "Apocalypto").

The visceral reaction to this work in the academy and public arena is well documented. Scholars often vilify it and its authors, branding them racists or (in the case of the senior editor) *academic Nazis*. These essays, like all such works, should rise or fall not because of ad hominem attacks but because of their use of evidence and the clarity and intelligence of theory and analysis. Yet the most vociferous critics, whose main interest appears to stem from cultural politics, seldom engage on this level. Instead, they misrepresent or do not bother to read or engage an argument; polemicists, some unhesitatingly, play the race card in hopes of silencing this work.

Why? One reason – I speak here from personal experience – is that because this research cuts against the grain of received wisdom concerning the impact of warfare and subsistence practice in Amerindian societies past and present, and is perceived as politically incorrect, anti-indigenous, and (for work addressing ecology and conservation) anti-environmentalist. That the media appropriates anthropological research to ends other than that for which it was written only complicates the reaction (Krech 2007).

On one level, one can understand why some in the academy or native communities might react negatively. As a rule, anthropologists who do fieldwork care deeply for the well-being of the people in whose communities they live as guests. They would never set out to undermine them. This is so strongly internalized as to take on the qualities of a reflex. And might not research findings implicating native people with environmentally or politically damaging behavior make it impossible for indigenous people—often poor and powerless—to play on a level field?

But the societies – or processes – about which we write have long been in the throes of change and globalization. Culture was never distributed evenly in small-scale societies – this was a timeworn anthropological "myth" – and today nation-states which encase smaller-scale societies and communities that remain of longstanding interest to anthropologists, with the people who live in them, see a distribution of beliefs, values, and practices that are more variable than ever. Thus, "the people" whose actions emerge from a full panoply of sentiments and values, some ancient, others new, and still others perceived as "traditional" (even if of recent invention), demonstrate extraordinary variability.

Moreover, societal membership today is more complex than ever; societal boundaries are less sharply defined than ever; and indigeneity itself is variable and contested – complicated in origin and distant in expression from its essentialized moorings in declarations advanced in the United Nations (Gordon and Krech 2011). No matter

how isolated a community might seem today, the world outside is in the frame of every person who can see the contrail of a plane high overhead, feel the impact of changing climate, or experience the effect of exotic biota, products, and ideas flowing across porous borders. Given these changes, one is likely to find the "reflex" of support for one's people logically difficult and even, in certain instances, impossible to carry out in practice – for the people do not agree on what a proper course of action (on, say, projects with environmental consequences) might or should be (see Krech 1999, 2007). Our disciplinary ethics need to anticipate and respond to the contradictions and ambiguities of today's societies and cultures.

Ethics, I hope, will be given its full due. Not only are the contributors committed to agreed-to canons of evidence revealed in the reasonable use of scientific, historical, or cultural analysis, and determined to follow analyses to judicious ends, the arguments they advance will rise or fall on the weight of that evidence and argumentation. Even if we do not always learn from the past in taking or avoiding action in the present. We simply cannot afford to ignore comparative analysis in a world torn by conflict and sinking in environmental crisis.

Washington, DC, USA Shepard Krech

References

Chacon, Richard and David Dye. 2007. *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* New York: Springer Press

Chacon, Richard and Rubén Mendoza, 2007a. *North American Indigenous Warfare and Ritual Violence*. Tucson: University of Arizona Press.

Chacon, Richard and Rubén Mendoza, 2007b. *Latin American Indigenous Warfare and Ritual Violence*. Tucson: University of Arizona Press.

Gordon, David and Shepard Krech III, eds. 2012. *Indigenous Knowledge and the Environment in Africa and North America.* Athens: Ohio University Press.

Krech, Shepard III. 1999. *The Ecological Indian: Myth and History.* New York: WW Norton.

Krech, Shepard III. 2007. "Beyond *The Ecological Indian*," in *Native Americans and the Environment: Perspectives on the Ecological Indian*, eds. Michael E. Harkin and David Rich Lewis. Lincoln: University of Nebraska Press. pp. 3–31.

Krech, Shepard III. 2012. "'That's Real Meat:' Birds, Native People, and Conservation in the Neotropics." In *Designing Wildlife Habitats*, ed. John Beardsley. Washington, DC: Dumbarton Oaks Research Library and Collection.

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Contents

Contributors

Elizabeth Arkush Department of Anthropology, University of Pittsburgh, Pittsburgh, PA 15260, USA

Linda A. Brown Anthropology Department, The George Washington University, Washington, DC 20052, USA

Brooke Bauer Department of History, University of North Carolina, Chapel Hill, NC 27599, USA

Robert L. Carneiro Division of Anthropology, American Museum of Natural History, New York, NY 10024, USA

Richard J. Chacon Department of Sociology and Anthropology, Winthrop University, Rock Hill, SC 29733, USA

Antonio Chavarria Laboratory of Anthropology, Museum of Indian Arts & Culture, Santa Fe, NM 87504, USA

Charles R. Cobb South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia, SC 29208, USA

Arthur A. Demarest Department of Anthropology, Vanderbilt University, Nashville, TN 37235, USA

David H. Dye Department of Earth Sciences, University of Memphis, Memphis, TN 38152, USA

Kitty F. Emery Florida Museum of Natural History, University of Florida, 117800 Dickinson Hall, Museum Road, Gainesville, FL 32611, USA

Alberto Esquit-Choy Fundación-Kaqchikel, Parcelamiento La Alameda, Sector 1. 2a. Avenida, Chimaltenango, Guatemala

Richard D. Hansen Department of Anthropology, Institute of Mesoamerican Studies, Idaho State University, Pocatello, ID 83209, USA
Foundation for Anthropological Research & Environmental Studies (FARES), Pocatello, ID 83209, USA

Shari R. Harder Mission Conservation Program, Social, Behavioral, and Global Studies, California State University, Monterey Bay, Seaside, CA 93955, USA

John W. Hoopes Director, Global Indigenous Nations Studies Program & Associate Professor, Department of Anthropology, The University of Kansas, Lawrence, KS 66049, USA

M. Franklin Keel Director, Eastern Regional Office, Bureau of Indian Affairs, Nashville, TN 37214, USA

Shepard Krech III 2425 L Street NW, Apt 934, Washington, DC 20037, USA

Rachel A. Lockhart Sharkey Indiana Prehistory Laboratory, University of Indianapolis, Indianapolis, IN 46227, USA

Rubén G. Mendoza, Institute for Archaeological Science, Technology and Visualization Social, Behavioral, and Global Studies, California State University, Monterey Bay Seaside, CA 93955, USA

M. Gregory Oakes Department of Philosophy and Religious Studies, Winthrop University, Rock Hill, SC 29733, USA

Dennis E. Ogburn Department of Anthropology, University of North Carolina, Charlotte, NC 28223, USA

Christopher W. Schmidt Indiana Prehistory Laboratory, University of Indianapolis, Indianapolis, IN 46227, USA

Dawnie Wolfe Steadman Department of Anthropology, University of Tennessee, Knoxville, TN 37996, USA

John Walden, Professor and Chairman, Department of Family and Community Health, Marshall University Joan C. Edwards School of Medicine, Huntington, WV 25701, USA

Brent Woodfill Researcher, University of Louisiana at Lafayette, 104 University Circle, Lafayette, LA 70504, USA

Chapter 1
Introduction

Richard J. Chacon and Rubén G. Mendoza

The decision to publish scholarly findings bearing on the question of Amerindian-induced environmental degradation, warfare, and violence is one that weighs heavily on anthropologists and other social scientists. This burden stems from the fact that documentation of indigenous conflicts or environmental mismanagement may render native communities vulnerable to a host of predatory agendas and hostile forces. Consequently, some anthropologists and community advocates alike continue to argue that such sensitive, and thereby, politically volatile information regarding the Amerindian mismanagement of natural resources, warfare, and violence should not be reported. This admonition and proscription present a conundrum for anthropologists and other social scientists employed in the academy, particularly as this regards those who work at the behest of tribal entities.

Significantly, the American Anthropological Association's Code of Ethics defines Anthropology as a "multidisciplinary field of science and scholarship, which includes the study of all aspects of humankind" (2009), and thereby, anthropology constitutes a field of scientific inquiry that bears the responsibility to report and disseminate its findings based on laboratory and field studies fully and accurately. The prospect of being subject to censorship, or otherwise not reporting data however disturbing it may appear, would thus appear out of bounds as the Association's Code of Ethics calls for scholars to disseminate "anthropological knowledge through publications, teaching, public education, and application" (2009). However, the Association's credo also contains a potentially problematic statement regarding

R.J. Chacon, Ph.D. (✉)
Department of Sociology and Anthropology, Winthrop University, Rock Hill, SC 29733, USA
e-mail: chaconr@winthrop.edu

R.G. Mendoza, Ph.D., RPA
Institute for Archaeological Science, Technology and Visualization
Social, Behavioral, and Global Studies, California State University,
Monterey Bay Seaside, CA 93955, USA
e-mail: ruben_mendoza@csumb.edu

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professional protocols: "Anthropological researchers have primary ethical obligations to the people, species, and materials they study and to the people with whom they work…These ethical obligations include…[t]o avoid harm or wrong, understanding that the development of knowledge can lead to change which may be positive or negative for the people" (American Anthropological Association 2009). The reality is that despite our best efforts to allay the concerns of the affected constituencies, anthropological findings bearing on sensitive and potentially controversial topics may ultimately prove harmful, and thereby, provocative in their ramifications for the peoples we study. How then should anthropologists and other social scientists proceed when confronted with data and findings that either substantiate, or otherwise obviate the need to consider more fully the evidence for Amerindian-induced environmental degradation, warfare, and violence?

In order to address this dilemma, the editors assembled an organized session for the 2009 meetings of the American Anthropological Association convened in Philadelphia. The event comprised an internationally-recognized group of scholars who addressed the topic in question. In addition to those conferees who participated in this session, the editors subsequently invited other noted specialists to contribute to the formulation of the present volume so as to expand the multidisciplinary breadth and theoretical perspectives deemed essential to a more comprehensive treatment of the topic under consideration.

Ecological Amerindians?

For decades many scholars have asserted the premise that Amerindians were conservationists who maintained a symbiotic relationship with the earth such that they registered little to no impact whatsoever on their respective environments and natural resource base. These academics contend that native peoples harvested wildlife in such a manner that prevented them from depleting the stock of locally available fauna. Moreover, some argue that native peoples managed natural resources on the basis of a conservation ethic borne of tradition (Bettinger 1976; Booth and Jacobs 1990; Nelson 1983; Repetto and Holmes 1983; Speck 1913, 1939a, b; Stoffle 2005).

It is not unusual for some academics to regard indigenous patterns of natural resource utilization as not only effective and sustainable, but also as culturally and morally superior to Western patterns of resource use (Pierotti 2010). One such claim of Amerindian superiority was advanced by Lee (1959:163), who states that "The white people never cared for land, deer or bear. When we Indians kill meat, we eat it all up. When we dig roots, we make little holes…We shake down acorns and pine nuts. We don't chop down trees. We only use dead wood. But the white people plow up the ground, pull up the trees, kill everything…How can the spirit of the earth like the white man?…Everywhere the white man has touched it, it is sore."

In 1956, William Ritche, the State Archaeologist for New York, asserted that "in sharp contrast to the white man's way, that the Indian trod lightly through his natural

environment, merging himself sympathetically into the world of living and non-living things" (Ritche 1956:27). Echoing this sentiment, Hughes in turn, fueled the archetype of the ecological Amerindian by insisting that "[a]n Indian took pride in not making a mark on the land, but on leaving as few marks as possible: in walking through the forest without breaking branches, in building a fire that made as little smoke as possible, in killing one deer without disturbing the others" (Hughes 1983:4). Collier in his turn claimed that "[t]hese [Amerindian] societies existed in perfect ecological balance with the forest, the plain, the desert, the waters, and the animal life" (1947:173). According to Wallace Ney, "…the Indian was an instinctive environmentalist, even during the most complex and developed [Amerindian] cultures, as in Central and South America, living in harmony with nature as part of his faith" (Wallace Ney 1977:4). Hughes also claimed that the large-scale Mesoamerican and Andean societies created little environmental disturbances (1983).[1]

In concert with these views, former US Secretary of the Interior Stewart Udall chimed in on the notion of the ecological Amerindian by stating that "the Indians were, in truth, the pioneer ecologists of this country" (Udall 1963:24). The United Nations Secretary General Boutros Boutros-Ghali similarly claimed that "[i]t is now clearly understood that many indigenous peoples live in greater harmony with the natural environment than do inhabitants of the industrialized consumer societies" (Boutros-Ghali 1994:13).

Not only are Amerindians thought by many to be unwaveringly wise stewards of natural resources, some have gone so far as to argue that native peoples hold the only hope remaining for the ultimate fate of humanity. To that end, Collier (1947:28) once asserted that "…the Indian record is the bearer of one great message to the world. Through his society, and only through his society, man experiences greatness;…and through it, he is freed from all fear." According to the late American Indian (Sioux) scholar, Vine Deloria, Jr., "We Indians have a more human philosophy of life. We Indians will show this country how to act human" (Deloria cited in McLuhan 1971:159). Through a host of seminal works, Deloria asserted the moral and theological superiority of Amerindian metaphysics and the Indian's enlightened respect for the earth and its resources. To that end, Deloria goes on to contend that "[t]he only answer [to the current ecological crisis] will be to adopt Indian ways to survive. For the white man to exist, he must adopt a total Indian way of life" (Deloria 1970:186).[2]

[1] Many scholars continue to claim that native peoples exist(ed) in a state of equilibrium with their local environment with little to no empirical data to back such assertions.

[2] The Kayapó leader Payakan was granted quasi-messianic status by *Parade Magazine* when he was featured on the cover of its April 12, 1992 issue with the proclamation that he was in effect "A Man Who Would Save The World."

Amerindian Pacifists?

Many continue to advance or endorse essentialized characterizations of Amerindians as, for instance, "…people whose natures could hardly be told save through the language of music; peoples joyously hospitable who seemed as free as birds… Childlike they were, these natives, but athletic, precise, completely efficient towards practical ends, within their wandering dance and song" (Collier 1947:220–221). Along these lines, others have gone so far as to describe Amerindians as quintessential peace-loving peoples; and to that end, one scholar contends that where Amerindian tribes are concerned, at least 70% were pacifist in orientation (McNickle cited in Allen 1986). As such, the evidence for indigenous armed conflict is minimized, or for that matter, denied by some. Means and Wolf describe precontact indigenous warfare in particularly idealized terms by arguing that "[b]efore the whites came, our conflicts were brief and almost bloodless, resembling far more a professional football game than the lethal annihilations of European conquest" (1995:16). The clear message promoted by some academics and cultural activists is that warfare and related social conflict were of little consequence to the traditional Amerindian way of life.[3]

Idealized, or essentialized, characterizations of the indigenous lifeway and its world view have a long history in Western thought. Conklin and Graham (1995) note that there is a long tradition of depicting various non-Western peoples as being innocent and free of any corruption, in stark contrast to the Western world's long and tragic history of devastating wars and pervasive materialism.[4] As such, romanticized characterizations of Amerindians continue to appear prominently in pop culture venues, the national media, and in the scholarly writings of many anthropologists and other social scientists.[5] Clearly, many employ such notions as a foil to criticisms of Western political and sociocultural institutions (Conklin and Graham 1995).[6]

[3] According to Fienup-Riordan (1990), some contemporary Yup'ik leaders claim that killings never occurred among the Eskimo until after the advent of Westerners.

[4] Westerners, it is claimed, have not always been so environmentally irresponsible and/or bellicose as according to Kunnie (2006), "…before colonialism, Europeans possessed the drum as other Indigenous peoples, but lost it on the road to industrialism and what was termed 'progress.' Following the loss of the drum, Western European civilization has faltered, lost and rootless, because it fell out of harmony with the pulse of Mother Earth and the rhythm of creation" (2006:271).

[5] According to Fienup-Riordan (1990), currently, powerful efforts are being made to portray Amerindian "history and culture as distinct from and superior to its non-native counterpart" (1990:149–150).

[6] Indeed, Borgerhoff and Coppolillo note that "the romantic notion of native peoples living in harmony with the natural world is used as a moral touchstone for calls to environmental action; indeed, this idea lies at the heart of many modern environmental philosophies" (2005:81).

While the claims of an ecologically harmonious and conflict-free existence may be emotionally appealing to some, recent scholarship fails to support this utopian view of native peoples. For example, there is growing evidence indicating that Amerindians are fully capable of overharvesting local natural resources (Alvard 1993, 1994, 1995, 1998a, b; Chacon 2001, 2005, 2009, Chap. 13; Chacon and Kay 2005; Hames 2007; Kay and Simmons 2002; Krech 1999; Mann 2005; Raab and Jones 2004; Sirén et al. 2004; Webster 2002).[7] Moreover, evidence indicating the presence of Amerindian warfare and/or violence has been recovered archaeologically and/or documented historically from virtually every culture area within the American Hemisphere (Chacon and Dye 2007; Chacon and Mendoza 2007a, b).[8]

Nevertheless, we remain well aware that many post-colonialist and community scholars continue to question and or reject the aforementioned empirical evidence as tainted by virtue of its grounding within a Western empiricist framework. Detractors often consider the reporting of pre- and post-contact Amerindian-induced environmental degradation, warfare, and violence as part and parcel of the product of a longstanding Western conspiracy which is "perpetuated to give power and supremacy to the 'planned and decisive discoveries' of the white man,…" (Goduka 2006:xvi). Some post-colonialist academics often denounce the authors of works documenting native conflict and mismanagement of natural resources as "colonial anthropologists [who] have also placed themselves in positions of power…These scholars are aware that their approach serves to channel us [indigenous peoples] into levels of inferiority and weakness that devour the strength and eventually break the power of our [indigenous] stories and voices so grounded in oral tradition" (2006:xvi).[9]

[7] One of the earliest attempts at linking pre-contact Amerindian activities with environmental degradation was put forth by Campbell Grant, James Baird and J. Kenneth Pringle: "In an attempt to answer some of the puzzling questions regarding the [pre-contact] disappearance of the Coso [Range] bighorn and Shoshonean migrations, we suggest the following theory. In the Early Period, the Coso hunters armed with the relatively inefficient atlatl, used rock pictures as an important psychological or hunting-magic aid…With the introduction of the bow, a great step forward was taken in the art of killing game. With the bow as prime weapon and the development of large communal hunts, the kill rate must have gone up sharply…The use of dogs, beaters, and dummy hunters along the cliffs, and especially ambushing on the migration routes through canyons, helped make a large harvest of sheep possible…The good times created by the bow and an ample supposedly inexhaustible food supply abruptly ended" (Grant et al. 1968:41–42). When the first whites arrived in the region in 1860, there were no reports of bighorn sheep inhabiting the Coso Range (Grant 1981).

[8] Although warfare has been defined in a variety of ways, we adopt the definition of Ember and Ember (1994:190) that warfare is a "socially organized armed combat between members of different territorial units (communities or aggregates of communities)."

[9] Webster states that "there is no doubt that native peoples have been victimized by the Western World, but victimhood is no guarantee of moral virtue. The Aztecs were victimized by the Spaniards but they also conquered fellow Amerindians, a pattern that extends deep into the Mesoamerican past" (David Webster, personal communication to Chacon 2009).

Additionally, some claim that "…Indigenous people often view [Western scientific] research with suspicion and disdain because it is linked to Euro-American imperialism and colonialism. For Indigenous peoples, Euro-American researchers have appropriated our [indigenous] material culture and misrepresented our past and present" (Denetdale 2006:80). For this and for various other reasons, some native scholars express antipathy toward the scientific method. To that end, Goduka (2006):xv argues that "[t]hese [indigenous] voices invoke the democratic ideal of the right for Indigenous Peoples to exist, search for their 'truth' and tell and write their stories without conforming to the rigors of Western colonial methodologies." According to Ivan Strudwick, a particularly egregious example of the anti-scientific bias so noted was made patently clear when "in 2007, Riverside County, California mandated that all Cultural Resource Management personnel (i.e., contract archaeologists) wishing to work in the region attend a day-long 'cultural sensitivity' orientation session. After successful completion, participants would be issued a certificate of compliance from the county. At this day-long event, several Native Americans conducting the presentations informed those attending that 'further archaeological research was not really necessary because Native Americans already knew who they were and they knew everything their ancestors did. Therefore, archaeological investigations would not reveal anything new'" (Ivan Strudwick, personal communication to Chacon, 2010).[10]

False Dichotomy

We are troubled by recent attempts to politicize, and thereby, generate a false choice between the desire to respect indigenous cultures and traditions, and the need to follow protocols essential to the practice of responsible social science.[11] However, we acknowledge that Kunnie and Goduka (2006) are absolutely correct in asserting that anthropologists have not always treated native peoples (or their ancestral remains) with the respect that they clearly deserve.

[10] On August 9, 2010, Chacon interviewed Frederick Lange who was one of the attending archaeologists at the Riverside County-sponsored event of 2007. Strudwick's aforementioned account of what transpired at this gathering was fully corroborated by Lange. Since 2007, however, the format of the county's day-long program has changed as the mornings are reserved for archaeologist/Native American issues with the afternoons being devoted to themes of professional interest to archaeologists (Frederick Lange, personal communication to Chacon, 2010).

[11] It is important to note that not all Amerindians are hostile toward Western science. See Echo-Hawk (2000) and Wildcat (2009) who believe that scientists and native peoples can and should form mutually beneficial partnerships. Additionally, Mendoza (1997a, b, c, a, 2001b, c, 2003a, b, 2010) has long sought to address the evidence for Amerindian science and technology, and continues to argue for the relevance of Amerindian science as such.

The anthropological literature, not to mention the corollary exhibitions and collections derived of the anthropological enterprise is replete with many examples of disregard for the rights and dignity of native peoples. For instance, one of the founding fathers of American anthropology, Franz Boas, was the chief anthropologist for the 1883 World's Columbian Exposition in Chicago where 59 Inuit people and their dogs were placed on display. The exhibition not only included papier-mâché replicas of the Inuit snowhouse, *iglu or* igloo, but it also eventually incorporated three children who were born following the Inuit group's arrival. Moreover, the remains of three Inuit who died during the course of the exhibition were preserved and displayed along with several Inuit skulls obtained illegally by Boas in 1888 (Cervone 2007; Steckley 2008; Talamantez 2003; Whiteley 1997).

One need not look far to find a host of late nineteenth and early twentieth century anthropologists who are on record for advocating various government-sponsored programs of assimilation and relocation targeting Amerindian communities. This, in addition to anthropologists who willingly collaborated with European colonial governments that forcibly occupied the homelands of subjugated native peoples, is part of a less than honorable legacy. In the throes of the colonial onslaught, anthropologists often failed to recognize or otherwise acknowledge the historical and cultural validity and richness of Amerindian oral traditions and thereby dismissed them as myth or as the useless meanderings of primitive minds. Others proved guilty, by virtue of intent or disregard, of disseminating esoteric and sacred knowledge or traditional ceremonies without tribal consent or consideration (Cervone 2007; Steckley 2008; Talamantez 2003; Whiteley 1997).[12]

Ultimately, we sadly acknowledge that the aforementioned sampling of offenses constitutes but a few of those abuses visited upon Amerindian communities by our profession. However, we also wish to point out that anthropologists have often positioned themselves at the forefront of efforts that have, in turn, benefited native peoples. For example, Boas fought the advance of scientific racism through his (1912) treatise countering the use of cranial capacity as a valid measure for assessing intelligence along racial lines (Stocking 1987). Today, cultural anthropologist Michael Harner can rightfully take solace and derive pride from the fact that native Amazonians have embraced his seminal publication *The Jívaro: People of the Sacred Waterfalls* (1972). Harner recently acknowledged that "[t]oday the dog-eared copes of my book, now passed from hand-to-hand by Shuar school children, are one of the most rewarding consequences of anything I have ever done as an anthropologist…I am glad that they [the Shuar] have found this work of use in coping with the dilemmas of the modern world" (Harner 1972:xv–xvi).[13] Additionally, according to Trigger, "Native people have come to value archaeology for a number of reasons. Archaeological evidence has proved helpful in establishing the historical

[12] See Deloria (1995) and Biolosi and Zimmerman (1997) for additional critiques targeting anthropologists and anthropology more generally.

[13] Also, see Hildebrandt and Darcangelo (2008) for an example of how warfare data can be presented in ways that serve to acknowledge and respect Amerindian concerns and sensibilities.

and legal rights of Native peoples to their lands in judicial proceedings in both Canada and the United States" (1997:viii).

Furthermore, growing numbers of anthropological publications address Amerindian concerns, while at the same time they include among their contributors, members of indigenous communities, and in this instance, not simply as informants, but as full-fledged principal investigators, co-editors, and co-investigators (see Chacon and Dye 2007; Chacon et al. 2007; Chacon and Mendoza 2007a, b; Hildebrandt and Darcangelo 2008; National Park Service 1996; along with the present volume).

Attempts to Suppress Data on Environmental Degradation Caused by Indigenous Peoples

The desire to suppress data bearing on the role of indigenous peoples in fomenting environmental degradation via the overharvesting of natural species has been occurring for decades. For example, according to Kirch, "[i]n the 1970s, while lecturing at the University of Hawai'i on how ancient Hawaiians caused the extinction of various species of birds long before the arrival of Europeans, a native Hawaiian activist condemned the promulgation of such data because she alleged that these findings would hamper the native Hawaiian sovereignty movement" (Patrick Kirch, personal communication to Chacon, 2010).

A prime example of just how deeply the bias against the reporting of Amerindian-induced environmental degradation runs was brought to bear in the volatile reaction to Shepard Krech's *The Ecological Indian: Myth and History* (1999). This research documents the overharvesting of a variety of natural resources by Amerindians. The book was vilified by one critic who characterized this work as "the worst among many egregious examples of the American professoriate serving the systems that are so efficiently destroying the earth." The critic in question then went on to conclude that "[t]here is no doubt a special, and very hot place for them in the hell that they are determined to reduce this world to" (Sale cited in Krech 2007:6).[14]

Apparently, some scholars are unwilling to even entertain the possibility that Amerindians are capable of environmental mismanagement as the following incident indicates: According to Gold, "in 2005, when I [Gold] put forth the possibility that the ancient Native Americans of California's Coso Range may have overhunted local bighorn sheep populations, several of my colleagues became upset. I was told

[14] Borgerhoff and Coppolillo point out that "[s]ince indigenous peoples are being nominated as guardians of biodiversity, at least in part because of their apparent conservation ethic, studies of the ecological impacts of early human and traditional contemporary populations are seen as inflammatory, even subversive, with respect to debates surrounding conservation and indigenous affairs…" (2005:97–99).

that the suggestion that Amerindian hunter–gatherers could overharvest wildlife was 'silly, absurd, and naïve.' Remarkably, another scholar unhesitatingly informed me that my query into prehistoric overkill by Native Americans was 'not a question that I should be dealing with'" (Alan Gold, personal communication to Chacon, 2010).

Attempts to Suppress Data on Indigenous Warfare and Violence

The complications that attend to the reporting of the role of indigenous agency in environmental degradation are equally prominent in those decades-long efforts to obfuscate data on Amerindian conflict. In the 1970s, for instance, Michael Harner's submission of a manuscript addressing the question of Aztec cannibalism touched off a firestorm. One anthropologist who anonymously reviewed Harner's manuscript for *Natural History Magazine* asserted that "this work should not be published even if Harner's arguments were correct because the findings could endanger Mexican–American relations" (Michael Harner, personal communication to Chacon 2007). When the editorial board for *Natural History* subsequently approached Robert Carneiro for a "second opinion" regarding the manuscript under consideration, Carneiro acknowledged that while he did not necessarily agree with Harner's explanation for Aztec cannibalism, he, nevertheless, believed that the work should be published. Moreover, Carneiro informed the magazine's editor that it was his opinion that "Mexican anthropologists would be outraged if research findings were being suppressed for political reasons" (Robert Carneiro, personal communication to Chacon 2009).[15]

Yet another egregious example of this longstanding pattern of suppressing or seeking to deny the existence of conflict among Amerindians centers on the Tukanoans of Colombia's tropical rainforest. In a recent publication, the Tukanoans were portrayed in a romantic and idealized fashion "while ignoring the traditional raiding and feuding characteristic of Lowland South America" (Jackson 1991:147). This pacified and essentialized depiction of the Amerindian experience is also being applied to the Jívaroan peoples. For instance, whereas a strong association between *Arutam*, warfare, and ritual violence among these groups, has been well documented by various scholars (Chacon 2007; Descola 1996; Harner 1972; Karsten 1923, 1935; Rubenstein 2007; Seymour-Smith 1988); in Nunink's (2008) account, the important role that *Arutam* plays in native armed combat has been eliminated.[16]

[15] In 1977, Michael Harner's manuscript was published as "The Enigma of Aztec Sacrifice." *Natural History* vol. 86:46–51.

[16] See Boster (2003) for a description of the role that missionaries played in the transformation and reconceptualization of *Arutam.*

Not surprisingly, angry reactions are not uncommon when scholars present data indicating the existence of Amerindian warfare and violence. For example, in 1970, Webster recounts how it was that one visitor responded to being shown the then freshly excavated defensive earthworks at the precontact Maya site of Becan. The visitor reacted to being confronted with this incontrovertible evidence for warfare by stating the following: "Godammit, somewhere there has got to be a peaceful civilization" (David Webster, personal communication to Chacon 2009).[17]

The editors have, in turn, endured similar attacks and critiques regarding their studies of war, violence, and environmental degradation in Amerindian contexts. For Chacon, a host of vitriolic attacks followed the 2007 publication of three volumes on Amerindian warfare and ritual violence that he co-edited with Dye and Mendoza (i.e., Chacon and Dye 2007; Chacon and Mendoza 2007a, b). Upon the dissemination of a press release for the publications under consideration, not only was Chacon's work vehemently criticized, but he was also subjected to ad hominem attacks, including comments to the effect that "This is very dangerous work"; "Your work is unethical"; "How can these sorts of publications be of any possible help to contemporary Indian peoples?"; "The individuals who reviewed your books could not have been very competent"; "I will boycott Springer Press along with the University of Arizona Press for publishing these kinds of books"; and finally, "You [Chacon] are an academic Nazi!"

Significantly, the said denunciations were made within minutes of the publisher's press release. Given that the condemnations originated with academics who could not possibly have read said works prior to publication, their criticisms rang hollow, but at the same time, made clear the antipathy toward those of us who address the anthropological themes in question. Had these critics taken the time to consult any one of these edited volumes prior to disparaging the research, and at the same time impugning Chacon's character, they would have discovered that all three of the aforementioned publications in fact include important contributions by highly regarded Amerindian scholars.

Mendoza has similarly found it necessary to confront such vitriol for having reported the results of his research findings (e.g., Mendoza 1992). In October 1997, he presented an invited paper regarding his documentation of Mesoamerican warfare before the Ford Foundation Fellows Conference at the headquarters of the National Research Council in Washington DC. During the discussion that ensued, Mendoza was subjected to a fulminating verbal assault by a participating Fellow who was quick to denounce him and his work, but who nevertheless failed

[17] Webster points out how "some accuse Anthropology of being part of a colonialist legacy because of the discipline's alleged tendency to portray native peoples as bloodthirsty savages. However, throughout the 1940s, 1950s, and 1960s, it was Anthropology that promoted the notion of a peaceful, time-worshipping Classic Mayan civilization" (David Webster, personal communication to Chacon 2009).

to offer any cogent criticisms of Mendoza's paper delivered at the conference. Later that same day, that same individual physically accosted Mendoza by deliberately and forcefully shoving him into a wall.[18]

Culture of Accusation

These examples illustrate a particularly disturbing trend within the discipline. As a consequence, Gregor and Gross (2002) observe that "[t]o win a skirmish, one often need do no more than to claim that one's opponent's fieldwork, ideas, or even language damages or demeans native peoples." They further contend that such divisive practices have generated a "culture of accusation" within Anthropology (Gregor and Gross 2004:695).

For further evidence regarding the emergence of a pervasive accusatory atmosphere in the discipline, one need only consider the character and consequences of the American Anthropological Association-sponsored forum spurred by the publication of Patrick Tierney's now infamous *Darkness in El Dorado* (2000). While some of those comments made within the context of the session were fair minded, the extent of the vitriol directed at Napoleon Chagnon included unfounded accusations to the effect that he had participated in sociobiological experiments resulting in the deaths of thousands of Yanomamö Indians (Gregor and Gross 2004).[19]

[18] Mendoza relates yet another incident that occurred within the context of one of his courses at the California State University, Monterey Bay, in the year 2000. After an illustrated presentation concerned with the particularly graphic Mayanized Mexican war murals identified with the archaeological site of Cacaxtla, Tlaxcala, Mexico, a visibly distraught Latina student alleged to Mendoza that these murals were a fraud, and obviously "created by the Spaniards to denigrate our ancestors." The Latina student in question absolutely refused to believe that the Cacaxtla murals were of pre-Columbian origin, and that despite Mendoza's repeated attempts to reason with her regarding his own investigations into the matter (Mendoza 1992). When Mendoza proceeded to recommend scholarly works documenting the pre-contact Mesoamerican warfare (e.g., Hassig 1995), she dismissed said works as distortions of the evidence, and retorted that "I refuse to read such propaganda." Significantly, Cacaxtla serves to corroborate key elements and evidence supporting Spanish contact era accounts reporting a grisly host of battlefield rituals and associated violence perpetrated by Mesoamericans against their rivals. See Chacon and Dye (2007), and Chacon and Mendoza (2007a, b) for further documentation pertaining to the veracity of pertinent contact era ethnohistorical accounts regarding war and ritual violence.

[19] Chacon was present at the American Anthropological Association-sponsored event in question, and it was there that he witnessed the proceedings. To his dismay, a host of scholars publicly denounced Chagnon for supposedly having committed crimes against humanity by way of his research on Amazonian peoples. They did so without offering concrete evidence supporting their allegations. For an in-depth analysis of how the AAA exacerbated this destructive turn of events consult Dreger (2011).

"Pro-Indian" Versus "Anti-Indian" Anthropologists?

Haley similarly acknowledges concerns about this accusatory culture by pointing out that "there is a growing tendency to construct dichotomies. Colleagues who promote the characterization of native peoples as being innate environmentalist and/or pacifists declare themselves as being 'pro-Indian anthropologists' while colleagues who report data indicating that native people are not always eco-friendly nor are they always averse to fighting are often denounced as being 'anti-Indian anthropologists'" (Brian Haley, personal communication to Chacon 2010).

Jankowiak echoes Haley in expressing concerns about what appears to represent a dramatic shift of priorities within the discipline. According to Jankowiak, "instead of striving to produce an accurate account of people's way of life, many now strive to produce work that declares itself to be morally superior to other approaches. Moreover, increasingly, some scholars not only claim to have a monopoly on the moral and intellectual high ground but they are often quick to characterize those who disagree with their approaches and/or conclusions as being part of an insidious racist/colonialist legacy" (William Jankowiak, personal communication to Chacon 2010).

Dangers of Reporting Cases of Environmental Degradation Caused by Native Peoples

We readily acknowledge that the reporting of Amerindian-induced environmental mismanagement can be detrimental to indigenous peoples. To that end, Ranco notes that for native peoples "ecological self-representation is one of the few avenues for justice…" (2007:33). Not surprisingly, the reporting of Amerindian-induced environmental degradation has been and may continue to be used by anti-Indian, and/or pro-development, forces so as to undermine attempts at tribal sovereignty. Therefore, according to Ranco (2007:43), for many Amerindian groups, "ecological legitimacy and recognition are matters of life and death."

Following this logic, Emery rightly cautions against the potential consequences of reporting Amerindian-induced environmental degradation, particularly "as the press may sensationalize the findings which in turn, may be exploited by forces hostile to native peoples" (Kitty Emery, personal communication to Chacon 2009). Headland (1997) similarly acknowledges that if anthropologists let it be known that native peoples are not the innate conservationists they have been presumed to be, policy makers may move to question the wisdom of granting lands and resources necessary to the well-being of indigenous communities. While paramount consideration in this context is with indigenous communities in the American hemisphere, the following African case study serves to illustrate just how vulnerable native peoples are to charges of environmental mismanagement, particularly when considering the consequences that may accrue as a result of such reporting.

G/ui and G//ana San and the Bakgalagadi Peoples of the Kalahari

In 1961, the Central Kalahari Game Reserve in Botswana was created on the recommendation of anthropologist George Silberbauer, the Bushman Survey Officer of the Bechuanaland Protectorate. It was aimed at protecting the habitats and resources for the local wildlife. The reserve was also put in place as a way of ensuring the survival of resident G/ui and G//ana San and the Bakgalagadi peoples who depended on wild game for part of their subsistence (Hitchcock 1988, 2002a, b; Hitchcock and Babchuk 2007; Murray 1976; Sheller 1977; Silberbauer 1965, 1981a, b). In 1961, an estimated 3,000 hunter–gatherers were living in the reserve (Kuper 2003).[20]

In the 1980s, ecologists, wildlife officials, and government officers claimed that there had been a reduction in the number of wild animals in Central Kalahari Game Reserve, and they argued that the hunting activities of local indigenous people were responsible for this decline (Government of Botswana 1985; Owens and Owens 1981; Spinage 1991). The reporting on indigenous people-induced environmental degradation resulted in some environmentalists and government officials calling for the removal of the indigenous people living in this protected area (Hitchcock 1988, 2001, 2002a, b; Owens and Owens 1981, 1984; Spinage 1991).

Eventually, the government of Botswana expelled the G/ui and G//ana San and the Bakgalagadi from the Central Kalahari Game Reserve ostensibly to protect wildlife: "In May and June of 1997 more than 1,100 people were moved in trucks to two settlements outside the reserve, where the usual depressing concomitants of forced resettlement soon manifested themselves in the form of alcoholism, domestic violence, and the spread of petty crime" (Kuper 2003:393). This involuntary relocation caused enormous consternation among the peoples who were resettled and concerns were raised by Botswana residents and the international media (Hitchcock 2002a, b).[21]

The tragic consequences of the Kalahari case study necessarily highlights Scheffel's cautionary tale that wisely urges careful consideration when reporting Amerindian and other indigenous resource use, particularly as this regards the overharvesting of natural resources. According to Scheffel, "we must exercise prudence whenever publishing data indicating the presence of Amerindian-induced environmental degradation because anti-Indian forces may pounce on this information.

[20] According to Hitchcock, the Central Kalahari Game Reserve is 52,730 km^2 (Robert Hitchcock, personal communication to Chacon, 2011).

[21] For an update on the status of the native peoples of the Central Kalahari Game Reserve consult Hitchcock et al. (2011).

For example, reactionary groups may use the documentation of the harvesting of natural resources at non-sustainable rates as 'proof' that native peoples do not qualify as credible/legitimate partners in either private or government environmental projects" (David Scheffel, personal communication to Chacon, 2010). Clearly, the Kalahari incident makes clear that scholars should be sensitive to the fact that reports indicating environmental mismanagement on the part of indigenous societies have the potential for being used by the forces hostile to native peoples.

Dangers of Reporting Cases of Indigenous Warfare and Violence

As with the concerns raised in the foregoing section, the reporting of indigenous warfare and violence similarly holds the potential to affect contemporary Amerindian communities adversely. Such information may similarly be used by those seeking to reverse or inhibit Amerindian self-determination and control over tribal lands. In this regard, Lovisek has dutifully noted that "in contemporary society native peoples are frequently, even commonly, subject to discrimination or at least regarded as having lower social status. The reporting of warfare and violence in the history of native peoples, even though common to all other cultures, may promote negative stereotypes of contemporary native people.[22] Moreover, the reporting of Amerindian warfare and violence may have the potential to stir up old wounds between formerly warring peoples and could be used to divide or generate competition over territorial claims, government funding, and status" (Joan Lovisek, personal communication to Chacon 2011).

The reporting of Amerindian conflict can be extremely detrimental to the political and economic interests of indigenous peoples as such information may bolster the rationale for promoting ethnocide within traditional indigenous contexts. Accordingly, Chacon is aware of numerous American (Christian Fundamentalist) missionaries who employ anthropological studies reporting native warfare in order to justify programmatic ethnocide and other practices aimed at the religious conversion of Amazonian groups such as the Yanomamö, Yora, and Achuar. When confronted with concerns regarding the practices in question, said missionaries frequently defend their culturally-destructive activities by invoking the argument that the "Natives are being saved from their destructive warring traditions that have been well-documented by anthropologists" (Chacon n.d., unpublished field notes, circa 1990).[23]

[22] The editors are aware of racist websites which promote white supremacist agendas by making reference to various anthropological sources documenting the practice of ritual violence (i.e., human sacrifice and cannibalism) among Amerindians.

[23] In 1990, one Fundamentalist Christian missionary operating in the Peruvian Amazon informed Chacon that the "Yora Indians do not understand what 'true love' is" (Chacon n.d., unpublished field notes, 1990).

Yet another example illustrating the hazards of reporting violence within indigenous communities is brought to bear in the work of Chagnon, who writes that "I have stopped publishing on Yanomamö infanticide, although I have a good deal of information on it that I have not published. This is an ethical problem. In 1985, I was asked to file a notarized affidavit in Venezuelan Congressional records on my 'view' of Yanomamö infanticide practices. The official who asked me to do this prefaced his request with the statement that a prominent member of that congress had heard that there were native peoples in Venezuela who killed some of their newborn offspring and wanted to mount a formal investigation, arrest the people involved, and try them for murder" (Chagnon 1997:94).[24]

Reality Check

Admittedly, the foregoing cases from the Kalahari and Amazonia merely serve to document but a small sampling of the potential negative repercussions that may accrue for native peoples when scholars report environmental mismanagement, warfare, and violence within indigenous contexts. Nevertheless, the editors maintain that our professional and ethical responsibility should not be with facilitating the suppression of data and findings out of fear that such information may hold the potential for undermining the economic and/or political rights and privileges of indigenous communities. We of course share the concerns of the discipline, and are particularly aware that our findings may be used to nefarious ends by those hostile to Amerindian cultures and traditions. Even so, we believe that the mere fact that an idea and/or the release of data pertaining to a given cultural or social reality may be misused by one group or another does not invalidate our ethical and professional obligations to report our findings fully and responsibly. In this regard, we are reminded of how it was that the scientific works of Charles Darwin were co-opted, and thereby served as the basis for the brand of Social Darwinism that fueled racist and imperialist agendas (Stocking 1987). Despite the abuse of Darwin's theoretical frameworks, few would contend that this fact should deter contemporary scholars from publishing work informed by evolutionary theory and its proponents. We, as such remain staunchly against the suppression or obfuscation of data and evidence bearing on the question of Amerindian-induced environmental degradation, warfare, and or violence. We in fact, advocate the judicious and timely publication of that information and data bearing relevance to questions regarding native conflict and or the mismanagement of natural resources.[25]

[24] Chagnon ultimately avoided the need to testify by making it clear to government officials that he had never personally witnessed an infant being killed, and this apparently was sufficient to bring the investigation to a halt (Chagnon 1997).

[25] See the conclusions section for suggestions on how anthropologists might appropriately proceed when confronted with data indicating native overharvesting of natural resources, warfare, and violence.

Chapter Summaries

This work is both multidisciplinary and international in scope. While the majority of contributors were drawn from the ranks of archaeology, the full scope of contributions include those of cultural anthropologists, ethnohistorians, ethnic studies specialists, and a philosopher, along with a physician with over 45 years of experience working with Amerindian populations. Lastly, we honor contributions to the present effort made by several indigenous nations' scholars from both North America and Latin America. To that end, the editors believe that the concerns of the affected indigenous communities or their representatives should be heard, and fully endorse the efforts by the discipline to promote a hearing of Amerindian perspectives on indigenous natural resource utilization, warfare, and violence. As such, we respectfully include the voices of our Amerindian colleagues in this discourse.

In Chap. 2, Schmidt and Lockhart Sharkey document precontact Amerindian trophy taking in the Ohio River Valley. This form of ritual head and limb removal targeted men, women, and children. Rather than suppressing these findings, the investigators suggest cultivating respectful interactions with local descendant populations before publishing this type of sensitive data. The researchers report that this strategy has resulted in the establishment of a respectful dialogue with local tribes.

In Chap. 3, Cobb and Steadman investigate the biosocial consequences of Mississippian warfare. The authors note the critical role that warfare played in the location and design of settlements. Moreover, warfare concerns often led to crowding which likely facilitated the spread of communicable disease. Ethical ramifications of employing photographic images to record skeletal evidence of trauma are also explored. Additionally, a thoughtful analysis of iconographic images of pre-contact warfare is included. The authors conclude that judicious reporting (including the photo-documentation of skeletal remains) actually provides anthropologists with valuable evidence useful in debunking stereotypes of Amerindian savagery.

In Chap. 4, Dye and Keel explore how anthropologists have come to broach the otherwise sensitive topic of indigenous warfare. To achieve this end, the authors analyze the treatment of Amerindian conflict as depicted in an Art Institute of Chicago exhibit on Eastern Woodland Native Americans present at the said institution in 2003. These presentations clearly minimize the salient role that warfare and other forms of conflict played in native society. The investigators hold that ignoring or denying the reality of significant pre-historic Native American conflict dishonors the Amerindian warrior tradition.

In Chap. 5, Bauer analyses the historical record of the Catawba Nation to explore the role that warfare occupied in this society. The author concludes that this indigenous group skillfully employed their combat abilities to forge and maintain military and economic partnerships with Euro-Americans. However, the investigator also notes that if threatened, this native group used these same military capabilities against Euro-Americans. This research not only documents how indigenous fighting skills were useful socio-political tools, but it also serves to illustrate the power and efficacy of Amerindian agency. The investigator concludes that the reporting of

native fighting in a non-sensationalistic manner rightly honors the Native American warrior tradition.

In Chap. 6, Emery and Brown assess the sustainability of past and present Maya hunting patterns. This is achieved by comparing zooarchaeological findings from archaeological sites with more recent historic and modern Maya hunting practices. Research findings indicate generally sustainable hunting practices among pre-Columbian populations except around large and politically active centers. Interestingly, the authors also report that the present-day Maya may be overharvesting game despite the persistence of Maya hunting ceremonialism based on supernatural "Animal Guardians." These supernaturals determine hunting quotas, a system that may have aided sustainability in the ancient and historic past. The authors also relate the importance of reporting these findings to local Amerindians and other stakeholders in ways that are culturally appropriate.

In Chap. 7, Demarest and Woodfill document the antiquity and importance of blood sacrifice among the Maya. Their investigation similarly demonstrates that the contemporary *Q'eqchi* Maya of Guatemala continue to adhere to the practice of blood tribute despite centuries of attempts on the part of outsiders to suppress such ritual offerings. However, the authors also report a decrease in the number of blood sacrifices, and they attribute this decline to increased contact with Westerners who generally frown on such activities. Additionally, the investigators state that Western sensibilities toward death and blood are increasingly being adopted by modern-day Maya, and this has in turn, contributed to the decline of blood sacrifice more generally. The authors conclude that the loss of and/or the failure to report the existence of these rituals may damage the Maya because blood tribute serves as a form of resistance to cultural disintegration and ethnocide.

In Chap. 8, Hansen analyzes the reactions on the part of many academics to the environmental degradation, warfare, and ritual violence depicted in the Mel Gibson film *Apocalypto* (Touchstone Pictures 2006). Revisionist/relativist-inspired criticisms of the movie included charges of racism, hyperbole, and outright distortion, which materialized in protests, and an attempted boycott of the film. This chapter presents evidence substantiating the fact that those depictions of pre-contact Maya environmental degradation, warfare, and ritual violence presented in the movie were largely based on reputable archaeological and ethnohistorical research. After exploring revisionist perspectives that seek to portray pre-contact Amerindian life ways in an idealized manner, the author calls for a return to the values of truth in science as determined by rigorous methodological procedure and evaluation via a multitude of multidisciplinary approaches.

In Chap. 9, Mendoza and Harder review the archaeological, bio-archaeological and forensic, and ethnohistorical evidence for Amerindian military achievements and victories over European forces. Case studies considered include the Aztec victory over the Spaniards at Zultépec in 1520, the central role played by both Tlaxcalan and other Basin Nahua populations in the siege and conquest of Tenochtitlán in 1521, the Inka siege of Cuzco in 1536, the centuries-old Amerindian resistance movement identified with the onset of the War of Arauco and the First Great Mapuche Rebellion of 1553, the Jívaro uprising of 1599, and the Pueblo Revolt of 1680. Far from

constituting the hapless victims of European aggression, these exemplars – selected from a host of other decisive engagements against European forces – demonstrate that Amerindian peoples from throughout the Americas successfully deployed sophisticated combat tactics and military strategies, and segmented organizational patterns of conquest statecraft, in defending their homelands through the entirety of the three centuries identified with the colonial era and beyond. Moreover, when considered in terms of the "joint conquest" of the Americas, allied efforts on the part of Mesoamerican Indian militias to conquer and settle the far flung reaches of the Americas in concert with the Spanish advance further elucidate the decisive role played by a host of Amerindian groups in the conquest of the indigenous empires of the American hemisphere.

In Chap. 10, by way of analyzing Costa Rican and Amazonian prehistory, Hoopes documents the significant alterations that native peoples made with respect to the environment from the Pleistocene through the contact era. By demonstrating that native peoples function as a keystone species, this research exposes the fallacy of the nature/culture dichotomy. Ethnohistorical data indicating significant landscape alteration are also included. Far from passively adapting to their local environments, Amerindians actively modified landscapes. Additionally, the author calls for an increased appreciation and advocacy for the preservation of archaeological remains pertaining to the study of Amerindian natural resource use, and for the proper understanding of long term ecological interactions.

In Chap. 11, Ogburn investigates pre-contact warfare in South America. Special emphasis is given to documenting how present-day Andean peoples incorporate the pre-Hispanic warrior tradition into notions of a noble shared past, a source of considerable group pride. As such, this work demonstrates that archaeological and ethnohistorical research findings indicating a bellicose pre-contact world may be eagerly embraced by certain native groups (such as the Cayambe and Saraguro of Highland Ecuador). At the same time, some Amerindian peoples wishing to incorporate such a warrior legacy into their collective identity may be taken aback by archaeological and/or ethnohistorical data indicating that their ancestors were not as successful in battle as generally presumed.

In Chap. 12, Arkush discusses historical stereotypes of indigenous Andean peoples that cast them either as violent savages or as innately spiritual beings existing in harmony with nature. With these two competing visions in circulation, the author points out that the reporting of data on pre- or post-contact Andean warfare and/or ritual violence always has political implications. Since archaeological data often allow multiple interpretations, the current political context affects archaeologists' interpretations, often biasing them toward ritual explanations or ritualized aspects of violence in order to avoid promoting the "violent savage" stereotype. For example, fortified hilltop sites can be viewed as evidence of warfare or "ritual battle"; disarticulated Nazca skulls can be viewed as trophies taken from enemies or as the curated skulls of revered ancestors. The author urges anthropologists to report the existence of Amerindian conflict in ways that recognize their full, complex humanity and also to avoid reducing native peoples to two-dimensional stereotypes.

In Chap. 13, Chacon analyzes the foraging patterns of the relatively isolated Achuar (Shiwiar) peoples of the Ecuadorian Amazon. Findings indicate that the subsistence blowgun hunting Achuar (with few exceptions) are overharvesting local populations of various species of Neotropical wildlife. Research shows that this egalitarian and autonomous Amerindian group, retaining many of the traditional beliefs about wildlife population dynamics, is fully capable of overhunting several species of local wildlife. Most significantly, this investigation shows that the overharvesting of various types of wild game by the Achuar cannot reasonably be considered as being an artifact of Western contact. Lastly, this work calls for the creation of an effective community-based long-term game management plan that incorporates Traditional Ecological Knowledge.

In Chap. 14, Carneiro argues that discussions concerned with the role that armed conflict played in the political evolution of ancient societies should not be suppressed by anthropologists. With an emphasis on pre-contact patterns of warfare in the Amazon, the author asserts that it was in fact warfare that ultimately forced tribal villages to surrender local autonomy in the course of fusing into larger political units or chiefdoms. Carneiro further contends that the reluctance by some materialists to acknowledge the importance of intertribal warfare may stem from the fact that this phenomena cannot reasonably be attributed to class struggle. Despite its potentials for harm, clearly nothing is gained by suppressing or otherwise evading the fact that warfare has been a major force in the socio-political development of human societies. As such, anthropologists should continue to record the causes and consequences of indigenous warfare in a forthright and transparent manner so as to understand more effectively the manner by which human societies developed.

In Chap. 15, Walden discusses warfare, violence, and social inequality among a host of Amazonian groups. The author contends that the failure to report existence of social conflict in the tribal world is misguided. Suppressing such data necessarily undermines the accuracy of medical needs-assessment in the Amazon, which in turn serves to compromise the availability and maintenance of health care delivery systems that serve Amerindian populations. Conversely, full disclosure of native warfare and violence data provides medical doctors and public health officials with accurate medical needs-assessment information necessary for the implementation of successful health care programs.

In Chap. 16, Chavarria (interviewed by Mendoza) expresses an American Indian perspective on how anthropologists and other social scientists should proceed when evidence for prehistoric or recent Amerindian warfare, social violence, and or unsound eco-cultural practices are recovered or encountered. First, Chavarria advises scholars to share their interpretations of the data with the affected descendent populations well in advance of publishing research findings. He contends that the protocol in question presents native people with the opportunity to offer alternative interpretations and insights into the scholarly interrogation of the evidence recovered. Moreover, Chavarria acknowledges that Amerindians are fully capable of engaging in unsound environmental practices that have as their consequence the degradation of local and regional ecologies. However, he points out that some cases of natural resource depletion by Puebloan groups are directly attributable to the imposition of

Western values and strictures regarding private property. He contends that both Hispanic and American systems of land tenure ultimately disrupted longstanding traditional Pueblo patterns that called for the cyclical abandonment of exhausted farmsteads, and the interim (re)settlement of other viable lands and outliers, in a manner essentially constituting a form of shifting cultivation. As such, the cyclical abandonment of heavily cropped or deforested Pueblo catchment areas was intended to permit such areas to lie fallow for varying periods, thereby promoting the regeneration of depleted resources as one aspect of the traditional farming cycle, and the consequent resettlement of the affected areas. Ultimately, Chavarria does not condone the obfuscation or censorship of data not in accord with popular cultural beliefs about Amerindians, but rather he advises anthropologists to establish and maintain open lines of communication with the affected indigenous communities. In this way, all concerned parties are provided the opportunity to voice honorably and respectfully their impressions or differences with that body of scientific data and interpretation so considered.

In Chap. 17, Esquit-Choy addresses native mismanagement of natural resources from the perspective of political ecology. The author warns against idealizing native peoples as "ecological Amerindians" as he believes that contemporary indigenous peoples are fully capable of degrading the environment. However, he advises researchers to be cognizant of the historical, political, and socioeconomic changes that Amerindians underwent as the result of contact with Westerners. When scholars assess indigenous patterns of natural resource utilization, investigators should bear in mind that colonialism wiped out many native cultural values and institutions. Additionally, both colonial and neo-colonialist arrangements eroded indigenous control over locally available natural resources. As such, instances pertaining to the overharvesting of natural resources by Amerindians may simply constitute the artifacts and byproducts of Western contact. Therefore, anthropologists should take into consideration the disruptive effects of globalization whenever reporting Amerindian-induced environmental degradation.

In Chap. 18, Oakes analyzes the flawed logic of essentialist constructions of eco-harmonious native peoples. Emphasis is placed on how native peoples sometimes drove various species into extinction before the advent of European colonialism. As such, he demonstrates how the efforts of the indigenous oppressed to preserve and advance their cultures are hindered by the idealization of native life ways, particularly as they existed prior to European contact. Further damage to the aboriginal rights movement is done by the continued representation of Westerners as monolithic and inhuman oppressors. Oakes acknowledges that he believes that the efforts of the indigenous oppressed to preserve and advance their cultures in fact stand to gain valuable assistance by way of inroads with the Western academy. Accordingly, he advises fellow investigators to ensure that the voices of oppressed indigenous peoples are heard. However, the investigator cautions against confusing the past errors committed by the Western world for a present incapacity for clear, objective study. Lastly, the author urges all concerned parties to observe a mutually beneficial and principled interaction based on good faith. Academics and activists alike should recognize the humanity in each other and work to promote and preserve it in both.

In the discussion and conclusions section, Chacon and Mendoza evaluate arguments and recommendations advanced by contributors regarding the repercussions of publishing or obfuscating data on native environmental mismanagement, warfare, and violence. As such, our assessment spans topics ranging from adaptive responses to colonialism, essentialized characterizations of the indigenous, and post-colonial paradigms and approaches. Issues relating to relativism, revisionism, and anthropology's role in generating Amerindian stereotypes are analyzed. Additionally, implications for the role of native warfare and indigenous victories over Euro-American armies are considered. Amerindian warfare and violence along with the alteration of ancient and modern landscapes, are addressed in comparative perspective, and on the basis of the diverse sources brought to bear by the contributors to this volume.

The repercussions of Amazonian natural resource depletion are similarly documented as an Amerindian counterpart to Southwestern or ancestral Puebloan responses to marginal environments and environmental degradation. Indigenous viewpoints and the indigenous voice in the context of the anthropological paradigm are respectfully included.

As editors, we hope that the reader will find that the following contributions, and their respective findings useful when confronting the aforementioned anthropologist's dilemma.

This work is not intended to be the last word on the many issues involved in the reporting of Amerindian-induced environmental degradation, warfare, and violence. Rather, our goal is to encourage an honest debate on these issues without personal attacks being directed to those opposed to one's views. We also sincerely desire that this effort will help in the creation and maintenance of effective policies designed to promote the sustainable harvesting of natural resources along with the reduction of conflict among all peoples.

References

Allen, Paula Gunn. 1986. *The Sacred Hoop: Recovering the Feminine in American Indian Traditions.* Boston: Beacon Press.

Alvard, M. 1993. "Testing the 'Ecologically Noble Savage' Hypothesis: Inter-specific Prey Choice by Piro Hunters of Amazonian Peru." Human Ecology vol. 21(4):355–387.

Alvard, M. 1994. Conservation by Native Peoples: Prey Choice in a Depleted Habitat. Human Nature vol. 5(2):127–154.

Alvard, M. 1995. "Intraspecific Prey Choice by Amazonian Hunters." Current Anthropology vol. 36(5):789–802.

Alvard, M. 1998a. "Indigenous Hunting in the Tropics: Conservation or Optimal Foraging?" In: *Behavioral Ecology and Conservation Biology*. T. Caro (ed.) Pp. 474–500. New York: Oxford University Press.

Alvard, M. 1998b. "Evolutionary Ecology and Resource Conservation." Evolutionay Anthropology vol. 7:62–74.

American Anthropological Association (AAA). 2009. "Code of Ethics of the American Anthropological Association." Accessed February 24, 2011. <http://www.aaanet.org/issues/policy-advocacy/upload/AAA-Ethics-Code-2009.pdf>

Bettinger, R., 1976. "The Development of Pinyon Exploitation in Central Eastern California." Journal of California Anthropology vol. 3:81–95.

Biolosi, Thomas and Larry Zimmerman. 1997. *Indians and Anthropologists: Vine Delorina Jr., and the Critique of Anthropology.* Tucson: University of Arizona Press.

Boas, Franz. 1912. "Changes in Bodily Form of Descendents of Immigrants." American Anthropologist vol. 14(3):530–562.

Booth, A., and H. Jacobs. 1990. "Ties That Bind: Native American Beliefs as a Foundation for Environmental Consciousness." Environmental Ethics vol. 12:27–44.

Boster, James S. 2003. "*Arutam* and Cultural Change." Antropológica vol. 99–100:165–185.

Borgerhoff, Monique and Peter Coppolillo. 2005. *Conservation: Linking Ecology, Economics and Culture.* Princeton: Princeton University Press.

Boutros-Ghali, Boutros. 1994. "Forward." In: *Voice of Indigenous Peoples*. Pp. 13–14. A. Ewen (ed.). Santa Fe: Native American Council.

Cervone, Emma. 2007. "Building Engagement: Ethnography and Indigenous Communities Today." Transforming Anthropology vol. 15(2):97–110.

Chacon, Richard. 2001. *Testing the Energy Maximization and the Time Minimization Hypotheses: The Effects of Shotgun Technology on Achuar Indian Hunting.* Ann Arbor: UMI Dissertation Services.

Chacon, Richard. 2005. "Conservation or Resource Maximization? Hunting Among of the Achuar (Shiwiar) of the Ecuadorian Amazonian" Paper presented at the American Anthropological Association Annual Meeting in Washington DC. November.

Chacon, Richard. 2007. "Seeking The Headhunter's Power: The Quest for Arutam Among the Achuar Indians of the Ecuadorian Amazon and the Development of Ranked Societies" In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*. R. Chacon and D. Dye (eds.). New York: Springer Press. Pp. 523–546.

Chacon, Richard. 2009. "Do Amazonian Blowgun Hunters Forage With Sustainability in Mind?" Paper presented at the American Anthropological Association Annual Meeting in Philadelphia, PA. December.

Chacon, Richard and David Dye. 2007 *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* New York: Springer Press.

Chacon, Richard and Charles Kay. 2005. "Aboriginal Hunting and the Original State of Nature: Were Amerindian Harvests Sustainable?" Organized session at the American Anthropological Association Annual Meeting in Washington DC. November.

Chacon, Richard and Ruben Mendoza. 2007a. *North American Indigenous Warfare and Ritual Violence.* Tucson: University of Arizona Press.

Chacon, Richard and Ruben Mendoza. 2007b. *Latin American Indigenous Warfare and Ritual Violence.* Tucson: University of Arizona Press.

Chacon, Richard, Yamilette Chacon and Angel Guandinango. 2007. "The Inti Raymi Festival Among the Cotacachi and Otavalo of Highland Ecuador." In: *Latin American Indigenous Warfare*. R. Chacon and R. Mendoza (eds). Pp. 116–141. Tucson: University of Arizona Press.

Chagnon, Napoleon. 1997. *The Yanomamö.* 5th edition. Fort Worth: Harcourt Brace College Publishers.

Collier, John. 1947. *The Indians of the Americas.* New York: W. W. Norton & Company Inc.

Conklin, Beth and Laura Graham. 1995. "The Shifting Middle Ground: Amazonian Indians and Eco-Politics." American Anthropologist vol. 97(4):695–710.

Deloria, Vine. 1970. *We Talk, You Listen: New Tribes, New Turf.* New York: MacMillan Company.

Deloria, Vine. 1995. *Red Earth, White Lies.* New York: Scribner.

Denetdale, Jennifer. 2006. "Remembering Our Grandmothers: Navajo Women and the Power of Oral Tradition." In: *Indigenous Peoples' Wisdom and Power: Affirming Our Knowledge Through Narratives*. N Goduka and J. Kunnie (eds.). Pp. 78–94. London: Ashgate Press.

Descola, Philippe. 1996. *The Spears of Twilight: Life and Death in the Amazon Jungle.* New York: The New Press.

Dreger, Alice. 2011. "Darkness's Descent on the American Anthropological Association: A Cautionary Tale." Human Nature <DOI: 10.1007/s12110-011-9103-y.> Accessed April 22, 2011.
Echo-Hawk, Roger. 2000. "Ancient History in the New World: Integrating Oral Traditions and the Archaeological Record." American Antiquity vol. 65(2):267–290.
Ember, Melvin, and Carol R. Ember. 1994. "Cross-Cultural Studies of War and Peace: Recent Achievements and Future Possibilities." In: *Studying War: Anthropological Perspectives*. S. Reyna and R. Downs (eds.). Pp. 185–208. Amsterdam: Gordon and Beach Publishers.
Fienup-Riordan. 1990. *Eskimo Essays: Yup'ik Lives and How We See Them.* New Bruswick: Rutgers University Press.
Goduka, Nomalungelo. 2006. "Prologue." In: *Indigenous Peoples' Wisdom and Power: Affirming our Knowledge Through Narratives.* J. Kunnie and N. Goduka (eds.). Pp. ix-xvii. Aldershot, England: Ashgate Publishing.
Government of Botswana. 1985. *Report of the Central Kalahari Reserve Fact Finding Mission.* Garborone, Botswana: Government Printer.
Grant, Campbell, James Baird and J. Kenneth Pringle. 1968. *Rock Drawings of the Coso Range: Inyo County, California.* China Lake, CA: Maturango Museum.
Grant, Campbell. 1981. "Mystery of the Petroglyphs." Outdoor California July-August issue. Pp. 19–22.
Gregor, Thomas and Daniel Gross. 2002. "Anthropology and the Enemy Within." The Chronicle of Higher Education. July 26, 2002. Accessed February 8, 2002. <http://209.157.64.200/focus/f-news/724271/posts>
Gregor, Thomas and Daniel Gross. 2004. "Guilt by Association: The Culture of Accusation and the American Anthropological Association's Investigation of *Darkness in El Dorado.*" American Anthropologist vol. 106(4):687–698.
Hames, Raymond. 2007. "The Ecologically Noble Savage Debate." Annual Review of Anthropology vol. 36:177–190.
Harner, Michael. 1972. *The Jivaro: People of the Sacred Waterfalls.* Berkeley: University of California Press.
Hassig, Ross. 1995. 1995. *Aztec Warfare: Imperial Expansion and Political Control.* Norman: University of Oklahoma Press.
Headland, Thomas. 1997. "Revisionism in Ecological Anthropology and Comments." Current Anthropology vol. 38(4):605–630.
Hildebrandt, W. and M. Darcangelo. 2008. *Life on the River: The Archaeology of an Ancient Native American Culture.* Berkeley: Heyday books.
Hitchcock, Robert K. 1988. The Central Kalahari Game Reserve: A Case Study in Remote Area Research and Development. In: *Volume 2 Appendix 4 of Monitoring, Research, and Development in the Remote Areas of Botswana*. R. Hitchcock (ed.). Gaborone, Botswana: Remote Area Development Program and Ministry of Local Government and Lands. Pp. 14–96.
Hitchcock, Robert K. 2001. "'Hunting is Our Heritage': The Struggle for Hunting and Gathering Rights among the San of Southern Africa." Senri Ethnological Studies vol. 59:139–156.
Hitchcock, Robert K. 2002a. "'We Are the First People': Land, Natural Resources, and Identity in the Central Kalahari, Botswana." Journal of Southern African Studies vol. 28(4):797–824.
Hitchcock, Robert K. 2002b. "Removals, Politics, and Human Rights." Cultural Survival Quarterly vol. 26(1):25–26.
Hitchcock, Robert K. (n.d.) "An update on the Situation of the Peoples of the Central Kalahari Game Reserve." Unpublished Manuscript.
Hitchcock, Robert and Wayne Babchuk. 2007. "Kalahari San Foraging, Land Use, and Territoriality: Implications for the Future." Before Farming vol. 3:1–14.
Hitchcock, Robert, Maria Sapignoli and Wayne Babchuk. 2011. "What About Our Rights? Settlements, Subsistence and Livelihood Security Among Central Kalahari San and Bakgalagadi." The International Journal of Human Rights vol. 15(1):62–88.
Hughes, J. Donald. 1983. *American Indian Ecology*. El Paso: Texas Western Press.
Jackson, Jean. 1991. "Being and Becoming Indian in the Vaupés." In: Nation-States in Latin America. G. Urban and J. Sherzer (eds.). Pp. 131–155. Austin: University of Texas Press.

Karsten, Rafael. 1923. *Blood Revenge, War and Victory feasts Among the Jibaro Indians of Eastern Ecuador.* Washington DC: Bureau of American Ethnology Bulletin 79, Smithsonian Institution.

Karsten, Rafael. 1935. *The Head-Hunters of Western Amazonas: The Life and Culture of Jibaro Indians of Western Ecuador and Peru.* Helsinki: Societas Scientiarum Fennica, Commentationes Humanarium Literarum, vol. 1.

Kay, C. and R. Simmons. 2002. *Wilderness and Political Ecology: Aboriginal Influences on the Original State of Nature.* Salt Lake City: University of Utah Press.

Krech, Shepard III. 1999. *The Ecological Indian: Myth and History*. New York: Norton.

Krech, Shepard. 2007. "Beyond the Ecological Indian." In: *Native Americans and the Environment: Perspectives on the Ecological Indian.* M. Harkin and D. Lewis (eds.). Pp. 3–31. Lincoln: University of Nebraska Press.

Kunnie, Julian. 2006. "Indigenous African Knowledge." In: *Indigenous Peoples' Wisdom and Power: Affirming our Knowledge Through Narratives*. J. Kunnie and N. Goduka (eds.). Pp. 257–273. England: Ashgate Publishing.

Kunnie, Julian and Nomalungelo Goduka. 2006. *Indigenous Peoples' Wisdom and Power: Affirming our Knowledge Through Narratives.* England: Ashgate Publishing.

Kuper, Adam. 2003. "The Return of the Native." Current Anthropology vol. 44(3):389–402.

Lee, Dorothy. 1959. *Freedom and Culture*. Englewood Cliffs: Prentice Hall.

Mann, Charles. 2005. *1491: New Revelations Before Columbus.* New York: Knopf.

Mendoza, Ruben G. 1992. *Conquest Polities of the Mesoamerican Epiclassic: Circum-Basin Regionalism, A.D. 550–850.* Unpublished Ph.D. dissertation, Department of Anthropology, University of Arizona, Tucson.

Mendoza, Ruben.1997a. "Medicine in Meso and South America." In *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures*. Edited by H. Selin. Pp. 702–706. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Mendoza, Ruben. 1997b. "Metallurgy in Meso and Native America." In: *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures*. H. Selin (ed.). Pp. 730–733. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Mendoza, Ruben. 1997c. "Trephination." In: *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures*. H. Selin (ed.) Pp. 985–986. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Mendoza, Ruben. 2001a. "An Archaeological Approach to Teaching U.S. Cultural Diversity." In *Cultural Diversity in the United States: A Critical Reader*. I. Susser and T. Patterson (eds.). Pp. 414–433. Oxford, UK: Blackwell Publishers.

Mendoza, Ruben. 2001b. "Jade and Greenstone." In *The Oxford Encyclopedia of Mesoamerican Cultures*. Volume 2, Pp. 65–66. D. Carrasco (ed.). New York: Oxford University Press.

Mendoza, Ruben. 2001c. "Transportation." In: *The Oxford Encyclopedia of Mesoamerican Cultures*. Volume 3, Pp. 260–262. D. Carrasco (ed.) New York: Oxford University Press.

Mendoza, Ruben. 2003a. "Maize: The Natural History of Maize." In: *Encyclopedia of Food and Culture, Volume 2: Food Production to Nuts*. Pp. 417–424. S. Katz (ed.). Scribner Library of Daily Life. New York: Charles Scribner's Sons.

Mendoza, Ruben. 2003b. "Lords of the Medicine Bag: Medical Science and Traditional Practice in Ancient Peru and South America." In: *Medicine Across Cultures: History and Practice of Medicine in Non-Western Cultures.* H. Selin (ed.). Pp. 225–257. London: Kluwer Academic Publishers.

Mendoza, Ruben. 2010. "Transportation."In: *Encyclopedia of Latin America, Volume 1: Amerindians through Foreign Colonization. P*p. 296–298. J. Francis (ed.). Washington: Facts on File.

McLuhan, T. C. 1971. *Touch the Earth: A Self-Portrait of Indian Existence*. New York: Touchstone.

Means, Russell, and Marvin J. Wolf. 1995. *Where White Men Fear to Tread: The Autobiography of Russell Means*. New York: St. Martin's Press.

Murray, Mark (1976) *Present Wildlife Utilization in the Central Kalahari Game Reserve, Botswana: A Report on the C.K.G.R. Reconnaissance Survey*. Report to the Department of Wildlife, National Parks, and Tourism, Gaborone, Botswana.

National Park Service. 1996. “Historic Preservation Training by and for Indian Tribes: Report of a Workshop on Tribal Needs and Priorities.” Publication no. 1996–11. Washington DC: US Department of the Interior, National Center for Preservation Technology and Training.
Nelson, R. 1983. *Make Prayers to the Raven: A Koyukon View of the Northern Forest.* Chicago: University of Chicago Press.
Nunink Nunkai, Anank. 2008. “Meeting Arutam.” Cultural Survival Quaterly vol. 32(4). < http://www.culturalsurvival.org.pallas2.tcl.sc.edu/print/8313> Accessed: May 25, 2010.
Owens, Mark and Delia Owens. 1981. “Preliminary Final Report on the Central Kalahari Predator Research Project.” Garborone, Botswana: Report to the Department of Wildlife and National Parks, Garborone, Botswana.
Owens, Mark and Delia Owens. 1984. *Cry of the Kalahari*. Boston: Houghton-Mifflin.
Pierotti, Raymond. 2010. *Indigenous Knowledge, Ecology, and Evolutionary Biology.* New York: Routledge Press.
Raab, Mark and Terry Jones. 2004. *Prehistoric California: Archaeology and the Myth of Paradise.* Salt Lake City: The University of Utah Press.
Ranco, Darren. 2007. “The Ecological Indian and the Politics of Representation.” In: *Native Americans and the Environment: Perspectives on the Ecological Indian*. M. Harkin and D. Lewis (eds.). Pp. 32–51. Lincoln: University of Nebraska Press.
Repetto, R., and T., Holmes. 1983. “The Role of Population in Resource Depletion in Developing Countries.” Population and Development Review vol. 9:609–632.
Ritche, William. 1956. “The Indian and His Environment.” Conservationist (December-January). Pp.1-31.
Rubenstein, Steven. 2007. “Circulation, Accumulation, and the Power of Shuar Shrunken Heads.” Cultural Anthropology vol. 22(3):357–399.
Seymour-Smith, Charlotte. 1988. *Shiwiar: Identidad Etnica y Cambio en el Rio Corrientes.* Quito: Abya Yala.
Sheller, Paul. 1977. *The People of the Central Kalahari Game Reserve: A Report on the Reconnaissance of the Reserve, July-September, 1976.* Report to the Ministry of Local Government and Lands, Gaborone, Botswana.
Silberbauer, George.1965. *Report to the Government of Bechuanaland on the Bushman Survey*. Gaberones, Bechuanaland: Government Printer.
Silberbauer, George. 1981a. *Hunter and Habitat in the Central Kalahari Desert.* Cambridge: Cambridge University Press.
Silberbauer, George. 1981b. Hunter/Gatherers of the Central Kalahari. In: *Omnivorous Primates: Gathering and Hunting in Human Evolution.* R. Harding and G. Teleki (eds). Pp.455-498. New York: Columbia University Press.
Sirén, Anders, Peter Hamback, and José Machoa. 2004. “Including Spatial Heterogeneity and Animal Dispersal When Evaluating Hunting: a Model Analysis and an Empirical Assessment in an Amazonian Community.” Conservation Biology vol. 18(5):1315–1329.
Speck, F. 1913. “The Indians and Game Preservation.” Red Man vol. 6:21–25.
Speck, F. 1939a. “Savage Savers.” Frontiers vol. 4:23–27.
Speck, F. 1939b. “Aboriginal Conservators.” Bird Lore vol. 40:258–261.
Spinage, Clive. 1991. *History and Evolution of the Fauna Conservation Laws of Botswana.* Gaborone, Botswana: The Botswana Society.
Steckley, John. 2008. *White Lies About the Inuit*. Toronto: Broadview Press.
Stocking, George. 1987. *Victorian Anthropology*. New York: Free Press.
Stoffle, R., 2005. “Places That Count: Traditional Cultural Practices in Cultural Resource Management: Tribal Cultural Resource Management: Full Circle to Stewardship.” American Anthropologist vol. 107:138–140.
Talamantez, Inés. 2003. “Transforming American Conceptions: Vine Deloria Jr., Critic and Coyote.” In: *Native Voices: American Indian Identity & Resistance.* D. Wilkins and G. Tinker (eds.). Pp. 273–289. Lawrence: University Press of Kansas.
Tierney, Patrick. 2000. *Darkness in El Dorado: How Scientists and Journalists Devastated the Amazon.* New York: Norton

Trigger, Bruce. 1997. “Forward” In: *At a Crossroads: Archaeology and First Peoples in Canada.* G. Nicholas and T. Andrews (eds.). Pp. vii-xiii. Burnaby, BC: Archaeology Press.
Udall, Stewart. 1963. *The Quite Crisis.* New York: Avon books.
Wallace Ney, Marian. 1977. *Indian America: A Geography of North American Indians.* Cherokee, NC: Cherokee Publications.
Webster, David. 2002. *The Fall of the Ancient Maya.* London: Thames & Hudson.
Whiteley, Peter. 1997. “The End of Anthropology (at Hopi)?” In: *Indians and Anthropologists: Vine Deloria Jr. and the Critique of Anthropology.* T. Biolosi and Larry Zimmerman (eds.). Pp. 177–207. Tucson: University of Arizona Press.
Wildcat, Daniel. 2009. *Red Alert! Saving the Planet with Indigenous Knowledge.* Golden, CO: Fulcrum Publishing.

Chapter 2
Ethical and Political Ramifications of the Reporting/Non-Reporting of Native American Ritualized Violence

Christopher W. Schmidt and Rachel A. Lockhart Sharkey

Abstract Recent discoveries of mutilated skeletons in southern Indiana dating to 5,000 years B.P. have initiated significant scientific study of ritualized violence among aboriginal populations from the Ohio River Valley. Victims were usually young males, but females and children were also killed. The mutilation involved removing heads and/or forearms soon after death. The patterns of removal were consistent along the entire southern border of the state and lasted for over 1,000 years. The mutilations are significant scientifically because the process of "trophy taking" as well as the styles of burial for both the mutilation victims and those who were buried with harvested body parts demonstrate a level of cultural complexity that is not generally associated with foraging societies. However, there is risk in popularizing these findings because they may be used by the media to further stereotypes of "savage" Indians; the antithesis of what the findings indicate to the archaeological community. This forces researchers to strategically mete out publications in particular scientific outlets that are less likely to popularize the research. Unfortunately, the public at large ends up being circumvented. Attempts are currently underway to discuss the findings with Native groups so that they are aware of the intentions of the archaeologists and are not caught off guard if mutilation reports appear in popular media. Lastly, the benefits of establishing a meaningful and respectful dialog with descendant populations is put forth.

C.W. Schmidt, Ph.D. (✉)
Indiana Prehistory Laboratory, University of Indianapolis, 1400 East Hanna Ave, Indianapolis, IN 46227, USA
e-mail: cschmidt@uindy.edu

R.A.L. Sharkey, Ph.D.
Indiana Prehistory Laboratory, University of Indianapolis, Indianapolis, IN 46227, USA
e-mail: lockhartra@uindy.edu

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Although the global archaeological record is replete with evidence of violence, published reports from ancient North American sites have met with staunch opposition when they include descriptions of native practices that are considered repugnant by today's standards (e.g., Turner 1993). Specifically, in recent years Christie Turner has been accused of portraying Native Americans as "less than human" because he published evidence of Anasazi cannibalism. It was argued by some of Turner's opponents that his claims insulted native peoples because he was describing savage acts and almost animalistic qualities. Turner's response was to eschew the criticisms and to defend his scientific findings because to his satisfaction he had exhaustively studied the osteological and molecular evidence. The result, at least in terms of public perception, is a stalemate with both sides becoming increasingly entrenched. This case comes from the American Southwest but the tension between scientists and popular sensibilities is applicable to archaeology throughout North America.

In southern Indiana, five recently documented Middle to Late Archaic archaeological sites (dating from 3,500 to 5,000 years B.P.) from along the Ohio River exhibit evidence of violence and mutilation heretofore unknown from the state and include decapitation, limb and tongue removal (Fig. 2.1). Most of the sites were excavated from 2001 to 2005 but they have yet to be fully described in scientific journals and subsequently discussed in the media at large. One of the delays in publicizing the violence is the concern that native groups will take offense and seek to have the remains repatriated before comprehensive osteological studies are completed (i.e., studies of diet, pathology, body size, etc.). Scientifically, this would be very unfortunate because these particular instances of mutilation are unique and shed great insight into what must have been complex and meaningful behaviors (see Chacon and Dye 2007; Chacon and Mendoza 2007a, b). Eventually, once the studies are completed we will be faced with an ethical dilemma: should we publicize a scientific study that we suspect will upset living people who may fear being portrayed in a manner over which they have no control.

Discoveries

Firehouse Site (12D563)

The Firehouse site is located on a high bluff adjacent to the Ohio River in southeastern Indiana. It is a large Riverton site that likely dates to around 3,500 years ago. It produced five burials in addition to over 100 features and numerous artifacts including caches of hafted axes and bone tools such as combs, pins, and several atlatl fragments. The skeletons were located near the southern margin of the site although they were not clustered together. There were three males, one female, and one of undetermined sex. Burial 1 was a tightly flexed old adult male who had a broken right tibia and fibula that had healed with lateral displacement of the distal aspect. Burial 3 was a young adult male. He was buried in a loosely flexed position with his

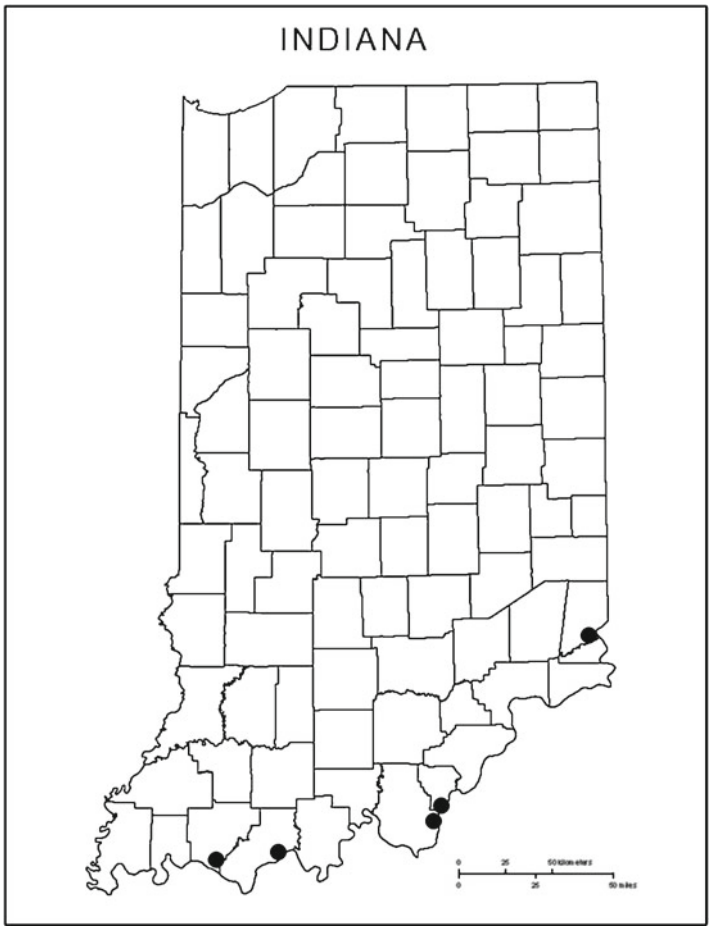

Fig. 2.1 Sites in southern Indiana where Middle and Late Archaic mutilation victims were found

back extended and his heals pulled up toward his sacrum. His right arm was missing below the humerus and his head was absent (Fig. 2.2).

Five Riverton or Riverton-like projectile points accompanied the skeleton, all of which were found around the thorax. They were not imbedded in bone but were under and between bones to indicate that they created perimortem injuries. A sixth point was found immediately adjacent to his second lumbar vertebrae. This point had passed through the spinous process and impacted the left transverse process. However, the damage was antemortem, having healed almost completely by the time of death. Thus, this individual suffered at least two significant violent events in his short life.

The skull was absent as were the first two cervical vertebra. Deep cut marks were present on cervical vertebrae 3 through 5 clearly indicating that the skull was

Fig. 2.2 Mutilation victim from the Firehouse site. Notice that the head and right forearm are missing (Photograph by Jeffrey Plunkett)

removed while soft tissues were present. The cut marks, which are percussive rather than incisive in nature, were located on the left side of the vertebrae. The distal right humerus had cut marks on the anterior, medial, and lateral surfaces with no marks on the posterior aspect. The cuts on the anterior surface suggest forceful slicing, while the lateral marks indicate chopping.

The skeleton had stab marks on several of the ribs located on the ventral and lateral portions of the bones. They penetrate just a few millimeters into the cortex and are a few millimeters in length. No cut or stab marks are found on the sternum. There are no other cut or stab marks on the skeleton and no other individual at the site bears such evidence of violence.

12Hr6

This site is located in Harrison County, Indiana, about 70 miles southeast of the Firehouse site. It is a heavily looted site with extremely fragmentary remains, the majority of which are cranial fragments. It is unclear how the bodies were initially interred prior to the looting, but the density of the remains suggests some type of cemetery. Artifacts from the site place it in the Late Archaic, making the human remains about 4,000 years old.

This commingled assemblage of bones has two bone fragments with evidence of trophy taking. One left temporal fragment has cut marks above the external auditory

meatus that are consistent with scalping. The other example is a likely male distal humerus fragment with cut marks that are very similar to those exhibited by Burial 3 from the Firehouse site. Because of the fragmentation it is not clear if these two bones are from the same person.

Bluegrass Site (12W162)

Bluegrass Site dates to the terminal Middle Archaic and is located in Warrick County in southwestern Indiana. It was excavated in the 1980s by Russell Stafford of Indiana State University and produced 82 burials; skeletons were found in flexed, tightly flexed, and extended positions (Mays 1997). Males and females were roughly equal in number and nearly 14% of the population was children under 1 year of age. Among the extended skeletons was a single young adult female who, like Burial 3 from Firehouse, was missing her skull, her first and second cervical vertebrae, and her forearm. Unlike the male from Firehouse, it was her left forearm that was taken where he had lost his right.

Also found at this site was a lone thorax; the head, arms, and legs were removed prior to burial. There are cut marks on the ribs near where the scapulae would have been positioned in life. There are cut marks on the pelvis as well. There are burials from Green River Archaic sites, such as Ward and Indian Knoll, which have similarly mutilated individuals, but they are usually accompanying another individual in a burial. At Bluegrass, the thorax was buried alone; it is, therefore, unclear if this body represents a trophy or someone who was harvested for trophies. Perhaps the latter is more likely in this instance since it was found by itself.

Meyer Site (12Sp1082)

Meyer is a Middle Archaic cemetery found not far from Bluegrass in Spencer County, Indiana, that dates to 5,000 years B.P. (Bader 2011). Its excavation was led by Anne Bader and produced over 20 individuals including adult males, females, and children. Most of the burials were in a tightly flexed position and buried on their sides. A burial of a 12–15-year-old possible male deviated from the rest in that it was loosely flexed and bore significant evidence of mutilation. His right arm was extended and in his right hand was his skull (which included his first and second cervical vertebrae). Chopping marks were on the cervical vertebrae 3 through 6.

The mutilation of this individual was not limited to the removal of his head. There is compelling evidence that the tongue was removed. The mandible itself was still articulated with the cranium, but it had cut marks on the ramus and body. On the inner aspect of the right corpus were two subparallel lines placed at the origin of the mylohyoid muscle. The mandibular cuts were not intended to remove the

mandible, nor were they caused by the chopping of the neck (Schmidt et al. 2010). The most parsimonious explanation of the mandibular cut marks is glossectomy (Lockhart et al. 2009). Additional traumata on this skeleton include a possible blunt force wound on the occiput and punctures to some ribs.

12Fl73

This site is located in Floyd County, Indiana, not far from 12Hr6. It sits on the Ohio River and is part of an enormous site, or collection of contemporaneous sites, that stretch for over half a mile. The cemetery has not been fully excavated but in 2001 nine burials eroded out of the river bank. From the few burials that were complete enough to discern burial position, it was determined that the bodies were buried on their right sides in a flexed position. Grave goods were uncommon, although one burial was accompanied by 20 forearm bones representing both the left and right forearms from five adult males. A few articulated metacarpals indicated that at least one forearm was still fleshed at burial and included a hand, yet some of the radii and ulnae were clearly disarticulated suggesting they were heavily decayed before they were placed in the grave. None of the bones have cut marks on them.

Archaeological Perspective

The instances described here of mutilation among ancient Native Americans are exciting from a scientific viewpoint because they expand our knowledge of these still poorly understood people. They provide information specific to the individuals affected as well as give insight into culture-wide phenomena (Lockhart Sharkey 2010). In general, they are helping to overturn outdated ideas regarding the simplicity of Archaic life. The mutilation events from Indiana are similar to mutilations documented in Kentucky and Tennessee (e.g., Snow 1948; Smith 1993, 1995, 1997; Mensforth 2001, 2007) indicating that they are part of a regional phenomenon; yet they are idiosyncratic because they include practices like glossectomy and forearm caching that to date have not been documented elsewhere in the Eastern Woodlands. There is little doubt that detailed publications regarding these sites would garner significant scientific attention.

Opposing View

However, the scientific excitement of such findings is not always shared outside of the scientific community. Certain native groups, who may not be thrilled by excavation and osteology in the first place, may not care for the depiction of their ancestors

as people who killed and mutilated young men, who removed a head and a tongue from an adolescent, who decapitated a woman, and who collected and curated human limbs. It may be seen that scientists are feeding a stereotype that American Indians were brutal and "savage." Such a depiction may further isolate Indians in American culture and undermine their overall social status. It has been a decades-long tradition to have Indians portrayed in various media as either villainous or as spirits rather than typical humans, or used as symbols of nature, like animals, in commercial ads and as team mascots. Are scientists promoting this stereotype of subhuman behavior if they continue to state that American Indians were engaging in behaviors that today are viewed as reprehensible?

"Mystical" Indian

One stereotype that is often challenged by scientists is the "mystical Indian" even though in popular media, such a depiction continues to get more attention than the type of Indian described by archaeologists and bioarchaeologists. Rather than portraying early Native Americans as people who suffered and succeeded in manners whereby living people can extend a certain empathy, they are depicted as ghost-like figures that move about in mysterious ways. Historic period Indians are not portrayed showing the emotions and intellectual curiosities that tend to be found in living people and certainly do not seem to emulate the behaviors of early Indians. They are not engaged in significant engineering projects like long-distance irrigation canals, yet we know several native peoples did just this. They are not shown building large earthen mounds that include strategically placed layers of sediment that allow for stability and water drainage. Nor are they cast as agricultural scientists developing domesticated plants, although they did this to such a significant extent that much of the world today is fed on foods that were first domesticated by Native Americans. Instead, early and contemporary mystical Indians act like spirits, creatures that are part human and part animal.

"Archaeological" Indian

Presumably, bioarchaeologists excavate and analyze ancient human remains because of their concern for an objective portrayal of early peoples. Their studies address the link between biological and cultural phenomena that ultimately affect the condition and disposition of human remains. Typical studies deal with issues of diet, disease, mortuary practices, and violence. Through rigorous analysis and hypothesis testing they produce interpretations that are meant to provide accurate (if not particularly precise) insights into ancient lifeways. In the process, they often elucidate many qualities that are frequently overlooked in popular descriptions of Indians. For example, archaeologists have demonstrated that early people, including those of the

Eastern Woodlands of the US, often struggled with natural resources management, much like people of today. Moreover, archaeologists have demonstrated many early Indian achievements. Some of these were cultural, for example, the independent development of agriculture, while others were biological, such as an almost continuously increasing population despite a plethora of pathological conditions – ranging from dental caries and arthritis to tuberculosis and syphilis (e.g., Larsen 1997; Jermain 1999; Roberts and Buikstra 2003; Powell and Cook 2005). These findings underscore the complexity and antiquity of Native American accomplishments, many of which date to several thousand years ago. However, the detailed studies that have produced evidence of great achievement also have uncovered certain facts that may be deemed today as unsavory, in particular the examples of violence mentioned herein.

The scientific justification for reporting all findings is that archaeologists are not to act as filters, teasing out discoveries that may be uncomfortable to some. Yet, this has led to archaeologists being accused of casting Native Americans as "less-than-human" for insinuating violent ways of life. In fact, the stance taken by the authors of the current study is that reporting early violence does not, in fact, reduce the humanity of Native Americans, it increases it. It bolsters their human qualities because it shows the ways in which certain people at certain times dealt with the challenges of life. Living people can relate to the struggles and strife early people must have faced and triumphed over. Are we just as likely to understand the concerns of a mystical spirit who moves like the wind and is apparently impervious to the vagaries of life? To us, reporting on violence shows how similar groups are around the globe; it would be odd indeed to find a population that did not engage in some type of significant warfare and it could easily be argued that Native American violence is no more rampant or disturbing than elsewhere. There are numerous examples from Europe and Asia of humans being extraordinarily brutal in their treatment of others, from drawing-and-quartering to torture, that by comparison make the Native American violence not particularly extraordinary.

It seems, therefore, that from an archaeological perspective the "mystical Indian" portrays native peoples as more "less than human" that the "archaeological Indian." So why is it such a popular image, conveyed not just by media outlets but often by native peoples themselves? This confounding point may be at the very heart of the tension between archaeologists and Native Americans; the "archaeological Indian" is externally applied or even imposed while the "mystical Indian" has at least some direct investment and contribution from Native Americans. But, the mystical Indian is just one depiction that serves here as a protagonist to underline the discord between scientists and native peoples. It is not the only point of divergence between these two groups. Thus, our efforts to "overcome" Indian stereotypes must focus more on making archaeology relevant and meaningful to Native Americans. Until archaeology becomes internalized by American Indians, even well-intended archaeological work will likely continue to be seen as an outsider's view of an exploited people.

Resolution?

Although duty bound to conserve and study human remains, bioarchaeologists need more effort to improve Native American investment into archaeology so that they are an empowered member of the community that contributes to decisions regarding the excavation and analysis of Indian remains. Indians should know and feel that archaeologists work in the interest of the public, which includes all people, including American Indians. As long as archaeologists are perceived as another external force that is taking rather than giving to American Indians, their input is going to be challenged. The authors are currently building a dialog with the Miami Nation of Indians of the State of Indiana and the Pokagon Band of the Potawatomi to improve our relationships with them.

This process will not be easy and we must be prepared to hear comments and criticisms that will make us uncomfortable at first. Claims for immediate repatriation are likely to precede cooperative plans regarding future studies. To show respect for native views on archaeological evidence of violence, a plan is currently being developed to notify the Miami before the final reports about the sites mentioned earlier are publicized. In this way, it is hoped that the Miami feel included in the dissemination process and are able to digest the ramifications of the publications prior to the inevitable media attention that will follow. Perhaps, both archaeologists and the Miami will be able to steer the media reporting away from the sensationalism both groups likely abhor. In sum, the hope is that through direct communication between archaeologists and Indians and by developing some measure of control for Indians, archaeological studies can become viewed as appropriately objective and native peoples will not feel victimized by our work.

Finally, realizing that scientific findings can adversely affect some people reminds us that we do not work in a vacuum. How we report our findings is important. Just as physicians tend not to blurt out "you have cancer, you are going to die" and today work with patients and their families to develop coping strategies for such bad news, we in bioarchaeology need to find a cooperative approach to sharing our findings so that the value of our work is not lost to antagonism. Such an approach should not be confused with "political correctness" or compromising good science; and it does not mean that we should withhold our findings. It simply means that our dissemination should be done thoughtfully, considering both the intra-cultural and cross-cultural ramifications of what we say. This is nothing more than what we ask of our students when we urge them to think like anthropologists and we see nothing wrong in asking the same of ourselves.

References

Bader, Anne T. 2011 Evidence of ritualized mortuary behavior at the Meyer Site: An inadvertent discovery in Spencer County, Indiana. *Indiana Archaeology* 5: 10–49.

Chacon, Richard J. and David H. Dye 2007 *The Taking and Displaying of Human Body Parts as Trophies by Amerindians,* New York: Springer.

Chacon, Richard A. and Ruben G. Mendoza. 2007a *North American Indigenous Warfare and Ritual Violence*. University of Arizona Press, Tucson.

Chacon, Richard A. and Ruben G. Mendoza. 2007b *Latin American Indigenous Warfare and Ritual Violence*. University of Arizona Press, Tucson.

Jermain, Robert. 1999 *Stories from the Skeleton.* Gordon and Breach Publishers, Amsterdam, The Netherlands.

Larsen, Clark S. 1997 *Bioarchaeology*. Cambridge University Press, Cambridge, UK.

Lockhart, Rachel A., Christopher W. Schmidt, Steven A. Symes. 2009 Understanding Middle and Late Archaic forelimb removal: An experimental approach. *American Journal of Physical Anthropology* 48: 177.

Lockhart Sharkey, Rachel A. 2010 *Middle and Late Archaic Warfare and Trophy Taking*. MS Thesis, University of Indianapolis.

Mays, Leigh Ann. 1997 *The Bluegrass site (12W162): Bioarchaeological Analysis of a Middle-Late Archaic Mortuary site in southeastern Indiana*. MS Thesis, University of Southern Mississippi.

Mensforth, Robert P. 2001 Warfare and Trophy Taking in the Archaic Period. In *Archaic Transitions in Ohio and Kentucky Prehistory*, edited by Olaf Prufer, Sara Pedde, and Richard Meindl, pp. 110-138. Kent State University Press, Kent, Ohio.

Mensforth, Robert P. 2007 Human Trophy Taking in Eastern North America During the Archaic Period: The Relationship to Warfare and Social Complexity. In *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, edited by Richard Chacon and David Dye, pp. 222–277. Springer, New York, New York.

Powell, Mary L. and Della C. Cook. 2005 *The Myth of Syphilis*. University Press of Florida, Gainesville, Florida.

Roberts, Charlotte A. and Jane E. Buikstra. 2003 *The Bioarchaeology of Tuberculosis*. University Press of Florida, Gainesville, Florida.

Schmidt, Christopher W., Rachel Lockhart Sharkey, Christopher Newman, Anna Serrano, Melissa Zolnierz, Anne Bader, and Jeffrey A. Plunkett. 2010 Skeletal Evidence of Cultural Variation: Mutilation Related to Warfare and Mortuary Treatment." In *Human Variation in the Americas: The Integration of Archaeology and Biological Anthropology*, edited by Benjamin Auerbach, pp. 215–237. Center for Archaeological Investigations. Occasional Paper No. 38, Carbondale, Illinois.

Smith, Maria O. 1993 A probable case of decapitation at the Late Archaic Robinson Site (40SM4), Smith County, Tennessee. *Tennessee Anthropologist* 18: 131–142.

Smith, Maria O. 1995 Scalping in the Archaic Period: Evidence from the western Tennessee Valley *Southeastern Archaeology* 14: 60–68.

Smith, Maria O. 1997 Osteological indications of warfare in the late Archaic Period of the Western Tennessee Valley. In, Martin, Debra and David Frayer, eds., *Troubled Times: Violence and Warfare in the Past*. Amsterdam: Gordon and Breach Publishers.

Snow, Charles E. 1948 *Indian Knoll Skeletons of Site Oh2, Ohio County, Kentucky.* University of Kentucky: Reports in Anthropology, Volume IV, Number 3, Part II.

Turner, Christy G. 1993 Cannibalism in Chaco Canyon: The charnel pit excavated in 1926 at Small House Ruin by Frank H. H. Roberts Jr. *American Journal of Physical Anthropology.* 91: 421–439.

Chapter 3
Pre-Columbian Warfare and Indecorous Images in Southeastern North America

Charles R. Cobb and Dawnie Wolfe Steadman

Abstract Visual representations of the bodily consequences of conflict in southeastern North America have been critical for archaeological research on warfare. Yet Susan Sontag's notion of an "ethics of seeing" warfare underscores concerns over the use of images of conflict. We contrast anxieties surrounding the modern recording of violent encounters in the past, notably, induced trauma on human skeletal remains and the portrayal of victims of violence through indigenous iconography. In contrast to the idea that images, particularly photographic ones, objectify and anesthetize, we suggest that they open new avenues for understanding both the social context of warfare in the past and its structural consequences.

In 1563 the Council of Trent issued a number of artistic guidelines meant to rein in the secular realism of the high Renaissance and the excesses of mannerism. In particular, the Catholic Church sought to ban representations that were "disorderly," "unbecomingly or confusedly arranged," "profane," or "indecorous" (Waterhouse 1972). We were reminded of the controversy over image censorship a few years ago when a bioarchaeology conference poster was torn down and stolen from the hallways of the department of anthropology at Binghamton University, our former academic home. The poster contained some photographic examples of trauma and physiological stress in Native American skeletal remains, and it was displayed in an area where posters from recent conferences were hung to highlight graduate student research. A message left in place of the poster made reference to bioarchaeology being in the service of Western oppression, and the incident ignited a controversy

C.R. Cobb, Ph.D. (✉)
South Carolina Institute of Archaeology and Anthropology, University of South Carolina,
1321 Pendleton St, Columbia, SC 29208, USA
e-mail: CobbCR@mailbox.sc.edu

D.W. Steadman, Ph.D.
Forensic Anthropology Center, University of Tennessee,
250 South Stadium Hall, Knoxville, TN 37996, USA
e-mail: osteo@utk.edu

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Fig. 3.1 Vertebra with embedded arrow point

over the ethics of body imagery and representation in research that is still unresolved for the department and, we would argue, for anthropology in general.

Our concern with indecorous images coincides with our multiyear effort to examine the biosocial consequences of warfare among Native Americans who inhabited numerous towns in what is now the state of Tennessee in the USA during the interval of AD 1000–1450. As we have found, anthropologists addressing pre-Columbian warfare in North America face an ethical trifecta. First, our publishing commonly relies on photography as a form of evidence, and one can hardly use such imagery without being mindful of the debates surrounding the technological rendering of the other. Second, these images involve depictions of conflict-related trauma – crushed skulls, scalp marks, projectile wounds, and parry fractures – that raise another set of anxieties regarding warfare photography (Fig. 3.1). Third, we then have to ask whether the acts of both photographing the other and of photographing victims of violence inevitably promulgate a visual reinforcement of bellicose stereotypes surrounding Native Americans? Here, we explore the ethical entanglement of attempting to deliver a balanced perspective on the nature of warfare in the past, while at the same time providing a justification for the photo-documentation that has become part of the process of hypothesis testing in scientific publications.

Viewing the Other Via the Camera

It has often been noted that the rise of anthropology in the nineteenth century involved the almost immediate adoption of photography as a research tool (Pink 2001; Pinney 1992). In the USA, much of this work was illustrative and was fostered in part by the mentality of the salvage ethnographers who sought to record

what they believed were rapidly disappearing peoples and lifeways. At the same time, photography became an important arm of imperial reach, as administrators sought to record, regulate, and redefine peoples and bodies under colonial sway. Cartesian impositions on the colonial body could also be found in the work of nineteenth-century British anthropologists who spearheaded a number of novel approaches in the application of photography to anthropometric studies. Particularly notable was their reliance on background grids to facilitate metric comparisons between indigenous body types (Pinney 1992; Spencer 1992).

Many strains of critical anthropology have come to view these uses of photography as a particular insidious dimension of cultural and colonial hegemony. Not only were indigenous peoples subject to direct physical oppression through slavery, bondage, and rape, but their very cultures and individuality could also be manipulated by people and institutions thousands of miles distant and who had never set foot in colonial lands. The camera thus became a utilitarian and telescopic extension of othering practices, whereby subjects were rendered into two-dimensional objects that could be ported for observation and comment anywhere on the globe. In this view, photographs are "spatially agnostic" forms of information (Meskin and Cohen 2008:72), where persons are stripped from their context and meaningful surroundings. This process of objectification disengages observers and leaves their understanding of, and feeling toward, the photograph and its subject open to the possibility of manipulation by those who control the imagery. This is made possible by the fact that photographs occur within semiotic networks, as multivalent signs that simultaneously index an individual or scene, the various meanings inscribed to depictions by viewers, and the existence of photographs as commodities in and of themselves (Brothers 1997:8; Crossland 2009; Tagg 1988).

Taken yet a step further, in the postmodern critique, the widespread use of photography is yet another variation on the theme of the primacy of the gaze over the other senses in Western practice as a basis for interpretation, evaluation, and surveillance (e.g., Thomas 2004). The so-called Western Gaze embodies an ego-focused, Cartesian, and controlling perspective on the world, an outlook made possible with the advent of perspectivism and landscape painting in the Renaissance. Here, the line between image and reality is blurred such that our ability to substitute depictions for the so-called real world enables an instrumentalist stance where the world can be manipulated through its visual surrogate. Sontag (1977:158), among others, seems to see this understanding of imagery as a distinguishing feature of modernity: "The primitive notion of the efficacy of images presumes that images possess the qualities of real things, but our inclination is to attribute to real things the qualities of an image." One can question whether there is such a hard divide between "primitive" and modern ontologies of the world (Cobb 2005). Nonetheless, the seduction and power of the intertwining of verisimilitude, image, and space have achieved a pervasiveness that extends even well beyond the realm of photography or painting. In the development of Western geography, for instance, it has been argued that this perspective promoted a form of cartography that was both product and handmaiden of colonialism as cadastral surveys and other means of segregating the landscape became a cornerstone of imperial expansion (Cosgrove 1984; Edney 1999; Harley 1988).

Viewing Victims of Violence

The various philosophical objections to photographic renderings traditionally pertain to images of the living. Images of the dead take on a whole new host of negative connotations. In the contemporary West, postmortem photography of loved ones lost to a natural death is often imbued with a notion of Victorian eccentricity (Ruby 1995:3). But photographic images of those killed in war constitute a distinctly separate set of anxieties for family members, comrades, politicians, and social theorists. This was a recent topic of considerable controversy in the USA in September 2009, regarding an Associated Press photograph of a critically wounded soldier taken by an embedded journalist during the conflict in Afghanistan. The photograph showed the soldier being helped by squadmates after a firefight but he later died on the operating table. The Associated Press ignored pleas from the family and government and published the photograph, arguing that the image was important for demonstrating "…the complexity, the sacrifice and the brutality of war" (Dunlap 2009).

Ethical notions of privacy over sensitive photographs have worked their way into American jurisprudence over the years. As Viera (1988) has observed, the subjects of photographs under certain circumstances may be construed as having some control over the dissemination of those images even if they were taken by another person. Currently, the two key legal criteria for defining invasion of privacy with a photograph are whether it is highly offensive to a reasonable person, and if distribution of the picture is not considered of legitimate concern to the public (Viera 1988). As the Afghanistan conflict photograph demonstrates, these two points may be played off against one another as the AP spokesperson seems to be making the argument that the importance of a picture to the public can neutralize its offensiveness.

The Crimean War was the first major conflict to coincide with the availability of photographic technology. In this and subsequent conflicts in the nineteenth century, notably the Civil War in the USA, photography played a key role in establishing journalistic claims to objectivity. Much like the rationale for showing the mortally wounded soldier in Afghanistan, these photographs were viewed as important by many of their contemporaries because they conveyed the human cost of war as well as its glory (Ruby 1995:13; Sontag 2003). While such imagery has been disturbing for many, to others the justification lies in the lessons about the horror of violence generated in the viewer. Much like Stanley Kubrick's ambition in "A Clockwork Orange," the audience's reaction to depictions of overt violence is presumed (or hoped) to be revulsion and a heightened sensitivity to inhumane acts.

The counterpoint to this argument is that recurrent depictions of victims can fetishize violence and desensitize the viewer (Berger 1980:37–38; Ruby 1995:12). From this perspective, there is a widespread suspicion that modernity, through the commodification of images and of viewing, has inured us to the corruptions of technology and habituated us to a culture of violence. In Horkheimer and Adorno's (2002:110) formulation, "Donald Duck in the cartoons and the unfortunate victim in real life receive their beatings so that the spectators can accustom themselves to theirs." While the underlying message of Kubrick's masterpiece still has the power

to disturb, the provocative scenes of violence are far less shocking in the context of today's violent films than they were 40 years ago.

Which perspective concerning the impacts of our exposure to violence is correct? It all depends. As Susan Sontag (2003:23) observes, "The image as shock and the image as cliché are two aspects of the same presence."

Photography and the Study of Pre-Columbian Warfare

The objectifying and desensitizing dimensions of violent imagery exacerbate ethical dilemmas when the subjects happen to be Native Americans who have been dead for hundreds or thousands of years. Uncritical publication of indigenous victims of violence, past and present, can foster the stereotype that non-Western groups consider life cheap and dispensable (Sontag 2003; Taylor 1998:129). In the USA, where Native Americans have a long celluloid history of being portrayed as bloodthirsty savages, archaeologists and bioarchaeologists bear a particularly strong responsibility when it comes to the remains of those who cannot speak for themselves. Although many anthropologists refrain from displaying images of skeletons, the fact remains that contextualized photographs can be critical as a primary basis of research, and in our opinion, they are not necessarily gratuitous indulgences.

Gregory Bateson and Margaret Mead are widely credited with being some of the first North American anthropologists to advocate and use photography as a research tool (Collier and Collier 1986:13; El Guindi 2004:15). In social anthropology, still photography continues to fill illustrative purposes, but it is not widely applied as a means of systematic and comparative primary analysis where a chief aim is data gathering or dissemination (El Guindi 2004:153–154; Pinney 1992:81). (Here, we emphasize the distinction between still film and live filming, because the latter, of course, has become commonplace as a research tool.) The reasons for this analytical caution are likely many, but the aforementioned debates surrounding the positioning of the subject in agnostic space loom large.

In contrast, still photographs continue to be an essential element in archaeological and bioarchaeological research and publishing. In part, this represents a subdisciplinary divide in objectives and epistemologies. Like social anthropology, archaeology and bioarchaeology do rely on photography for illustration. In addition, photographs for the latter are an important form of verification. In a sense, this reasoning is part of a legal continuum in the USA, where photography has been allowed as a form of evidence since the mid-nineteenth century (Gross et al. 1988; Meskin and Cohen 2008:70). In turn, this idea rests on the trope of the faithfulness and objectivity of camera imagery. Although one can question the dispassionate eye of the camera or the camera-person, we nonetheless maintain that photographs still serve as an important vehicle for comparing and assessing certain forms of evidence and inferences deriving from that evidence.

Those who study the past are particularly concerned with the issue of *equifinality* – the notion that a certain material signature or trace could have been caused by two

or more unlike processes in the past. For example, the edges of stone tools often display what is to the naked eye a sheen or polish deriving from use-wear. However, polishes can stem from a variety of activities, and often only under high magnification can systematic differences be detected in their character. This approach has allowed lithic functional analysts to distinguish activities such as woodworking from hideworking. The growth of ethnoarchaeology and experimental archaeology can be attributed in no little way to the longstanding concern with building comparative benchmarks to distinguish such processes.

Equifinality also plagues bioarchaeology. As just one health-related example, a form of cranial lesion attributable to iron deprivation is now known to be extremely similar to lesions caused by vitamin C deficiency (Bauder 2009). It is now possible to distinguish the two through radiography. Elsewhere, a controversial case surrounding the identification of victims of conflict arose in the 1990s based on the skeletal remains from a sixteenth-century indigenous community known as the King site in the southeastern USA. A number of individuals appeared to display wounds that were ascribed to an attack from the Hernando de Soto expedition (Blakely 1988). A reexamination of these remains led other researchers to conclude that most of the damage to the bone could be attributed to postmortem processes, ranging from rodent scavenging to shovel damage from excavators (Milner et al. 2000). For these cases and in other studies of adverse health and conflict, photography and extensions of photography (e.g., radiography) have become important tools for identifying subtle differences in hard tissue that may lead to profound differences in interpretation (Fig. 3.2). Such photographs are considered a prerequisite to publication as part of the process of confirming to peers that appropriate conclusions have been drawn from potentially ambiguous forms of evidence.

Even if we can convince critics of the validity of these arguments concerning the nature of observation and hypothesis testing, it still does not necessarily overcome all theoretical or epistemological differences toward explanation or interpretation that may affect opinions of what constitutes professional ethical behavior in the use of photography. The last quarter century in anthropology has seen a strong turn toward agency and the positioning of individuals in culture. Although varying perspectives on agency abound, they can perhaps be said to be joined in a common cause against the primacy of structure or system that dominated Anglo-American anthropology in the twentieth century. In contrast, bioarchaeology is vested in a population perspective that is more rooted in aggregate behavior than in the actions of persons (Larsen 1997; Walker 2008). This perspective is strongly tied to an epidemiological framework concerned with explaining patterning in the health of groups across space and time, rather than a clinical (or social) focus on the individual.

Do research designs aimed at understanding the nature of systems or population trends lend themselves by definition to the erasure of the person and subject? By extension, does the application of photography in this enterprise lend itself to the decontextualization and objectification of persons? By way of response, we provide our own snapshot of the research we are conducting involving warfare and health in

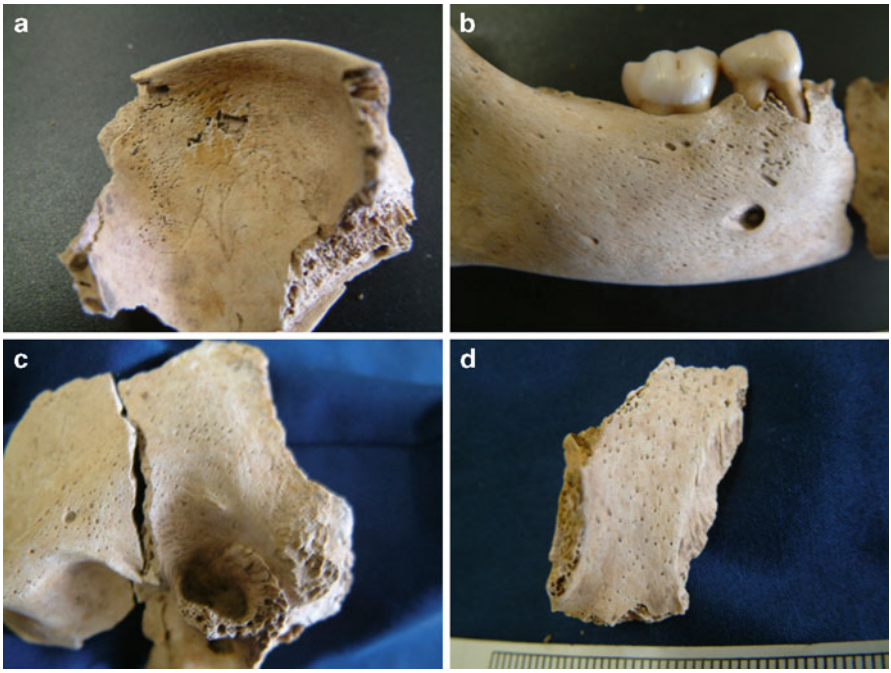

Fig. 3.2 Porotic lesions of the (**a**) orbit, (**b**) mandible, (**c**) sphenoid, and (**d**) temporal of subadult remains from the Orendorf site, Illinois. The orbital lesions alone are nonspecific and could indicate either anemia or scurvy (or other diseases). However, the photographs of the other bones demonstrate that the distribution pattern of the lesions and nature of the porosity are more consistent with a diagnosis of scurvy

the pre-Columbian era of southeastern North America. We stress that access to, and documentation of, these skeletal collections has been in accordance with the history of the consultation process with Native Americans in the state of Tennessee.[1]

The Epidemiological Transition as Structural Violence

The so-called first epidemiological transition describes how Neolithic agriculture and sedentism may have adversely impacted human health. Briefly stated, although the adoption of agriculture led to a rise in food productivity, it was also fraught with health implications, manifested in infirmities such as protein deprivation and stressors

[1] The state of Tennessee enacted a burial law in 1988, subsequently modified, that calls for consultation with Native Americans and reburial of all disturbed human remains (Moore 1989, 1998). By general agreement, all Native American remains uncovered before the state burial law was implemented remain curated by the Tennessee Division of Archaeology or the University of Tennessee, and are available for analysis. The remains that are a focus of our study were excavated prior to the 1988 agreement.

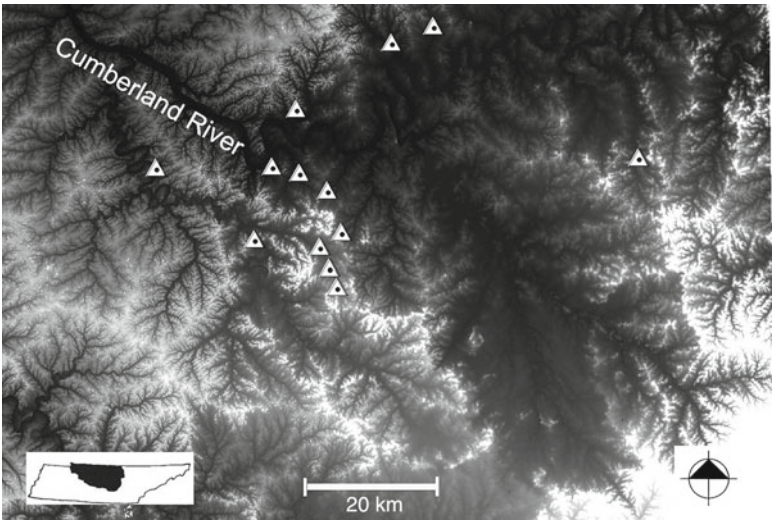

Fig. 3.3 Research sites (*triangles*) in the Middle Cumberland Region of Tennessee (*inset*)

related to the burdens of field labor (Barrett et al. 1998; Gage 2005; Larsen 2006). The ensuing milieu of immunosuppression further increased the likelihood of infectious diseases and epidemics. This paradigm has been foundational to bioarchaeological studies of human health in the southeastern USA, since the attributes of the Mississippian period (ca. AD 1000–1500) – the focus of our research in Tennessee – roughly equate with the Neolithic Revolution or Formative Period that defines the first epidemiological transition. In other words, Mississippian groups were strongly reliant on agriculture and lived in sedentary communities, some of which may have numbered well over 1,000 individuals.

The role of conflict has been recognized but not systematically incorporated into epidemiological transition studies. Yet warfare greatly impacts the spatial structuring of the towns and polities that co-occur with the first epidemiological transition. For many societies, the terrain of human settlement is a compromise between effectively exploiting local resources and the need to provide personal and community safety under conditions of chronic conflict. Settlement nucleation, regional site aggregation, and the development of territories may reflect attempts to reduce violent confrontations and promote stability. The paradox with regard to human health, however, is that the acceleration of population concentration and investment in architectural infrastructure that may accompany concerns with warfare may also promote thresholds of crowding associated with infectious diseases and other stressors. Indeed, the massing of individuals during times of war, in conjunction with siege tactics on walled towns, has led to some of the more spectacular eruptions of infectious disease, ranging from the Plague of Athens to the first bout of the bubonic plague in Late Antiquity.

The work that we are conducting in the Middle Cumberland region of central Tennessee exemplifies the process of crowding and subsequent implications for

warfare and health (Fig. 3.3). Settlement patterns for the early (ca AD 1000–1250) and late (ca AD 1250–1400) Mississippian periods emphasize landscape crowding as population densities surged sometime after AD 1200. Likewise, fortified towns became ubiquitous in later Mississippian times. Although we are currently in the process of synthesizing the results of the osteological evidence, there are numerous signatures of adverse health that we associate with crowding and nutritional stress, ranging from infectious "crowd" diseases, such as tuberculosis and syphilis, to childhood metabolic diseases such as iron deficiency anemia and scurvy. In fact, none of the skeletal samples from 13 sites studied in the region thus far are immune to metabolic and infectious diseases. Likewise, osteological evidence for violence is widespread, if not abundant. How disease and violence covary across space within the region, however, is one important aspect of the current work.

Given the ambiguities surrounding the precise causes of specific forms of skeletal trauma or disease, photo-documentation is an important component of our primary analysis and the verification of our results with other scholars. Although our focus on group conflict and epidemiology does obscure the role of the individual, it reiterates the importance of balancing agency with structure, of persons and communities. What do we mean by "structure" in the context of our research? In brief, we would argue that the Mississippian variant of the epidemiological transition constituted a form of structural violence. Drawing on the work on structural violence being carried out by the likes of Paul Farmer (2004) and Nancy Scheper-Hughes (1992), we emphasize the importance of the larger arena of conflict that embroils entire communities and regions, yet may have unintended and sometimes hidden costs in terms of health, nutrition, and survivorship for individuals. This line of research has tended to define "structure" as the welter of social, political, and economic organizations that govern the conditions of daily life, oftentimes restricting access to health care through the institutionalization of inequity. We would like to broaden that notion, making the argument that the parameters comprising the so-called Neolithic Revolution are, like any structure, an outgrowth of people producing the conditions of their own existence. They have created new forms of social processes – sedentism, agriculture, and territoriality – that collectively take on emergent structural properties conducive to the spread of conflict and disease.

We also note that our work has pointed to a chasm between perceptions of violence and the actual occurrence of violence. Mississippian-period iconography abounds with images of dismemberment, weapons, and warriors (Brown and Dye 2007; Cobb and Giles 2009; Knight 1986). These depictions, along with a morbid fascination with Native American conflict in the early European exploration narratives, if used uncritically can easily promote stereotypes of indigenous proclivities toward violent behavior. Much of the artwork in question exhibits a high degree of craftsmanship, and it is rendered in media such as marine shell and copper that is thought to be imbued with strong cosmological significance.

Many of the figures exhibited in warrior iconography, especially those related to trophy symbolism, display such similar variations on a theme that one is led to believe they may reflect mythological characters rather than actual persons. Brown and Dye (2007:293) suggest that bellicose "Imagery has served not so much as a

pictorial documentary but as an ideological archetype." These archetypes may be characters from Southeastern charter myths (Knight et al. 2001). Rather than displaying the violent nature of Mississippian times, such artwork may be the product of widely shared religious narratives. On the other hand, to refer back to modern arguments over the impact of such imagery on our cultural frameworks, it is still possible that these depictions may have been viewed as successful warriors worthy of emulation by young males (Cobb and Giles 2009). All images, photographic or representational, have the potential to impart different messages depending on the setting and audience.

Nevertheless, the osteological record from the Southeast undermines notions of the ubiquity of violence that might be drawn from Native American depictions, or from European chronicles that contain observations of scores of warrior males who, replete with adornments and weaponry, prepare for battles with other indigenous groups. Such attention to large-scale warfare (or at least warfare ceremonialism) does not appear to coincide with the empirical evidence of intergroup conflict observed in the Southeast. Though massacres have been documented from sites outside the Southeast (Owsley et al. 1977; Willey 1990; Willey and Emerson 1993), on Mississippian sites victims are often buried singly or in small groups, suggesting multiple, small-scale events typical of a raiding type of warfare rather than full-scale battles or massacres of entire villages.

The frequencies of warfare-related trauma in fact are quite variable across the larger Mississippian region, and appear to relate to local histories rather than natural and widespread proclivities. The highest frequencies are found in the central Illinois valley at the Orendorf (Mississippian) and Norris Farms (Bold Counselor Oneota) sites (Milner et al. 1991; Steadman 2008), communities that appear to have occupied volatile frontier zones. In contrast, Moundville, a large, fortified ceremonial site, has only trace evidence of warfare-related trauma (three cases of scalping among 564 individuals) despite the presence of warfare iconography at the site (Jacobi 2007). Furthermore, the demography of warfare is certainly not limited to young adult (warrior-age) males. Females are represented as victims as often as males, and only children seem to be immune from violence, except for occasional cases where they are buried away from the general population (e.g., Bridges 1996; Milner et al. 1991; Steadman 2008).

The osteological evidence, therefore, does not support inferences of widespread warfare that might be drawn from iconography and European accounts. Instead, interpersonal conflict within the Southeast seems to have been expressed largely as small-scale, raiding forms of warfare (Milner et al. 1991; Milner 1999). There is an undeniable emphasis on warfare imagery in Mississippian artwork throughout the Southeast, but the uneven record for intergroup conflict suggests a gap between ceremonial depictions and practice that warrants further investigation. In short, we can argue that the role warfare played in the lives of Southeastern indigenous groups is much more complex than either the Hobbesian or Rousseauian world views and, when encountered in the archaeological record, must be carefully contextualized. We think that our ability to document and photo-document skeletal trauma and its sources with some degree of confidence allows us to question ideologies of

warlike Native Americans critically, instead of leading to the uncritical dissemination of stereotypes of brutality. As such, the accurate reporting of warfare data from this time and place will help vitiate notions that Native Americans acted as bloodthirsty savages.

Situating the images of victims of violence from the distant past into the lineage of warfare photography also must recognize one key departure from that lineage: the photography of modern warfare was taken by contemporaries of those conflicts. Such pictures aim to show something about the conditions surrounding us; to enlighten us about a war ostensibly being fought on our behalf; or to highlight horrific circumstances that may have some indirect bearing on our life, or at least lead us to contemplate some form of response even if that means contributing to an international aid charity. Photographs of those who died or were wounded centuries or millennia ago were taken under quite different circumstances, where subject and photographer are separated by long periods of time. Whereas modern warfare photography often urges introspection through shock, bioarchaeologists use photography to instill a more sober form of introspection as well as comparative outlook. Both forms of photography are important for developing an anthropology of war that is equally concerned with its consequences and its causes.

Addressing the Ethics of Photos and Violence

Not surprisingly, our perception of the importance of the results of our work leads us to argue for the judicious use of photo-documentation of victims of violence. Harold Evans (1976) argues that the practice of exhibiting potentially offensive photographs becomes defensible if an event is of such importance that it justifies the shock, or if the objectionable detail is necessary to understand the event – or in our case, the process. Similarly, John Keane (1996:165–166) promotes the notion of "public spheres of controversy," where open discussions of conflict – oral, textual, and visual – are potentially critical for reducing conflict by cultivating shared memories of violence, by raising awareness about violence, by opening ethical debates over the use of various forms of violence, and by encouraging remedies for peace making.

By making these points, we are not saying that we have reached an ethical comfort zone. On the contrary, our participation in the American Anthropological Association symposium that led to this chapter has made us more fully aware of the multi-vocality of ethics, which in turn, we believe, makes us better anthropologists through our skepticism that there is any easy answer to the questions surrounding practices related to research on conflict and violence.

Since the American Anthropological Association currently lacks a Pope, we do not envision our discipline convening its own Council of Trent to determine what passes for decorous or indecorous imagery in our publications and posters. But in the spirit of this debate over ethics, we close with a set of related questions for those who might reject the use of images of violence among non-Western peoples under

any and all circumstances: why is it appropriate to write about violence among the Other, but not view it? Does that point of view perpetuate yet other tropes about indigenous peoples? Is it possible that the critique of film images reifies a Western notion that written history is a benchmark of cultural achievement, while visual observation and oral histories belong to the province of the so-called nonliterate peoples – Eric Wolf's "people without history" (Collier and Collier 1986:154)? Does this also reflect a gender stereotype that images are "feminine, deceptive, and irrational when compared to words, which are male, truthful, and rational" (Krieger 1979:253)? Does a postmodern derision of the Western primacy of vision hint of hypocrisy when pictorial treatments of the body at war are construed as somehow more damnable than ruminating about warfare on paper?

In response, we would argue that the placement of words, text, and images on an equal footing allows us to explore violent conflict in all of its permutations, thereby avoiding cultural gaps that all too easily become a form of historical amnesia.

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References

Barrett, R., C. W. Kuzawa, T. McDade and G. J. Armelagos. 1998. Emerging and Re-Emerging Infectious Diseases: The Third Epidemiological Transition. Annual Review of Anthropology 27:247–271.

Bauder, Jennifer M. 2009. Porotic Hyperostosis: Differential Diagnosis and Implications for Subadult Survivorship in West-Central Illinois. Unpublished PhD diss, Department of Anthropology SUNY Binghamton, NY.

Berger, John. 1980. About Looking. New York: Pantheon.

Blakely, Robert L., ed. 1988. The King Site: Continuity and Contact in Sixteenth-Century Gerogia. Athens: The University of Georgia Press.

Bridges, Patricia S. 1996. Warfare and Mortality at Koger's Island, Alabama. International Journal of Osteoarchaeology 6:66–75.

Brothers, Caroline. 1997. War and Photography: A Cultural History. London and New York Routledge.

Brown, James A., and David H. Dye. 2007. Sacred Heads and Sacred Scalplocks. In The Taking and Displaying of Human Body Parts as Trophies by Amerindians, eds. R. J. Chacon & D. H. Dye, 278–298. New York: Springer.

Cobb, Charles R. 2005. Archaeology and the "Savage Slot." American Anthropologist 107(4):563–574.

Cobb, Charles R., and Bretton Giles. 2009. War is Shell: The Ideology and Embodiment of Mississippian Conflict. In Warfare in Cultural Context: Practice, Agency, and the Archaeology of Violence, eds. A. Nielsen and W. Walker, 84–108. Tucson: University of Arizona Press.

Collier, John, Jr., and Malcolm Collier. 1986. Visual Anthropology: Photography as a Research Method. Albuquerque: University of New Mexico Press.
Cosgrove, Denis E. 1984. Social Formation and Symbolic Landscape. London: Croom Helm.
Crossland, Zoë. 2009. Of Clues and Signs: The Dead Body and Its Evidential Traces. American Anthropologist 111(1):69–80.
Dunlap, David. 2009. Behind the Scenes: to Publish or Not? Lens: Photography, Video and Visual Journalism. http://lens.blogs.nytimes.com/2009/09/04/behind-13/
Edney, Matthew H. 1999. Reconsidering Enlightenment Geography and Map Making: Reconnaissance, Mapping, Archive. In Geography and Enlightenment, eds. D. N. Livingstone and C. W. J. Withers, 165–198. Chicago: University of Chicago Press.
El Guindi, Fadwa. 2004. Visual Anthropology: Essential Method and Theory. Walnut Creek, CA: Altamira Press.
Evans, Harold. 1976. Pictures on a Page: Photo-Journalism, Graphics and Picture Editing. London: Heinemann.
Farmer, Paul. 2004. An Anthropology of Structural Violence. Current Anthropology 45(3): 305–325.
Gage, Timothy B. 2005. Are Modern Environments Really Bad for Us? Revisiting the Demographic and Epidemiologic Transitions. Yearbook of Physical Anthropology 48:96–117.
Gross, Larry, John Stuart Kutz, and Jay Ruby. 1988. Image Ethics: the Moral Rights of Subjects in Photographs, Film and Television. Oxford: Oxford University Press.
Harley, John B. 1988. Maps, Knowledge and Power. In The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments, eds. D. Cosgrove and S. Daniels, pp. 277–312. Cambridge: Cambridge University Press,
Horkheimer, Max, and Theodor W. Adorno. 2002. A Dialectic of Enlightenment: Philosophical Fragments, ed. Bunzeline Schmid Noer, tran. Edmund Jephcott. Palo Alto: Stanford University Press.
Jacobi, Keith P. 2007. Disabling the Dead: Human Trophy Taking in the Prehistoric Southeast. In The Taking and Displaying of Human Body Parts as Trophies by Amerindians, eds. R. J. Chacon and D. H. Dye, 299–388. New York: Springer.
Keane, John. 1996. Reflections on Violence. London: Verso.
Knight, Vernon James, Jr. 1986. The Institutional Organization of Mississippian Religion. American Antiquity 51:675–687.
Knight, Vernon James, Jr., James A. Brown, and George E. Lankford. 2001. On the Subject Matter of Southeastern Ceremonial Complex Art. Southeastern Archaeology 20:129–141.
Krieger, Martin H. 1979. Truth and Pictures: “Fetishes”, “Goodness”, and “Clarity.” In Images of Information, ed. J. Wagner, 249–257. Sage: Beverly Hills, CA.
Larsen, Clark Spencer. 2006. The Agricultural Revolution as Environmental Catastrophe: Implications for Health and Lifestyle in the Holocene. Quaternary International 150:12–20.
Larsen, Clark Spencer. 1997. Bioarchaeology: Interpreting Behavior from the Human Skeleton. Cambridge: Cambridge University Press.
Meskin, Aaron, and Jonathan Cohen. 2008. Photographs as Evidence. In Photography and Philosophy: Essays on the Pencil of Nature, ed. S. Walden, 70–90. Malden, MA: Blackwell.
Milner, George R., Clark Spencer Larsen, Dale L. Hutchinson, Matthew A. Williamson, and Dorothy A. Humpf. 2000. Conquistadors, Excavators, or Rodents: What Damaged the King Site Skeletons? American Antiquity 65(2):355–363.
Milner, George R., Eve Anderson, and V. G. Smith. 1991. Warfare in Late Prehistoric West-Central Illinois. American Antiquity 56:581–603.
Milner, George R. 1999. Warfare in Prehistoric and Early Historic Eastern North America. Journal of Archaeological Research 7:105–151.
Moore, Michael. 1989. A Review of the Tennessee State Cemetery Law and its Effect Upon Archaeological Data Recovery and Site Preservation. Tennessee Anthropologist XIV(1):64–76.
Moore, Michael. 1998. An Updated Review of the Tennessee State Burial law and Other Statutes Regarding Prehistoric Burial Removal. Tennessee Anthropologist XXIII(1–2):55–64.

Owsley, Douglas W., Hugh E. Berryman, and William M. Bass. 1977. Demographic and Osteological Evidence for Warfare at the Larson Site, South Dakota. Plains Anthropologist Memoir 13: 119–131.

Pink, Sarah. 2001. Doing Visual Ethnography: Images, Media and Representation in Research. Sage: Loughborough University.

Pinney, Christopher. 1992. The Parallel Histories of Anthropology and Photography. In Anthropology and Photography, ed. E. Edwards, 74–95. New Haven: Yale University Press.

Ruby, Jay. 1995. Secure the Shadow: Death and Photography in America. Cambridge, MA: The MIT Press.

Scheper-Hughes, Nancy. 1992. Death without Weeping: The Violence of Everyday Life in Brazil. Berkeley: University of California Press.

Sontag, Susan. 1977. On Photography. New York: Farrar, Straus and Giroux.

Sontag, Susan. 2003. Regarding the Pain of Others. New York: Picador.

Spencer, Frank. 1992 Some Notes on the Attempt to Apply Photography to Anthropometry during the Second half of the Nineteenth Century. In Anthropology and Photography, ed. E. Edwards, 99–107. New Haven: Yale University Press.

Steadman, Dawnie Wolfe. 2008. Warfare Related Trauma at Orendorf, A Middle Mississippian Site in West-Central Illinois. American Journal of Physical Anthropology 136:51–64.

Tagg, John. 1988. The Burden of Representation: Essays on Photographies and Histories. Amherst: The University of Massachusetts Press.

Taylor, John. 1998. Body Horror: Photojournalism, Catastrophe and War. New York: New York University Press.

Thomas, Julian. 2004. Archaeology and Modernity. London: Routledge.

Viera, John David. 1988. Images as Property. In Image Ethics: the Moral Rights of Subjects in Photographs, Film and Television, eds. J. S. Katz and J. Ruby, 135–162. Oxford UK and NY: Oxford University Press.

Walker, Phillip L. 2008. Bioarchaeological Ethics: A Historical Perspective on the Value of Human Remains. In Biological Anthropology of the Human Skeleton, 2nd edit., eds. M. A. Katzenberg and S. R. Saunders, pp 3–40. New York: Wiley.

Waterhouse, Ellis. 1972. Some Painters and the Counter-Reformation Before 1600. Transactions of the Royal Historical Society, Fifth Series, Vol. 22:103–118.

Willey, Patrick S. 1990. Prehistoric Warfare on the Great Plains: Skeletal Analysis of the Crow Creek Massacre Victims. New York: Garland.

Willey, Patrick S. and Thomas E. Emerson 1993. The Osteology and Archaeology of the Crow Creek Massacre. Plains Anthropologist Memoir 27:227–269.

Chapter 4
The Portrayal of Native American Violence and Warfare: Who Speaks for the Past?*

David H. Dye and M. Franklin Keel

Abstract We raise a series of key issues and questions concerning the depiction and portrayal of native North American violence and warfare as it has been expressed in art, education, and entertainment over the past 400 years by nonindigenous people. The cultures of violence and the nature of warfare for Europeans and native people alike were not only complex, but they were also contingent upon their respective political, religious, and social institutions. These expressions of violence stem from differences in sociopolitical complexity and cultural beliefs that arose from varying ideas and values about the nature of conflict and the rules of warfare. Differences in levels of social integration have given rise to fundamentally diverse ideas about the role of violence for a wide variety of social groups and polities in the New World. The only viable alternative to stereotypes, ethnocentrism, and dehumanization policies is the pursuit of a sustained effort to objectively identify cultural beliefs and patterns of indigenous people that result in conflict and violence. We encourage scholars to seek input on discussions and presentations from Native American groups as well as scholars whose research interests provide a scientific perspective of conflict and violence. We believe failure to pursue studies of violence honestly and truthfully results in further dehumanization and marginalization of indigenous people. The long shadow cast by violence in the past needs to be understood in ways that appreciate indigenous people in terms of their own cultural beliefs and ideas about their geopolitical world.

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D.H. Dye, Ph.D. (✉)
Department of Earth Sciences, University of Memphis, Memphis, TN, USA
e-mail: daviddye@memphis.edu

M.F. Keel, Ph.D.
U.S. Department of the Interior, Bureau of Indian Affairs, Eastern Agency, Nashville, TN, USA
e-mail: bia-fk@hotmail.com

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If North American critics of archaeology and ethnography are offended by presentation of warfare, human sacrifice, or trophy taking, the problem is not in our honest description of such rituals but in our own ethnocentricity.

Demarest (2007:604)

For a subject worked and reworked so often in novels, motion pictures, and television, American Indians are … the least understood and the most misunderstood Americans of us all.

John F. Kennedy (1963)

Scholarly discussions of violence and warfare are central to correcting and understanding ethnocentric depictions of indigenous people. Rather than avoiding such discussions, we argue that greater emphasis would help dispel false assumptions and long-ingrained biases. Stereotypes of violence and efforts aimed at dehumanization have given rise to a wide assortment of inaccurate and negative perceptions of New World native people beginning in the late fifteenth century (Chacon and Mendoza 2007; DiLorenzo 2010; Franz 1969; Fry 2006; Fussell 1997; Haefeli 1999; Jennings 2007, 2009, 2011; Reyna 1994; Riches 1986; Rupesinghe and Correa 1994; Scheper-Hughes and Bourgois 2004; Schmidt and Schröder 2001; Slotkin 2000; Smith 2011; Whitehead 2004). In this paper, we raise some ethical issues and questions about the interpretation and portrayal of Native American violence and warfare. We address stereotypes concerning indigenous forms of violence depicted in art, education, and entertainment so we might seek a more balanced portrayal of past conflict. These issues are significant because the way in which indigenous people expressed violence and warfare must be evaluated from an informed, nonbiased, and nonstereotypical perspective to correct past inaccuracies and to avoid further dehumanization and marginalization.

European and indigenous "cultures of violence" in the New World were complex and contingent (Haefeli 1999; Jennings 2011). Inaccurate perceptions of violence by colonial powers stemmed not only from variation in native sociopolitical complexity and cultural rules, but also from European beliefs, ideas, and thoughts concerning the nature of violence and the conduct of war (Dye 2009; Fry 2006; Haefeli 1999; Jennings 2011; Kelly 2000). Diverse perceptions about the role of violence by colonizing Western governments during the late eighteenth and throughout much of the nineteenth century, often precipitated profound misunderstandings and prejudice resulting in bloodshed, marginalization, and suffering (DiLorenzo 2010; Smith 2011). These misperceptions, based on embedded ethnocentrism and enduring stereotypes, have a long history in the New World (Evans 1968).

Fundamental differences concerning violence and the rules of warfare gave rise to hostilities in the early decades of the seventeenth century, beginning with the "Indian Massacre of 1622" in Virginia, and the Pequot War (1634–1638) in New England. Haefeli (1999:35), for example, notes for Kieft's War (1643–1645), fought between Dutch colonists and local Algonquians, "the real clash was between the European and Native American cultures of violence, between their ways of interpreting and coming to terms with violent acts." Throughout the New World "different 'cultures of violence' are evident, and each of these would play a role in the

violent drama of colonization" (Jennings 2007:2). We argue that those who overlook this fundamental cross-cultural issue concerning violence fail to appreciate and understand the political, religious, and social rules that underwrite conflict. Such oversights in the past often gave rise to inaccurate portrayals of aggression. Anthropology offers a perspective enabling appreciation and analysis of other cultures by providing a culturally relative, "insiders" point of view.

We also address here the ethical quandaries of scholars, including anthropologists, archaeologists, ethnographers, ethnohistorians, military historians, and museum curators, who have difficulty interpreting culturally patterned violence of indigenous people. We maintain that researchers should explicitly confront the ethical problems of discussing violence in the past (Jennings 2009; Riches 1986; Schmidt and Schröder 2001; Smith 2011; Whitehead 2004). Finally, we explore multiple stereotypes applied to Native Americans, how violence has been distorted and misunderstood since first contact, and how that misunderstanding resulted in dehumanization and marginalization of indigenous people.

We ask who should interpret and report archaeological, ethnographic, and ethnohistoric data concerning indigenous violence? How should mutual interpretation and understanding be promoted between anthropologists and Native Americans when discussing evidence of past violence between indigenous people and colonizing Europeans? What is the role of scholars in detailing and discussing conflict and violence in the past in the face of widespread and deeply entrenched prejudices, stereotypes, and policies of dehumanization? Finally, how might violent acts be investigated and reported without perpetuating cultural stereotypes?

We also seek to initiate discussion by raising questions concerning evidence garnered from scientific investigations. How should archaeologists and physical anthropologists report violence in the past? How might these studies lead to truthful and respectful research collaborations between scholars and traditional Native Americans without inadvertently promoting and reinforcing ethnic and social stereotypes? What is the impact of recent discussions by archaeologists about indigenous warfare? These questions lie at the heart of anthropological interpretations and perceptions concerning conflict and violence, hostilities and warfare.

Anthropologists have investigated warfare based on ethnographic and ethnohistoric contexts for some time, but archaeologists have only recently begun to analyze conflict and violence in the past. During the early post-World War II period, there was "a pervasive bias against the possibility of prehistoric warfare" (Keeley 1996:vii) by scholars who perceived the past as pacified and peaceful. This view was perhaps a reaction to popular nineteenth and early twentieth-century depictions of the past as brutal and violent.

These opposed positions, peaceful versus violent, were articulated by seventeenth- and eighteenth-century European scholars. In *Leviathan,* British philosopher Thomas Hobbes argued that: "Whatsoever therefore is consequent to a time of war, where every man is enemy to every man; the same is consequent to the time, wherein men live without other security, than what their own strength, and their own invention shall furnish them withal. In such condition, there is no place for industry; because the fruit thereof is uncertain: and consequently no culture of the earth; no navigation,

nor use of the commodities that may be imported by sea; no commodious building; no instruments of moving, and removing, such things as require much force; no knowledge of the face of the earth; no account of time; no arts; no letters; no society; and which is worst of all, continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short" (Molesworth 1839:72). Proposing that the natural condition of humans was based on brutality, conflict, and war, Hobbes advanced the idea that people did not have to live in constant fear or conflict, but could form a contract with the state for protection to avoid a world of violence.

The idea that humans are essentially good when living in a condition of nature is often attributed to the Earl of Shaftesbury. As a rebuttal to Hobbes, his *Inquiry Concerning Virtue* (published in 1699), postulates that the moral sense in humans is natural and innate. In his 1754 work, *Discourse on the Origin and Basis of Inequality Among Men*, Jean-Jacques Rousseau maintained the natural state of humans is one of compassion, cooperation, and peace. Rousseau's idealized image of a "gentleman" born in nature was an important component of eighteenth-century sentimentalism. Although often attributed to Rousseau, the popular expression, "the noble savage" was first coined in 1672 by John Dryden in his heroic play *The Conquest of Granada*. By the second half of the eighteenth century, a philosophical dichotomy was being articulated throughout Europe concerning the "innate" nature of indigenous people whose cultures were being transformed through colonization.

Countering Hobbes' stereotype of the "ignoble savage" and Dryden/Rousseau's image of the "noble savage" has been a challenge for archaeologists in the absence of primary, contextualized archaeological data such as fortifications and skeletal trauma. These divergent positions have led to their respective stereotypes in assessments of violence and war. Two landmark studies in the 1940s, for example, identified basic differences between "modern" warfare, where economic or political gain was the objective, and "primitive" war, characterized as impractical, irrational, and unorganized (Turney-High 1949; Wright 1942).

Such stereotyping of violence has resulted in widespread and pervasive views of indigenous conflict as largely ineffective, savage, and uncivilized. These views both denigrate and question the effectiveness of native warfare. White's (1979:115) statement is typical of such assessments, "the Indian had no feeling for grand strategy, was a sketchy tactician, and was nothing more than a primitive warrior." In another example, Mahon (1958:257) maintains that native people were "virtually without discipline in their fighting methods" and that surprise was the only basic tactic they had because they lacked "the social organization needed to plan and execute operations of a more complicated nature, such as group maneuvers or frontal assault" (Mahon 1958:259). Finally, Hirsch (1988:1191) notes, the "most notable feature of Indian warfare was its relative innocuity."

Eid (1982, 1985, 1988a), on the other hand, argues that the effectiveness and sophistication of indigenous warfare has been misunderstood and underappreciated. He makes a number of points that underscores the efficacy of Native American military science and counters the perception of indigenous people as "amateur soldiers who lacked discipline, easily ignored orders of their officers and who essentially followed, at best, the

simplest of plans in a battle" (Eid 1988a:147). Colonial documents and twentieth-century studies based on them "have generally assumed that Indian warriors were not dependable soldiers. Savages committing brigandage, warriors using the most primitive of methods to wreak vengeance almost solely out of personal motives of glory – these pejorative views appear as common judgments in the colonial records and, until quite recently, in much of historiography" (Eid 1985:126). Among other points, Eid (1988a, b) notes that indigenous people possessed sophisticated tactical, battlefield principles for initiating elaborate, large-scale activities, including practicing maneuvers, appearing on schedule, marching on order, and approaching the enemy in closely defined units. In addition, native combat units could flank an enemy, rush in frontal assaults, coordinate advance and retreat, and engage in enveloping movements. Indigenous warfare followed rules that kept deaths within acceptable social limits. Unlike European states, with their large populations, native North Americans had relatively low population levels given sixteenth- and seventeenth-century pandemics, and could not afford to suffer diminished fighting strength. Their military tactics reflected these concerns.

Two expeditions that invaded Ohio as part of the Northwest Indian War, also known as Little Turtle's War (1785–1795) confirm Eid's assessment of the sophistication of indigenous warfare (Eid 1993a, 1999). The first expedition was commanded by Brigadier General Josiah Harmar, the senior officer in the US Army, and was composed of some 1,500 troops. They moved against a native coalition in October 1790 orchestrated by several chiefs, including Little Turtle, a Miami military leader. The three engagements comprising the army's attacks – Hardin's Defeat, Hartshorn's Defeat, and the Battle of the Pumpkin Fields – resulted in the worst defeat of US forces by Native Americans until that time. The next year President Washington sent General Arthur St. Clair against a multitribal force under the command of leaders, including Little Turtle, Blue Jacket, and Buckongahelas. Of the approximately 1,400 men who served under St. Clair, 623 were killed and another 258 wounded. In proportional terms, it was the worst defeat US forces ever suffered in battle, which was more than three times the number killed 85 years later at the Battle of the Little Big Horn (Edel 1997; Eid 1993b).

Violence and Entertainment

Not only are indigenous war tactics often overlooked and misunderstood in academic discussions – but also the American entertainment industry – especially films, literature, and television – typically portrays Native American military conduct in enduring negative stereotypes that support deeply entrenched views of combat, conflict, and violence (Mihesuah 1999). Only occasionally have Native American warriors been portrayed as complex, three-dimensional characters in fictional and nonfictional depictions of violence and warfare. In numerous movies, the actors, dramatic action, and storyline ignore and misrepresent indigenous patterns of culture and military conduct.

In *The Searchers* (Warner Brothers 1956), for example, a "Comanche" war party heedlessly and recklessly charges across a river in broad daylight on horseback only to be raked with withering fire by Texas settlers who occupy the high ground behind emplaced logs. The "Comanche" actors were in fact local Navajo extras, with the exception of the "evil" Indian leader, Chief Cicatriz or "Scar," ironically portrayed by German born actor, Heinrich von Kleinbach (aka Henry Brandon). In addition to the actors, the language, regalia, and dances depicted in the film were not Comanche, but Navajo. To further compound such cultural mistakes, the "Death Song" that the "Comanche" sing with Ethan, the protagonist (John Wayne), is in reality a Navajo social dance song (http://www.imdb.com/title/tt0049730/). Such depictions amount to stock characterizations, with little if any relevance to actual modes of native behavior, and they portray native rules of warfare as bordering on the absurd.

Such biased and ethnocentric notions conform to the first of Cotton's (2008) three Native American stereotypes in early western fiction: the blood-thirsty savage, the noble savage, and the half-breed. Warfare and violence have been treated in stereotypical form over the years by characterizing native people as "skulking Indians" and "violent, blood-thirsty warriors." These stereotypes have a long tradition in Western literature where they promote the interests of the groups that create, hold, and perpetuate them; in this case, Europeans who settled the eastern seaboard during the late sixteenth and early seventeenth century. Mythic stereotypes are furthered by reinforcing widely held beliefs of indigenous people as evil antagonists who inevitably lose battles to the forces of the powerful and righteous colonizers. Few historical portrayals of native people place them in the role of protagonists outmaneuvering American or European forces in efforts to maintain their culture, homeland, and lives.

Venerable stereotypes of indigenous warfare emerged early in the days of European contact and gained widespread acceptance and distribution throughout the eighteenth and nineteenth centuries (Streeby 2002). The beginning of mass market stereotyping of indigenous warfare took place on an international stage with the work of James Fenimore Cooper, an American novelist who set the standard for popularizing dramatic stories of "wild and savage" Indians in conflict with "civilized and peaceful" settlers eking out a living on the American frontier. In the first of Cooper's *Leatherstocking Tales, The Pioneers* (published in 1823), he romanticized American colonial history and established the tone for later dime novel authors who produced their fictionalized accounts with little regard for historical accuracy or ethnocentric portrayals (Stedman 1982). *The Pioneers* sold 3,500 copies on the first day of publication (Fiedler 2008:187). Cooper's famous 1826 French and Indian War novel, *The Last of the Mohicans*, personifies and contrasts "good" Indians and "evil" Indians by tribal affiliation and individual. Written in New York City, it became one of the most popular and widely read American novels of the nineteenth century and influenced a generation of writers. These stereotypes acculturated a growing nation in a set of beliefs that denigrated and marginalized native people.

Public appreciation continued to grow in the 1830s for literature that depicted an expanding western frontier and continued conflict between settlers as protagonists

and indigenous people as antagonists bound in violent confrontation. In reality, the western frontier "was a far more civilized, more peaceful and safer place than American society today" (Hollan 1974:x). Nevertheless, ambitious advertising campaigns, the steam rotary press, and the widespread distribution of mass market books by the railways ensured that dime novel melodramas depicting patriotic frontiersmen locked in deadly combat with "wild" Indians as the villains became commercially successful (Kent 1986). Novels with frontier warfare themes were often written by individuals who lacked combat experience, such as Edward Ellis, a 19-year-old New Jersey school teacher who sold 60,000 copies of *Seth Jones; or, The Captives of the Frontier* in 1860 (Ellis 1978). His patriotic protagonist, Seth Jones, a New Hampshire frontier fighter, battled marauding and villainous Indians who raided peaceful colonial settlements (Johannsen 1950).

By the late nineteenth century most indigenous groups in North America had been militarily defeated and confined to reservations, and the media that stereotyped native people changed once again. Although earlier stereotypes still appeared in the form of dime novels and penny dreadfuls, the "Wild West" shows provided a visual drama of modern Native Americans through reenactments of famous military engagements, including the Battle of the Little Big Horn (1876). Ironically, Sitting Bull, the renowned Lakota Sioux religious leader, took part in Buffalo Bill's Wild West Show for a few years to add authenticity. Such melodramatic scenes of historical battles were often based on "puffed-up exaggeration" of historical battles (Zadra 1988:23) to reinforce widely held beliefs in indigenous stereotypes of violence and warfare. Wild West shows portrayed battles between native people and soldiers in a carnivalesque setting that mythologized the dangers symbolizing the American frontier. These shows fulfilled the contemporary requirement that native people should be depicted as villains.

Entertainers in Wild West shows disguised constructed cultural fictions and stereotypes of the frontier under the rhetoric of historical and scientific accuracy (Slotkin 1994:170). DiLorenzo (2010:229) states that the "real culture of violence in the American West of the latter half of the nineteenth century sprang from the U.S. government's policies towards the Plains Indians." This plan began on June 27, 1865, when General William T. Sherman received orders to commence what became a 25-year war of dehumanization, extermination, and marginalization waged against the Plains Indians to clear the way for constructing transcontinental railroads. Sherman regarded native people as "a less-than human and savage race" (Fellman 1995:260). Writing Ulysses S. Grant in 1867, he stated "We are not going to let a few thieving, ragged Indians check and stop the progress [of the railroads]" (Fellman 1995:264). Sherman referred to the government's military Indian policy as "the final solution of the Indian problem" (Fellman 1995:260). The military policy of Sherman, Sheridan, and other Union generals after the war was a continuation of their ethnocentric and racist views of Southerners and newly freed African Americans whom they considered to be "resisters to the legitimate forces of an ordered society" (Marszalek 1993:380).

Sherman and Sheridan will be forever associated with the ethnocentric epithet they created and espoused, "the only good Indian is a dead Indian" (Dilorenzo 2010:233).

A common theme embraced by these Union commanders was their consideration of indigenous people as subhuman and racially inferior. Dilorenzo (2010:237) notes: "The U.S. government dehumanized the Plains Indians, describing them as 'wild beasts,' in order to justify slaughtering them, just as Sherman and his wife, among many others, dehumanized Southerners during and after the War Between the States."

The Wild West shows furthered government and military policy and propaganda by portraying indigenous people as noble, but ignorant and wild savages. After the traveling shows, such as Buffalo Bill's West Show and Exhibition, numerous movies showcased the Little Bighorn battle, beginning as early as *Custer's Last Fight* (101-Bison 1912) to the recent *Night at the Museum 2: Battle of the Smithsonian* (Twentieth Century Fox 2009). Typical of these movies is *Little Big Man* (Cinema Center Films 1970), which portrays Custer as a vain and inept military leader and tactician, as was the case with Harmer and St. Clair's defeats. The result of the battle is credited more to Custer's failures as an army officer than to native military strategy on the part of the Lakota and Northern Cheyenne and their leaders.

These dramatic Wild West themes reemerged in the early twentieth century as silent movies gained popularity and furthered widely accepted stereotypes of a "skulking" warfare carried out by "wild, bloodthirsty savages" who lacked the capacity for coordinated, planned, or well-thought out attacks. These early movies employed stock characters, stilted dialogue, canned story lines, fabricated action and sets, and weak plots (Everson 1998; Langman 1992). Tompkins (1993:8) argues that indigenous people functioned as "props, bits of local color, textural effects … a particularly dangerous form of local wildlife." By the 1970s, there was a more sympathetic understanding of indigenous people, but that was preceded by "roughly 22 years in the formation of negative stereotypes in the days of silent films (1908–1929), 18 years of extremely negative stereotypes, especially in serials (1930–1947), and then over 25 years of breaking down stereotypes (after 1948)" (Price 1973:153).

Dramatic portrayals of indigenous warfare color and shape contemporary views of conflict and violence, and the ways in which indigenous people defended their culture, lives, property, and territory. As a result of these earlier biased and inaccurate depictions, studies of Native American conflict – especially those dealing with feuding, homicides, trophy taking, violence, and warfare – are often met with misunderstanding and mixed reactions. The portrayal of Native American warfare, especially in novels and films, is still the subject of considerable controversy and discussion (Rollins and O'Connor 2003; Herzberg 2008).

For example, a recent board game, written by a New England middle school teacher, based on King Phillip's War has stirred up considerable controversy. Native Americans claim the game does not address the native perspective in the war. Ellie Page (Vosk 2010), historian for the Pocasset Wampanoag tribe of Fall River, a nonfederally recognized group, notes "To make a game out of it is to diminish the sacrifice that these people had to go through at that time." Such reactions by indigenous people stem from the long history of inaccurate and misleading reports and representations over the past 400 years of indigenous and European conflict. The grim aspects of European acts of war are often minimized, overlooked, or trivialized, just as Native American acts of defense or revenge are seen as barbaric and bloodthirsty.

European accounts from the sixteenth through nineteenth centuries were often biased and prejudiced in an effort to justify and rationalize a policy of colonization, dehumanization, subjugation, and marginalization. Portrayals of Native American violence were written to effect government policies of colonization, and they established indigenous people as stock antagonists in popular melodramas. The brutality and violence of Native American and European fighting forces were similar in degree, if not in kind. Participants in combat on both sides were frequently appalled and disgusted by the extremes of their opponents.

Modern Interpretations of Native Violence and Combat

Recent anthropological studies of Native American conflict have identified a number of stereotyped perspectives about trophy-taking behavior, violence, and warfare (Chacon and Dye 2007; Chacon and Mendoza 2007). Students of military history point out how historical interpretations of Native American warfare – particularly motivations, strategies, and tactics – are often biased as well as inaccurate (Eid 1985; Keeley 1996; Malone 1993; Starkey 1998). A critical examination of Native American conflict is necessary to expose erroneous suppositions and faulty logic in reporting indigenous intersocietal violence. Rather than avoiding the subject of conflict by those interpreting the past, researchers who bring the past to the general public should accurately portray warfare within its cultural context, thus allowing erroneous positions to be addressed and corrected. In this last regard we are thinking of interpretive professionals, such as museum curators, who reach large numbers of people through publicly funded exhibitions. Instead of retreating from an examination or interpretation of the violent past, we suggest they approach the topic in an unbiased manner that is based on current scientific information.

A case in point is a recent museum exhibition. In the fall of 2003, the Art Institute of Chicago's outstanding exhibit, *Hero, Hawk, and Open Hand: American Indian Art of the Midwest and South,* opened amid rave reviews from anthropologists, archaeologists, and Native Americans. The curator, Richard F. Townsend, made every effort to interpret the past objectively, with sensitivity for Native American beliefs and concerns as documented by archaeologists, ethnographers, ethnohistorians, and native scholars. He and his colleagues worked closely with native groups who claim cultural ties to the visual arts presented.

Townsend received a standing ovation from archaeologists and Native Americans at the conclusion of his introduction for the exhibit opening in Chicago. Planning meetings and extensive negotiations conducted prior to the exhibit were based on collaboration, cooperation, and respect among archaeologists, anthropologists, art historians, government officials, and Native American leaders and scholars. The intent of the *Hero, Hawk, and Open Hand* exhibition (Townsend and Sharp 2004) was to depart from earlier presentations of late prehistoric Midwestern and Southern visual arts where indigenous lifestyles were customarily relegated to a natural history context.

In *Hero, Hawk, and Open Hand,* Townsend (2003:19) sought "an understanding of the way societies defined themselves and their environment through the symbolism and expressive power of architecture, art, and ritual performance" and "to identify and interpret the dominant forms of symbolic and aesthetic expression, outlining patterns of thought and the determining force of ideas and visual imagery in the formation and maintenance of ancient societies." The successful combination of objectivity and sensitivity in viewing ancient indigenous art is reflected in the accolades received by Townsend from his Native American and archaeological associates.

The primary focus of the *Hero, Hawk, and Open Hand* exhibit and catalog is the worldview of Eastern Woodland cultures, especially those of the Midwest and Southeast, and to examine how ideas and visual arts shaped the lives of these indigenous peoples. More to the point of our discussion, Townsend (2003:33) notes, "To these themes we must add an ever-present imagery of war in the form of ceremonial weaponry, depiction of prisoners, warriors in ritualized encounters, head-hunting displays, and exultant victory dances."

New York Times cultural critic-at-large, Rothstein (2004) however, suggests that the portrayal and interpretation of Native American societies seems idealized. He argues that the exhibit's perspective results more from concerns about contemporary sensitivities and political correctness than from a scientific search for accuracy in depicting the past. For Rothstein, a case in point is the treatment of violence and warfare in the exhibits. While conflict and violence is discussed in the exhibit catalog (Dye 2004), Rothstein (2004) notes that conflict, violence, and warfare were "barely alluded to in the exhibition."

In Townsend's defense, examples of symbolic weaponry including clubs, knives, and axes were exhibited, but Rothstein is correct in stating that conflict, especially explicit coverage of violence and warfare, was largely absent in the exhibit. It should be noted that Townsend was primarily interested in investigating and presenting the artistic, cosmological, and religious worldview of the ancient North American Midwest and South. He presents cultural objects as works of art embodying aesthetic and symbolic dimensions, rather than archaeological and ethnographic artifacts. In the foreword to the *Hero, Hawk, and Open Hand* volume, James Cuno (2004:7), director and president of The Art Institute of Chicago, wrote, "Yet, in selecting and presenting the finest works of art, we also call attention to them not just as specimens, symbols, or admirable artifacts, but also as objects for contemplation: expressive forms whose special virtue lies in their power to affect the spirit of the individual viewer."

Many of the exhibited artifact's core values and meanings stem from their association with conflict and violence, whether of this world or the other world. Images of war-club wielding warriors holding decapitated human heads (Dye 2004:Figure 2), warriors attacking one another (Dye 2004:Figure 6), and prisoner decapitation/human sacrifice (Dye 2004:Figure 16) were prominent in the exhibition. In addition, numerous examples of weaponry albeit symbolic, non-functional forms, were exhibited: flint raptor talons (Dye 2004:Figure 18), war clubs (Dye 2004: Figures 27–29), and hypertrophic knives (Dye 2004:Figure 19). Despite these examples of what might seem to be military weaponry, the portrayals of violence have more to

do with combat and confrontation in the Beneath World or Above World by deities and spiritual beings, rather than evoking quotidian violence and warfare (Brown and Dye 2007; Knight et al. 2001).

The apparent dilemma faced by Townsend, and presumably other museum curators, is how to be sensitive to modern Native American concerns, and yet present and interpret indigenous visual arts objectively on the basis of current scientific understanding. For Townsend and those who participated in the exhibit preparation, the intent was not the mundane social and natural world, but rather the cosmology and worldview of Eastern Woodland native peoples. Basic themes were outlined in the visual arts of the ancient Midwest and South over a 3,000-year time span: cosmic and social order, animal powers, deities and heroes, ancestor veneration, and chiefly office. Portrayal of warfare was not a component of the exhibit endeavor, although it might have been an additional theme had funding, space, and time constraints permitted. Mortal combat is a significant cultural motif that runs through the corpus of Eastern Woodland visual art, especially as regards Mississippian figural images and iconography. Warfare was crucial to religious beliefs and practice in eastern North America. Prestige was based on generosity, bravery, diplomatic acumen, and war honors that served as social and political currency (Snow 2007).

We contend that warfare and other aspects of intersocietal violence, both mundane and sacred, should be presented in an objective, yet informed, nuanced, and sensitive manner, but presented nonetheless. We ask, how scholars, especially archaeologists and physical anthropologists, can present evidence of combat, conflict, and violence in a way that accurately portrays current archaeological understanding of the past, yet maintains truthfulness and credibility to that past and avoids historical stereotypes? In other words, how should scholars represent violence while remaining sensitive to contemporary sensibilities and avoiding debilitating and embedded biases and stereotypes?

Most indigenous people do not object to visual art depictions per se, nor to discussions of warfare in the past, but they do resent the biased, ethnocentric, and inaccurate ways in which violence has been and is generally presented. It should be noted that most Native American cultures with strong warrior traditions – like the Chickasaw of the Southeast, or the various Caddoan and Siouan-speaking groups of the Plains and the Algonquian, Iroquoian, and Muskogean speakers of the Eastern Woodlands – take great pride in those traditions. Similarly, Old World nations, such as the Greeks, Japanese, and Turks, are proud of their histories, which include the achievement of powerful heroic warriors, and Israel points with pride to King David as one of the great Jewish warriors. In the past, ethnocentric descriptions of indigenous warfare were designed to serve a purpose: to present indigenous people as either morally superior or morally inferior, depending on the views and intentions of the writer. Modern cultural interpreters should not ignore such sentiments of those whose cultures they are trying to present or understand.

Museum exhibits honor soldiers and warriors, thus emphasizing the relevance of warfare to cultural identity. For example, the US Army John F. Kennedy Special Warfare Museum at Fort Bragg, North Carolina presents US special operations

within a public venue. The mission of the Special Forces museum is aligned with national beliefs, interests, and mores. The museum depicts elite troops as a component of the United State's role in combat from the Revolutionary War to today in a manner that is neither offensive nor demeaning to the federal government or mainstream American values. Countries around the world have museums that depict and interpret, if not glorify, war to its citizenry. Why then, do some Native Americans and poststructuralist, radical postmodernist, and revisionist critics object to the presentation of violence, which is universally and deeply embedded in the cultural ethos and fabric of complex societies? We suggest these concerns stem from the fact that some scholars perhaps unwittingly continue to stereotype indigenous people and their cultural values.

We argue that such stereotyping can be avoided, by combining consultation with indigenous people and the scientific investigation of the cultural context of violence. Furthermore, we suggest this information should be presented in nonbiased and nonethnocentric formats. We think an integral component of visual presentation of a nation's engagement in warfare is the presentation of how a society defends itself, past and present. The history of military and foreign policy is crucial to a culture's identity and to correction of stereotypes concerning those two aspects of its identity.

For contemporary Native Americans, this history is emerging not only from the archaeological record, but also from their influence on modern warfare. One example of Native American contributions to modern military studies is recognized by the US Army JFK Special Warfare Museum whose mission is to collect, preserve, exhibit, and interpret significant historical property in support of the proponencies, training and educational mission of the US Army John F. Kennedy Special Warfare Center and School, making it the regimental museum for the US Army Special Forces, Civil Affairs and MILITARY INFORMATION SUPPORT OPERATIONS (MISO) 'formerly Psychological Operations branches including predecessor organizations from the American colonial period to the present' (US Army JFK Special Warfare Museum 2011).

The US Army Special Forces trace their origins to John Smith's rangering activities at Jamestown in 1622 (Black 2009), but they claim Benjamin Church as the father of American ranging. Church, commissioned by Plymouth Colony Governor Josiah Winslow, formed the first ranger company during King Philip's War (1675–1676), when the Puritans and their native allies fought a coalition of New England indigenous people. Proportionately, the conflict was one of the bloodiest and costliest wars in the history of North America (Schultz and Touglas 2000:5). Other early rangers include John Lovewell of Dummer's War (1722–1725), John Gorham of King George's War (1744–1748), Robert Rogers of the French and Indian War (1754–1763), and James Smith of Lord Dunmore's War (1774) (Black 2009; Eid 1988b; Grenier 2005; Ivers 1996; Marokus 1996; Ross 2009).

Church's Rangers "learned valuable lessons about small-unit operations, working with indigenous scouts, maneuvering, setting and avoiding ambushes, and close-quarters fighting" (Grenier 2005:34). Likewise, Rogers was admired and feared for

his use of light infantry in which long-distance penetration of enemy-held territory was accomplished independent of extensive supply lines. These New Englanders quickly learned that native peoples "pride themselves on speed, surprise, initiative, and resourcefulness" and the rangers soon adopted and emulated the successful methods, strategies, and tactics of their native neighbors (Marokus 1996:638). The Ranger leaders often enlisted native warriors among their ranks as advisors, allies, and scouts. Several rangers recorded native military knowledge and compiled military guides and manuals based on their experience with leaders and warriors who instructed them in the rules, strategies, and tactics of Woodland warfare. For example, Church's *Entertaining Passages Relating to Philip's War* (1716), Rogers' *Journals* (1775), as well as Smith's *An Account of the Remarkable Occurrences in the Life and Times of Col. James Smith* (1799) and *A Treatise on the Mode and Manner of Indian War* (1812) became important military guides for British and colonial forces.

From this close association of European and Indigenous warfare methods, new styles of military operations were born in eastern North America. Grenier notes: "Americans in fact never could have become rangers without the tutelage of Indian allies" (2005:33). Robert Rogers' 28 Rules of Ranging, the foundation of the United States Army Rangers 19 Standing Orders, are based on Native American tactics of combat (Grenier 2005). Eid (1985:128) notes: "the ultimate success of their traditional-trained armies in woodland terrain rested upon daring and imaginative uses of Indian-style tactics. Rogers, it must be remembered, did not improve Indian military skills by grafting on European military insights; instead, the perceptive Rogers simply tried to imitate standard Indian Woodland military practice." While the colonists were learning from the New England natives, the Indians were also incorporating European weaponry and tactics. By the late seventeenth century, New England Indians had adopted an "English-style extirpative war" (Grenier 2005:30) in reaction to earlier outbreaks of "total war" fomented by English forces. With the exception of the US Ranger Museum, few venues provide a balanced perspective of indigenous warfare and its contributions to modern warfare.

Museum curators, in addition to archaeologists and ethnographers, are often the object of criticism as part of the broader debate over the scientific investigation of violence and the interrelationships of knowledge, power, and science (Foucault 1970; Lindholm 1997; Ricoeur 1995). Criticism of accounts describing cannibalism, human sacrifice, trophy taking, warfare, and violence among Native Americans spur responses evoking one or more of three major positions: (1) objective scientific evidence overwhelmingly documents such practices; (2) the practices are virtually universal among complex societies; and (3) the evidence should be presented with sensitivity and respect. Demarest (2007), however, argues that these three positions, while necessary, are insufficient elements in defense of the presentation of indigenous violence. He (2007:598) notes "the best arguments regarding the presentation of practices repulsive to western prejudice are to be found in a broader critique of the ethics of interpretations and anthropological ethics in general. Furthermore, rather than censor or distort our presentations to pander to western prejudices, we should explore such prejudices and the differences in perspectives about the human body that may underlie them."

The Minneapolis Institute of Arts, Collection Related Online Program, "Surrounded by Beauty," is an example of museum curators' collaboration with and respect for Native American military traditions. These curators present indigenous warfare in a balanced, sensitive, and truthful way. Their narrative and presentation of warfare is contextualized by a discussion of Native American spirituality. Although native people "engaged in warfare before European contact, as well as later in defense of their homelands, the image of the native people as savage warriors has been grossly exaggerated. Native people who did engage in warfare were no more or less savage than other societies of the period" (Minneapolis Museum of Arts 2011).

Native Views of Combat and Violence

In such a limited venue, we can discuss only briefly the topic of native views of combat and violence, but we present several important points. One is that discussions of Native American warfare and violence are often divorced from their ideological, political, and social contexts. Another point is that art and didactic museum panels should, whenever possible, be organized and presented in consultation with anthropologists, archaeologists, and native scholars.

One example of the complex sociopolitical relationships between Europeans and Native Americans with subsequent characterization of native people as violent is seen in the Pequot War (1634–1638) between the Puritans and their native allies, the Narragansetts and the Mohegans, against the Pequots (Cave 1996; Karr 1998; Wood 1998). Led by veterans of the 30 Years' War (1618–1648), the Puritans and their allies fell upon a Pequot fortified town on the Mystic River in modern southeastern Connecticut. After setting the Indians' wigwams ablaze, the soldiers and their allies shot and hacked to pieces anyone who attempted to escape the domestic infernos. By the end of the day, approximately 400 Pequot men, women, and children were dead (Philbrick 2006:178). William Bradford wrote, "It was a fearful sight to see them thus frying in the fire and the streams of blood quenching the same, and horrible was the stink and scent thereof; but the victory seemed a sweet sacrifice, and they gave the praise thereof to God" (Bradford 1953:296).

The Narragansetts, not familiar with European-style "total war," lamented after the massacre, "it is too furious, and slays too many men" (Karr 1998:877). Although they had sought and received assurances from Roger Williams that women and children would not be killed in the attack, the Narragansetts were unable to extract any such concessions from the Puritan soldiers. Thus, the native people of New England had their first introduction to the horrors of European-style genocide and "ethnic cleansing" (Philbrick 2006:178–179). But they soon learned from the experience. As a result of the Pequot War, a "virulent hybridization of military cultures" soon took place (Karr 1998:908) in the native conflict with Dutch colonists only five years later during Kieft's War (1643–1645). Thirty years after Kieft's War, King Philip's War (1675–1676) "with its horrors committed on both sides, was ultimately the war to end all wars in New England's battle for supremacy" (Drake 1997:33).

From the perspective of the "Puritan leaders, the Pequots, whatever their legal status, had become virtual subjects. And in dealing with lawless subjects, European military tradition was clear. Whatever force necessary to compel 'absolute submission' was justified, including the utter destruction of the foe. Entire populations were legitimate military targets. The Pequots were doubly damned as both infidels and rebels" (Karr 1998:908). Cultural cleansing or genocide resulted from dehumanization by the Puritans of the Pequots, and subsequent Puritan regard of "their Indian enemies as less than human" (Karr 1998:908). One component of ideological baggage transported by the Puritans to the New World was a lethal mix of ethnocentrism, racism, and violence. The Puritans "brought with them attitudes, both from their religion and from their political culture, of strong hostility toward cultures unlike their own, which made it particularly difficult for them to treat Indians as legitimate foes to whom the law of arms should be applied." English legal opinion held that savages had dubious legal rights (Karr 1998:888–889). Not regarded as legitimate enemies, the Pequots were epitomized as "savage, barbarous, insolent, treacherous, and lawless, and for this they faced the full fury of European warfare reserved for rebels and infidels, waged without mercy by Englishmen certain they were doing God's work" (Karr 1998:909). The Puritans saw the Pequots "increasingly as demons and less and less as fellow human beings. Once the natives were sufficiently demonized, the use of drastic violence no longer seemed immoral or excessive, for it was directed less against native men, women, and children than against the forces of Satan" (Wood 1998:73).

We account for the Puritans' extreme level of violence by reference to the military tactics English forces applied in Elizabethan Ireland (1566–1602), when both sides waged war without restraint. The Irish were regarded as traitors, and war was waged upon them without mercy or quarter. The English continued dehumanizing indigenous people by transferring their ethnocentrism and prejudice from "wild Irishmen" to "wild Indians," thus condoning extraordinary levels of violence against their "subjects" (Canny 1973; Muldoon 1975).

In contradiction to European warfare, Native American intersocietal conflict emphasized bravery and war honors through individual combat, rather than conquest and mass body counts. Exceptions to this warfare style are noted in the fourteenth-century Crow Creek massacre in South Dakota (Willey 1990; Willey and Emerson 1993), and the annihilation of neighboring confederacies and polities by the seventeenth-century Iroquois League (Snow 2007). In general, based on archaeological and ethnohistoric documentation, only a few warriors would be killed in battle and the majority of prisoners, mainly women and children, would be adopted or enslaved. These patterns changed over time and space as circumstances demanded, but overall indigenous warfare prior to European contact did not embrace wholesale slaughter like that perpertrated by colonial militias.

Two overlapping modes of warfare are evident in indigenous eastern North America (Eid 1985). One, "national" war fought by large-scale public armies, and the other, small, private actions directed against sanctioned enemies. The stereotype of a "skulking" pattern of war is based on persistent small, partisan raids, often without the consent or knowledge of a polities' formal political structure or sanctioning councils. These raids usually involved small bands of ten or fewer individuals.

Large national forces, orchestrated by formal chiefly councils composed of elders and religious leaders, controlled public wars that might include 60–600 warriors. Once approved, they could move against an enemy quickly, abandoning the element of secrecy and surprise. These indigenous militias were capable of delivering devastating blows with overwhelming force. Distinctions in war party organization varied in complexity depending upon different forms of political organization. The Osage (Bailey 1995:69, 190), for example, recognized four classes of war parties: a war party composed of warriors from the clans of one of the two great tribal divisions; a war party made up of two or more clans from one of the two great divisions; a war party organized by one clan that belonged to only one of the two great divisions; and a tribal war party, which necessitated convening the complex tribal ritual structure embodied as a polity-wide council. Osage war rituals involved tribal clan priests who created a symbolic universe as a stage for supplication of divine aid and the organization of war parties (La Flesche 1939).

Discussion

Native violence and warfare have been stereotyped by a broad range of media over the course of several centuries. Lack of understanding is based on the false idea that all cultures have approximately the same degree, kind, mode, or types of violence falling within two broad dichotomies of "civilized" and "uncivilized" war. This belief has led to profound misunderstandings. As the examples above illustrate, patterns of violence are complex, contingent, and culturally based. Polarized stereotypes in various narratives or stories of violence generally pit colonials against Native American militias, reflecting the need for a simple world of protagonists and antagonists bound in comfortable and predictable dramatic plot constructions. Slotkin (2000:17), for example, refers to this dichotomy as a "fatal opposition, the hostility between two worlds, two races, two realms of thought and feeling."

We recognize that all human groups have the potential for some level of fighting and violence, but we also acknowledge that violence differs in expression and form from culture to culture and society to society. In every social group, from nomadic hunter–gatherers to empire-building states, some degree of conflict or violence is present, despite institutions that engender cooperation and seek to maintain peaceful relations. Over the course of time, various modes of violence have coevolved with differing forms of social organization, suggesting there is a correlation between types of violence and social complexity (Kelly 2000). In fact, Fry (2006:113) argues that "patterns of fighting, conflict management, and justice seeking all relate to social organization." Therefore, each patterned theme of lethal aggression is associated with levels of sociopolitical complexity. For example, self-redress or revenge homicide is typical of nomadic hunter–gatherers, feuding is found among tribes, and warfare is characteristic of chiefdoms and states. These three modes of violence reflect the relation of lethal aggression and violence to differences in sociopolitical complexity.

Lethal, individual homicides characterize simple hunter–gatherer societies. In these family-level groups, serious aggression tends to result most often over "women and corpses" (Fry 2006:229). That is, fights over mates and previous homicides often give rise to violence. Such groups typically lack segmental social systems and feuding or warfare. Nomadic hunter–gatherers employ a variety of violent and nonviolent solutions to resolve conflicts and to seek justice. In the solution of conflicts, an aggrieved person pursues justice by taking aggressive action into his or her own hands to punish another individual and to seek retribution. As plant cultivation is incorporated into subsistence systems, and nomadic groups become more sedentary, revenge steadily decreases and feuding increases. Simple hunting and gathering bands occupied a large area of western and northern portions of eastern North America by the sixteenth century, and all were marked by low levels of violence.

Feuding is characterized by fighting in pursuit of individual or family ends and is fueled by social substitution and social segmentation in tribal societies (Kelly 2000). A feud is a "situation of reciprocal violence where one grudge precipitates retaliation, which in its turn becomes another grudge that ignites counter retaliation, and so on" (Reyna 1994:38). Feuds are usually "outbursts of unpremeditated, limited hostility" (Pospisil 1994:115) and are usually limited to one or two killings at a time. Often only one side takes the offensive at a time, and there is no clear or necessary political objective beyond the maintenance of individual or family honor (Boehm 1987:221). In classic blood feud, both the malefactors and their relatives are considered appropriate targets for revenge, thus broadening the context of self-redress homicides (Otterbein 1994). Tribal feuding was widespread in eastern North America, being predominant along the Atlantic seaboard, the northeast and Great Lakes, and the prairie plains.

With the growth of aristocratic lineages, institutionalized offices of governance, wealth, and social hierarchies, organized violence is transformed through an aggressive corporate structure that becomes chronic in regularity and frequency as an instrument of governmental policy. Thus, warfare is characteristic of complex tribes, chiefdoms, and states, developing when large social groups begin to pursue "national" policies through alliances and organized lethal aggression. Warfare is fundamentally different from individual, revenge homicides and blood feuding in that it entails relatively impersonal lethal aggression organized for political motives between autonomous communities. Societies that pursued warfare at the time of European contact were found among complex farming cultures of the Southeast, Northeast, and Prairie-Plains, especially Mississippian and Iroquoian cultures.

Without a basic appreciation of differing modes of lethal aggression and violence, observers will continue to produce stereotypical interpretations of indigenous conflict. We call for a more nuanced and accurate approach to portrayals and studies of violence. Understanding the nature of violence with respect to self-redress homicides, blood feuds, and chiefly warfare will dampen ethnocentric depictions of conflict, and will bring into sharper focus a better appreciation, not only of the nature of violence, but also of its root causes and cultural contexts. We believe publically - funded museums have an ethical obligation to present data on Amerindian violence and warfare that is accurate, truthful, and as unbiased as possible. To obfuscate

information and scientific interpretations concerning conflict is a disservice, not only to the public, but also to future generations who will look at our research and judge our propensity to seek the truth (see Chap. 9).

Summary

The most viable alternative to stereotypes, ethnocentrism, and radical postmodernist and revisionist critiques is a more aggressive and effective pursuit of our mission as educators in the classroom and with the public at large. As Demarest (2007):611 points out, "This mission, like other ethical obligations to indigenous peoples and communities near our research locations, requires a great deal of sustained effort beyond the confines of our disciplines." With this goal in mind, we encourage archaeologists and other scholars to seek input on discussions and presentations from Native American groups as well as from scholars whose research interests provide a solid scientific perspective upon conflict and violence in cultural context.

Failure to pursue studies of violence honestly and truthfully results in further dehumanization and marginalization of indigenous people. As Smith (2011:263) notes, "Thinking of someone as a human being is thinking of that person as being with a human essence: an imaginary 'something' that all humans are supposed to possess, and which makes them human. A dehumanized person is thought to lack this essence. They are thought of as humanoid or quasi-human beings – as human in appearance only." In the late nineteenth century, the "U.S. government dehumanized the Plains Indians, describing them as 'wild beasts,' in order to justify slaughtering them" (DiLorenzo 2010:237). The long shadow cast by violence in the past must be acknowledged and understood through contextualization, cooperation, and political sensitivity.

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References

Bailey, G. (ed.) (1995). *The Osage and the Invisible World: From the Works of Francis La Flesche*. Norman: University of Oklahoma Press.

Black, R. W. (2009). *Ranger Dawn: The American Ranger from the Colonial Era to the Mexican War*. Mechanicsburg (PA): Stackpole Books.

Boehm, C. (1987). *Blood Revenge: The Enactment and Management of Conflict in Montenegro and Other Tribal Societies*. Second edition. Philadelphia: University of Pennsylvania Press.

Bradford, W. (1953). *Of Plymouth Plantation, 1620–1647*. S. E. Morison (ed.). New York: Knopf.

Brown, J. A., and D. H. Dye. (2007). Severed Heads and Sacred Scalplocks: Mississippian Iconographic Trophies. In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* R. J. Chacon and D. H. Dye (eds.). Pp. 278–298. New York: Springer.

Canny, N. (1973). The Ideology of English Colonization: From Ireland to America. *William and Mary Quarterly* 30:575–598.

Cave, A. A. (1996). *The Pequot War*. Amherst: University of Massachusetts Press.

Chacon, R. J., and D. H. Dye. (2007). *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*. New York: Springer.

Chacon, R. J., and R. G. Mendoza. (2007). *North American Indigenous Warfare and Ritual Violence*. Tucson: University of Arizona Press.

Cotton, L. N. (2008). American Indian Stereotypes in Early Western Literature and the Lasting Influence on American Culture. Unpublished master's thesis, Department of American Studies. Waco: Baylor University.

Cuno, J. (2004). Foreward. In: *Hero, Hawk, and Open Hand: American Indian Art of the Ancient Midwest and South.* R. F. Townsend and R. V. Sharp. (eds.) Pp. 6–7. New Haven: Yale University Press.

Demarest, A. A. (2007). Ethics and Ethnocentricity in Interpretation and Critique: Challenges to the Anthropology of Corporeality and Death. In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* R. J. Chacon and D. H. Dye (eds.). Pp. 591–617. New York: Springer.

DiLorenzo, T. J. (2010). The Culture of Violence in the American West. *The Independent Review* 15:227–239.

Drake, J. (1997). Restraining Atrocity: The Conduct of King Philip's War. *The New England Quarterly* 70:323–56.

Dye, D. H. (2004). Art, Ritual, and Chiefly Warfare in the Mississippian World. In: *Hero, Hawk, and Open Hand: American Indian Art of the Ancient Midwest and South.* R. F. Townsend and R. V. Sharp. (eds.) Pp. 191–205. New Haven: Yale University Press.

Dye, D. H. (2009). *War Paths, Peace Paths: An Archaeology of Cooperation and Conflict in Native Eastern North America*. New York: AltaMira Press.

Edel, W. (1997). *Kekiongal! The Worst Defeat in the History of the U.S. Army*. Westport (CT): Praeger.

Eid, L. V. (1982). The Cardinal Principle of Northeast Woodland Indian War. *Papers of the Thirteenth Algonquian Conference.* W. Cowan. (ed.). Pp. 243–250. Ottawa: Carleton University.

Eid, L. V. (1985). "National" War Among Indians of Northeastern North America. *Canadian Review of American Studies* 6:125–154.

Eid, L. V. (1988a). 'A Kind of Running Fight': Indian Battlefield Tactics in the Late Eighteenth Century. *Western Pennsylvania Historical Magazine* 71:147–171.

Eid, L. V. (1988b). "Their Rules of War": The Validity of James Smith's Summary of Indian Woodland War. *Register of the Kentucky Historical Society* 86:4–23.

Eid, L. V. (1993a). "The Slaughter was Reciprocal:" Josiah Harmar's Two Defeats, 1790. *Northwest Ohio Quarterly* 65:51–67.

Eid, L. V. (1993b). American Indian Military Leadership: St. Clair's 1791 Defeat. *The Journal of Military History* 57:71–88.

Eid, L. V. (1999). Little Turtle. *American National Biography* 13:753–754. New York: Oxford University Press.

Ellis, E. S. (1978). *Seth Jones: Or, The Captives of the Frontier*. New York: Garland.

Evans, J. L. (1968). *The Indian Savage, The Mexican Bandit, The Chinese Heathen: Three Popular Stereotypes.* Ann Arbor: University Microfilms.

Everson, W. K. (1998). *American Silent Film*. New York: Da Capo Press.

Fellman, M. (1995). *Citizen Sherman: A Life of William Tecumseh Sherman*. Lawrence: University of Kansas Press.

Fiedler, L. A. (2008). *Love and Death in the American Novel*. Reprint, original 1960. Champaign (IL): Dalkey Archive Press.

Foucault, M. (1970). *The Archaeology of Knowledge and the Discourse on Language*. New York: Pantheon.

Franz, J. B. (1969). The Frontier Tradition: An Invitation to Violence. In: *The History of Violence in America*. H. D. Graham and T. R. Gurr (eds.). Pp. 127–154. New York: New York Times Books.

Fry, D. P. (2006). *The Human Potential for Peace: An Anthropological Challenge to Assumptions about War and Violence*. New York: Oxford University Press.

Fussell, P. (1997). The Culture of War. In: *The Costs of War: America's Pyrrhic Victories*. J. Denson (ed.). Pp. 351–357. New Brunswick (NJ): Transaction.

Grenier, J. (2005). *The First Way of War: American War Making on the Frontier*. New York: Cambridge University Press.

Haefeli, E. (1999). Kieft's War and the Cultures of Violence in Colonial America. In: *Lethal Imagination: Violence and Brutality in American History*. M. A. Bellesiles (ed.). Pp. 17–40. New York: New York University Press.

Herzberg, B. (2008). *Savages and Saints: The Changing Image of American Indians in Westerns*. Jefferson (NC): McFarland.

Hirsch, A. J. (1988). The Collision of Military Cultures in Seventeenth-Century New England. *Journal of American History* 74:1187–1212.

Hollan,W. E. (1974). *Frontier Violence: Another Look*. New York: Oxford University Press.

Ivers, L. E. (1996). Rangers. In: *Colonial Wars of North America, 1512–1763: An Encyclopedia.* A. Gallay (ed.). Pp. 620–623. New York: Garland.

Jennings, M. H. (2007). "This Country is Worth the Trouble of Going to War to Keep It": Cultures of Violence in the American Southeast to 1740. Unpublished Ph.D. dissertation, University of Illinois at Urbana-Champaign.

Jennings, M. H. (2009). Violence in a Shattered World. In *Mapping the Mississippian Shatter Zone: The Colonial Indian Slave Trade and Regional Instability in the American South*. R. Ethridge and S. M. Shuck-Hall (eds.). Pp. 272–294. Lincoln: University of Nebraska Press.

Jennings, M. H. (2011). *New Worlds of Violence: Cultures and Conquests in the Early American Southeast*. Knoxville: University of Tennessee Press.

Johannsen, A. (1950). *The House of Beadle and Adams and its Dime and Nickel Novels*. Norman: University of Oklahoma Press.

Karr, R. D. (1998). "Why Should You Be So Furious?": The Violence of the Pequot War. *The Journal of American History* 85:876–909.

Keeley, L. H. (1996). *War Before Civilization: The Myth of the Peaceful Savage*. New York: Oxford University Press.

Kennedy, J. F. (1963). Introduction. In: *The American Indian*. A. M. Josephy, Jr. (ed.). New York: Random House.

Kelly, R. S. (2000). *Warless Societies and the Origin of War*. Ann Arbor: University of Michigan Press.

Kent, T. (1986). *Interpretation and Genre: The Role of Generic Perception in the Study of Narrative Texts.* Cranbury (NJ): Associated University Presses.

Knight, V. J., Jr., J. A. Brown, and G. E. Lankford. (2001). On the Subject Matter of Southeastern Ceremonial Complex Art. *Southeastern Archaeology* 20:129–141.

La Flesche, Francis. (1939). *War Ceremony and Peace Ceremony of the Osage Indians*. Bureau of American Ethnology, Bulletin 101. Washington, D.C.: Smithsonian Institution.

Langman, L. 1992. *A Guide to Silent Westerns*. Santa Barbara: Greenwood Press.

Lindholm, C. (1997). Logistical and Moral Dilemmas of Postmodernism. *Journal of the Royal Anthropological Institute* 3:747–760.

Mahon, J. K. (1958). Anglo-American Methods of Indian Warfare, 1676–1794. *Mississippi Valley Historical Review* 45:254–275.

Malone, P. M. (1993). *The Skulking Way of War: Technology and Tactics among the New England Indians*. Baltimore: Johns Hopkins University Press.

Marokus, R. (1996). Rogers, Robert (1731–1795). In: *Colonial Wars of North America, 1512–1763: An Encyclopedia.* Alan Gallay (ed.). Pp. 638–641. New York, Garland Publishing.

Marszalek, J. F. (1993). *Sherman: A Soldier's Passion for Order*. New York: Vintage Books.

Mihesuah, D. A. (1999). *American Indians: Stereotypes & Realities*. Atlanta: Clarity Press.

Minneapolis Museum of Arts. "Surrounded by Beauty." http://www.artsmia.org/surrounded-by-beauty/curriculum/ IntroGlossary.pdf. Accessed April 13, 2011.
Molesworth, W. (ed.) (1839). *The English Works of Thomas Hobbes of Malmesbury. Vol. 3*. London: Bohn.
Muldoon, J. (1975). The Indian as Irishman. *Essex Institute Historical Collections* 111:267–289.
Otterbein, Keith F. (1994). *Feuding and Warfare: Selected Works of Keith F. Otterbein*. Amsterdam: Gordon and Breach.
Philbrick, N. (2006). *Mayflower: A Story of Courage, Community, and War*. New York: Penguin.
Pospisil, L. (1994). "I am Very Sorry I Cannot Kill You Any More": War and Peace Among the Kapauku. In: *Studying War: Anthropological Perspectives*. S. P. Reyna and R. E. Downs (eds.). Pp. 113–126. New York: Gordon and Breach.
Price, J. A. (1973). The Stereotyping of North American Indians in Motion Pictures. *Ethnohistory* 20:153–171.
Reyna, S. P. (1994). A Mode of Domination Approach to Organized Violence. In: *Studying War: Anthropological Perspectives*. S. P. Reyna and R. E. Downs (eds.). Pp. 29–65. New York: Gordon and Breach.
Riches, D. (ed.) (1986). *The Anthropology of Violence*. Oxford: Basil Blackwell.
Ricoeur, P. (1995). *Hermeneutics and the Human Sciences*. New York: Cambridge University Press.
Rollins, P. C. and J. E. O'Connor (eds.). (2003). *Hollywood's Indian: The Portrayal of the Native American in Film*. Lexington: University of Kentucky Press.
Ross, J. F. (2009) *War on the Run: The Epic Story of Robert Rogers and Conquest of America's First Frontier.* New York: Random House.
Rothstein, E. (2004). Who Should Tell History: The Tribes or the Museums? *New York Times*, December 21. http://www.nytimes.com/2004/12/21/arts/design/ 21muse.html?_r=1. Accessed April 13, 2011.
Rupesinghe, K., and M. R. Correa. (1994). *The Culture of Violence*. New York: United Nations University Press.
Scheper-Hughes, N., and P. I. Bourgois (eds.) (2004). *Violence in War and Peace*: *An Anthology.* Malden (MA): Blackwell.
Schmidt, B. E., and I. W. Schröder. (2001). *The Anthropology of Violence and Conflict*. London: Routledge.
Schultz, E. B. and M. J. Touglas. (2000). *King Philip's War: The History and Legacy of America's Forgotten Conflict*. New York: W. W. Norton.
Slotkin, R. (1994). Buffalo Bill's 'Wild West' and the Mythologization of the American Empire. In *Cultures of United States Imperialism*. A. Kaplan and D. E. Pease (eds.), Pp. 164–184. Durham: Duke University Press.
Slotkin, R. (2000). *Regeneration Through Violence: The Mythology of the American Frontier, 1600–1860*. Second edition. Norman: University of Oklahoma Press.
Smith, D. L. (2011). *Less Than Human: Why We Demean, Enslave, and Exterminate Others*. New York: St. Martin's Press.
Snow, D. (2007). Iroquois-Huron Warfare. In: *North American Indigenous Warfare and Ritual Violence*. R. J. Chacon and R. G. Mendoza (eds.). Pp. 149–159. Tucson: University of Arizona Press.
Starkey, A. (1998). *European and Native American Warfare, 1675–1815*. Norman: University of Oklahoma Press.
Stedman, R. W. (1982). *Shadows of the Indian: Stereotypes in American Culture*. Norman: University of Oklahoma Press.
Streeby, S. (2002). *American Sensations: Class, Empire, and the Production of Popular Culture.* Berkeley: University of California Press.
Tompkins, J. (1993) *West of Everything: The Inner Life of Westerns*. Third edition. New York: Oxford University Press.
Townsend, R. F., and R. V. Sharp. (2004). (eds.) *Hero, Hawk, and Open Hand: American Indian Art of the Ancient Midwest and South*. New Haven: Yale University Press.

Townsend, R. F. (2003). American Indian Landscape, Seen and Unseen. In *Hero, Hawk, and Open Hand: American Indian Art of the Ancient Midwest and South*, R. F. Townsend and R. V. Sharp (eds.). Pp. 15–35. New Haven, Yale University Press.

Turney-High, H. H. (1949). *Primitive War.* Columbia: University of South Carolina Press.

U.S. Army JFK Special Warfare Museum. www.jfkwebstore.com/about.php. Accessed April 22, 2011.

Vosk, S. 2010. "War Game Draws Fire from Tribes." *Cape Cod Times*, March 20, 2010. http://www.capecodonline.com. Accessed April 13, 2011.

White, J. M. (1979). *Everyday Life of the North American Indian*. New York: Holmes and Meier.

Whitehead, N. (ed.) (2004). *Violence*. Santa Fe: School of American Research Press.

Willey, P. S. (1990). *Prehistoric Warfare on the Great Plains: Skeletal Analysis of the Crow Creek Massacre*. New York: Garland.

Willey, P. S., and T. E. Emerson (1993). The Osteology and Archaeology of the Crow Creek Massacre. *Plains Anthropologist* 38:227–270.

Wood, T. L. (1998). Worlds Apart: Puritan Perceptions of the Native American During the Pequot War. *Rhode Island History* 56:62–75.

Wright, Q. (1942). *A Study of War.* Chicago: University of Chicago Press.

Zadra, D. 1988. *Buffalo Bill: of the Wild West, 1846–1917*. Mankato: Creative Education.

Chapter 5
Catawba Indians' Adaptive Response to Colonialism

Brooke Bauer

Abstract In the early 1700s, the Lords Proprietors of the colony of South Carolina were unsuccessful in regulating Indian trade, which shaped the lives of Native Americans who lived in this colony, particularly the Yamasee at the town of Pocataligo near present-day Beaufort, South Carolina. As early as 1713, the Board of Indian Trade began hearing complaints from Indians concerning abuse committed by Carolina traders. The growing crisis that occurred between the traders and the Native American population was a by-product of ecological and economic changes taking place within the colony, reflecting the depopulation of the whitetail deer. Furthermore, it was common practice for traders to incite native groups to attack one another within the colony in an attempt to acquire native slaves. The colony's attempt to regulate trade served to create factionalism between the traders based on economic competition. Trader factionalism also led to an increase in abuse by the traders, resulting in the development of a pan-Indian confederacy – the Yamasee War, April 15, 1715. In the years from 1715 to 1716, South Carolina was rife with war that took a devastating toll financially and defensively on the colony. Trade came to a standstill during these years, and tribes that had once been a buffer for the colony against Spain and France were either eradicated or removed. This chapter argues the importance of reporting on indigenous warfare as part of the Catawba Indians' adaptive response to colonialism.

This chapter is on how the Catawba Indians of present-day York County, South Carolina, employed their ability to engage in armed conflict to form strategic military alliances with Europeans to assert and maintain tribal autonomy in the face of colonialism. The participation in the Tuscarora and Yamasee Wars was an adaptive response on the part of Catawbas to numerous European colonial abuses targeting Native Americans.

B. Bauer, A.B.D. (✉)
Department of History, University of North Carolina, Chapel Hill, NC 27599, USA
e-mail: bmbauer@email.unc.edu

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Historical Background

Capturing native slaves was important to traditional patterns of indigenous warfare, as an Indian slave system of exchange predated European arrival. However, white colonists arriving from Barbados brought entirely new attitudes and beliefs about the institution of slavery to the Carolina colony. These attitudes created a market for Indian slavery, thus encouraging intertribal warfare among the Carolina Indians, including the Catawbas. A new economic system of exchange developed whereby native warriors obtained native slaves through intertribal warfare (Perdue 1979). Warriors bartered the native slaves to the colonial traders in exchange for guns, ammunition, and other European trade goods. Many Indians slowly began to replace some of their traditional native items with European trade goods. Native peoples put trade goods to use as tools; other goods were used aesthically (Richter 2001). However, archaeological evidence shows Catawbas, renowned potters, did not put aside their traditionally made trade. By 1680, Indian slavery was well on its way to becoming a full-fledged economic venture in the colony (Crane 1929).

For some scholars, the Catawba's past proved murky, but their warrior's skill has never been questioned. A memoir written by Philip Edward Pearson in 1842 deals with a migration legend of the Catawbas, in which the Connewanga Indians forced them to relocate from the northwest due to intertribal conflict around 1650–1660 (Brown 1966). However, some scholars have criticized this document because Spanish explorers reported making contact with the Catawbas in South Carolina as early as the mid-sixteenth century (Brown 1966). Despite this disagreement regarding the Catawba's place of origin, this tribe has a lengthy history of warring against other nations, with one historian describing them as "implacable enemies" of many (Brown 1966, 182). When involved in a conflict, either against the English or against other Native Americans, the Catawbas employed a military strategy whereby they could obtain indigenous slaves and plunder to sell for English trade goods, as was the case with the Tuscarora War.

Tuscarora War

In the fall of 1711, the Tuscarora War erupted in present-day North Carolina. The primary causes of the conflict were land encroachment, enslavement, and abuse of the Tuscarora Indians by local colonists (Merrell 1989a, b; Paschal 1955). A faction of the Tuscaroras, who were Iroquoian, attacked a colonial settlement, and war quickly escalated. Colonel James Barnwell commanded an expedition from South Carolina that was comprised of several hundred Indians, including the Catawbas. Thus, this war allowed Catawbas a distinctive opportunity to attack the Tuscaroras who had formed an alliance with the Iroquois of the Five Nations Confederacy, long-standing enemies of the Catawbas. As such, the Tuscaroras were enemies to the Catawbas as well. Despite that Barnwell's military expedition included Catawbas

who fought alongside colonials, it failed to defeat the Tuscaroras. As a result, the South Carolina colony sent out a second military expedition under the command of James Moore (with reinforcements from some 850 warriors from various Carolina tribes) that won victory over the Tuscarora (Rights 1957).

Participation in the Tuscarora War also provided the Catawbas with an opportunity to observe European–Indian relations from an alternate perspective. For example, they began to view the English colonists as untrustworthy allies. This realization spurred the Catawbas to forge strong military coalitions with other tribes they had served with on military expeditions (particularly with the Cherokee and the Yamasee Indians). These native alliances provided the conditions for the transfer of information about the mistreatment of Indians at the hands of Carolina traders. The widespread dissemination of native grievances would help ignite the Yamasee War (Gallay 2003).

Yamasee War

In 1715, the Catawbas joined other tribes such as the Yamasee, Creek, Cherokee, Yuchi, Apalache, Saraws, Waccamaws, Santee, and Cape Fear against the colony in the Yamasee War. This militaristic response (involving the formation of alliances between native coastal and Piedmont area groups) came as the result of years of trade abuses, specifically the enslavement of free Indians, and their high indebtedness to Carolina traders (Gallay 2003).

Questions remain as to why the Catawbas joined the conflict. Neither does the historical record give evidence of violence against the Catawbas that is equal to violence against the Yamasee, nor had the backcountry colonial population increased to the scale the low country colonial population had by the early seventeenth century (Merrell 1989a, b).

With tensions high, all it took was a spark in the form of a rumor that colonists had killed a party of Piedmont Indians traveling to Charleston. It did not matter if the rumor held any truth. The Catawbas reacted based on experience and past contact. In early May, the Piedmont Indians killed their traders and headed for the low country to assist the Yamasee (Merrell 1989a, b).

The pan-Indian military alliance of the Yamasee War proved to be a formidable force as Indians killed large numbers of English colonists. In an attempt to cut off their supply of English guns and ammunition, Governor Spotswood of Virginia placed an embargo on trade with the Catawbas and their allies. Despite the presence of this English trade embargo, the Catawba's involvement in the pan-Indian alliance was sufficient a threat to force Spotswood to negotiate a peace treaty in April 1717. One of the treaty's provisions stipulated that the trade embargo be lifted, which restored the Catawbas' access to English goods via Virginia traders (Brown 1966; Merrell 1989a, b). Thus, the Catawbas successfully employed their fighting skills, in both the Tuscarora and the Yamasee Wars, to promote the tribe's political and economic autonomy.

Ethics

Participation in armed conflicts was an important part of the Catawba's survival strategy. It is significant to note that their reputation for courage in battle, along with their possession of keen diplomatic skills, provided Catawbas with considerable political leverage, which the tribe employed when entering into negotiations with colonials. Thus, Catawbas entered into strategic economic and military alliances with the English and were granted preferred status because of their fighting abilities (as demonstrated in the Tuscarora War). However, Catawbas employed these same fighting abilities against the English when their tribal sovereignty was threatened (as in the case of the Yamasee War). Utilizing this strategy, Catawbas earned and maintained the respect of English colonials. The fact that Catawbas remain a proud and active nation today is a testament to the efficacy of this strategy.

For generations, the exploits of past warriors have been passed from one generation to another via oral tradition. Growing up, I remember hearing stories of Catawba individuals who, despite facing overwhelming odds, bravely stood up to enemies in defense of our people. Hearing about my tribe's war heroes has motivated me to continue the fight for the rights of all indigenous peoples. Sadly today, many of our young people are not being exposed to these inspiring war stories. The failure to pass on the indigenous warrior tradition deprives the younger generation of the possibility of learning important life lessons from our ancestors. Therefore, I believe it is unethical to rewrite the past by removing, denying, or censuring the reporting of indigenous armed conflict, because this form of revisionism fails to acknowledge the courage and the sacrifices of my ancestors.

Conclusions

In conclusion, this chapter has shown that warfare has played an important role among Catawbas. Catawbas participation in the Tuscarora and Yamasee Wars was part of an adaptive strategy to assert and maintain social, political, and economic autonomy. Catawbas judiciously employed their fighting prowess to defend their nation's sovereignty.

The denial or suppression of Amerindian militaristic history hurts modern-day Native Americans (particularly youth), because it prevents them from tapping into a long history of defending indigenous lifeways. Ignoring or erasing our military legacy fails to honor the warriors who shed blood in defense of native cultures and native lands.

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References

Brown (1966), Douglas Summers. *The Catawba Indian: People of the River.* Columbia:University of South Carolina Press.

Crane (1929), Verner. *The Southern Frontier,* 1670–1732. Tuscaloosa: University of Alabama, 2004, 2nd ed.

Gallay, Allan (2003), *The Indian Slave Trade: The Rise of the English Empire in the American South, 1670–1717.* New Haven: Yale University Press.

Merrell, James H (1989a), *The Indians' New World: Catawbas and their Neighbors from European Contact through the Era of Removal.* New York: W.W. Norton & Co.

Merrell, James H (1989b), "Our Bond of Peace': Patterns of Intercultural Exchange in the Carolina Piedmont, 1650–1750." in *Powhatan's Mantle: Indians in the Colonial Southeast*, edited by P. H. Wood, G.A. Waselkov, and M.T. Hatley. Lincoln:University of Nebraska Press.

Paschal, Jr., Herbert R (1955), *A History of Colonial Bath.* Raleigh: Edwards & Broughton Co.

Perdue, Theda (1979), *Slavery and the Evolution of Cherokee Society, 1540–1860.* Knoxville:University of Tennessee Press.

Richter, Daniel K (2001), *Facing East From Indian Country: A Native History of Early America*. Cambridge: Harvard University Press.

Rights, Douglas (1957), *The American Indian in North Carolina.* Durham: Duke University Press.

Chapter 6
Maya Hunting Sustainability: Perspectives from Past and Present

Kitty F. Emery and Linda A. Brown

Abstract This discussion will present evidence from two research projects, one zooarchaeological and the other ethnozoological, to address questions of sustainability in past and present Maya hunting practices. Zooarchaeological studies of animal remains from archaeological sites across the Maya region reveal some evidence of unsustainable hunting practices, primarily associated with larger and more politically complex settlements. However, these studies do not point to regional overhunting, biodiversity reduction, or extinctions, indicating that ancient Maya hunting was sustainable over 2,000 years. A second study investigates modern highland Maya hunting ceremonialism and reveals complex attitudes to wild animal harvesting. Belief in an "Animal Guardian" who determines hunting quotas and appropriate hunting behavior may link to an embedded conservation ethic. However, zoological harvest information gathered from the remains of hunted animals deposited at hunting shrines suggests that modern hunting practices may not reflect that ethic. Together, the two datasets are used to explore issues of complexity in past and present hunting activities. In each study, potentially sustainable practices become less-so under certain circumstances, particularly those causing stress on previously stable animal management systems. Some thoughts are offered on the difficulties and benefits of disseminating these complex results to different audiences. The value of understanding the factors that drive both sustainable and unsustainable practices far outweighs the disadvantages of presenting potentially unpalatable

K.F. Emery, Ph.D. (✉)
Florida Museum of Natural History, University of Florida,
117800 Dickinson Hall, Museum Road, Gainesville, FL 32611, USA
e-mail: kemery@flmnh.ufl.edu

L.A. Brown, Ph.D.
Anthropology Department, The George Washington University,
2110 G St., NW Washington, DC 20052, USA
e-mail: labrown@gwu.edu

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information about indigenous environmental resource management. The difficulty lies in presenting the research to each stakeholder in terms and contexts that are appropriate to understanding the implications of the data.

Introduction

Zooarchaeologists and other environmental archaeologists are motivated in large part by our hope that the archaeological record of ancient peoples and environments can provide useful lessons about how we should manage our modern relationships with the environment and particularly animal communities (Albarella 2001; Frazier 2007; Lyman and Cannon 2004). We hope that our investigations will assist indigenous and local communities in their quest for sustainable animal exploitation in the same locations and habitats that we have studied (for an example of modern studies of animal exploitation in the Maya area, see Naranjo and Bodmer 2007; Naranjo et al. 2004). We also hope, in a broader perspective, that our data will provide generalized models for sustainable living for all human groups. We are not alone in the hopes that our research will provide a broad panoply of benefits, and in fact conservation biologists have begun explicitly emphasizing approaches that maximize multiple benefits (see, Robinson 2010). By understanding the long tenure of the Classic Maya civilization in the fragile environments of Mesoamerica, we might learn better techniques for supporting large human populations, dense settlements, and natural resource exploitation in such areas. However, the goal and its realization are separated by a long trail of hurdles, some in the realm of science, others in the realm of communication and miscommunication.

In this chapter, we present a comparison of hunting sustainability among the ancient and modern Maya based on ecological models applied to animal bones recovered from lowland and highland archaeological sites and highland historical and modern sites (Fig. 6.1, Table 6.1). This comparison is based on Emery's zooarchaeological work on ancient Maya hunting and its effects on lowland Maya animal populations, and Emery and Brown's comparative ethnozoological research on modern hunting ceremonialism among the highland Tz'utujil and Kaqchikel Maya. Here, we discuss the results in a context of the difficulties to using ecological models of modern sustainability on archaeological datasets, the further challenges to questioning the intentionality and driving forces behind sustainability, and finally the very real question of appropriate dissemination of these complex research results to various audiences.

Two of the contextual difficulties to this research are commonly discussed in the environmental archaeology literature, that of the use of analogies and models, and that of the connection between our evidence and the real "intent" or mindset of an ancient peoples. The third, the difficulties of dissemination, is the theme of this volume but is rarely discussed in scientific presentations. However, in order to realize our goals and hopes about the "lessons" our data can provide, we must be cognizant of the hurdles faced by our research when it leaves our hands. These "lessons" have the

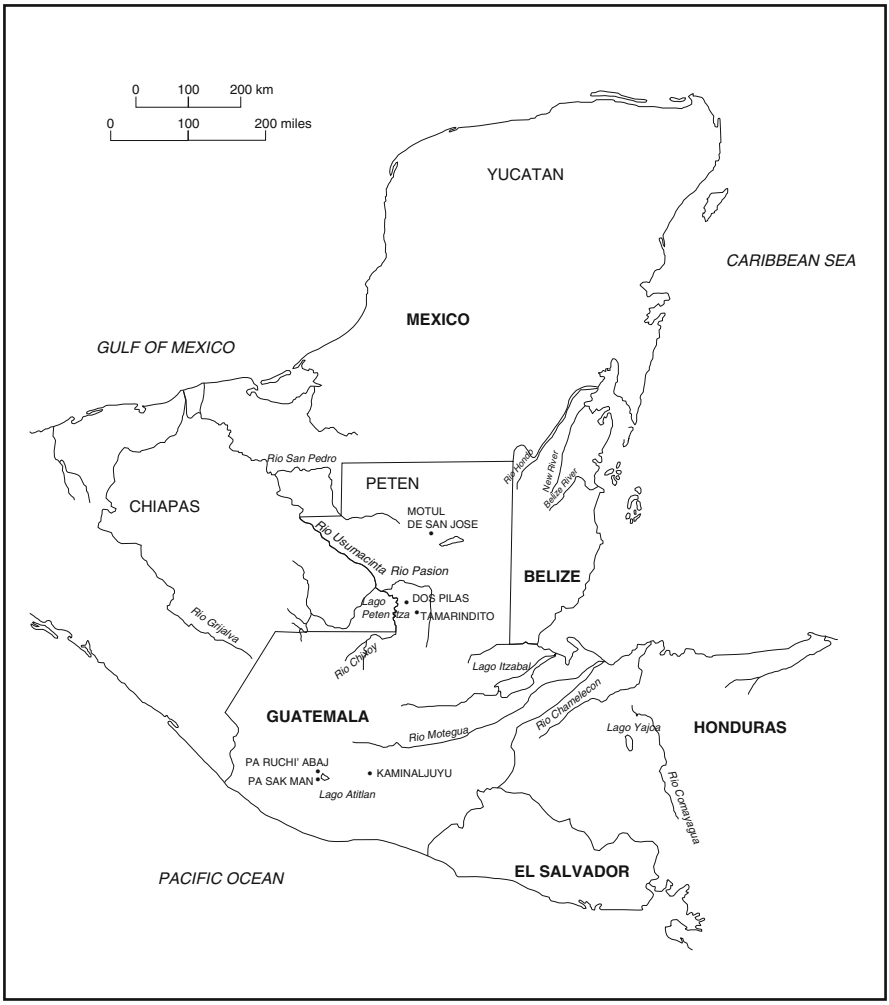

Fig. 6.1 Map of the Maya area with study sites marked (map by Emery)

real potential to be misunderstood, misrepresented, and misused by all the audiences they reach. We are all likely familiar with these stories, but here is Emery's – an experience that informs this paper and her subsequent research efforts.

Several of Emery's recent studies have attempted to evaluate the impact of ancient Maya hunting on the animal populations of the region. Emery compiled a large comparative zooarchaeological database and tracked first the effects of ancient Maya hunting within a single region or "hunting patch" – the Petexbatun political unit or polity (Emery 2008b) – and also those same effects across the Maya lowlands as a broader and more heterogeneous region (Emery 2007). In these studies she tested for reductions in the availability of favored prey by applying basic animal

Table 6.1 Generalized chronology of Maya prehistory

Period	Dates
Colonial	AD 1519–1821
Late Postclassic	AD 1200–1519
Early Postclassic	AD 1000–1200
Terminal Classic	AD 800–1000
Late Classic	AD 600–800
Early Classic	AD 300–600
Terminal Preclassic	AD 100–300
Late Preclassic	300 BC–AD 100
Middle Preclassic	900–300 BC
Early Preclassic	1800–900 BC

Dates are from Adams and MacLeod (2000) and Sharer and Traxler (2005). Period beginning and ending dates vary somewhat between sites in the Maya area

biology measures and foraging ecology, a model used by conservation biologists to track modern hunting sustainability in modern situations. Her results revealed no evidence of reductions in biodiversity or availability of game prey, although in some areas there was evidence that significant harvest pressure had been put on the most valued species, white tailed deer. This suggested that although the ancient Maya did not consistently overhunt their prey base, in some circumstances, particularly when political pressures were high, they did overhunt the local deer populations around some sites.

Emery presented these results in what she assumed to be a balanced manner, with careful consideration of the scientific hurdles to such analyses, in two widely read peer-reviewed journals within the biological sciences. She also presented her data informally to researchers affiliated with governmental (the Consejo Nacional de Areas Protegidas de Guatemala or CONAP) and nongovernmental (Wildlife Conservation Society) organizations, as well as to several Maya colleagues and informants in Guatemala. Her hope was to connect the data with the conservation biologists and local practitioners who were simultaneously determining best-practice in bush-meat hunting in the Petén lowlands where the work had been conducted. She was therefore initially pleased to receive media attention to her work, but then was horrified by the evident lack of comprehension or sensitivity with which the media-writers handled the results. From Reuters Guatemala came the headline: "Ancient Maya Elite Binge on Big Game, Loved Furs" (http://uk.reuters.com/article/idUKN1248947920071112). The Newspaper USA Today took an entirely different (and more accurate) reading in "Did Environmental Disasters Play Role in Mayan Decline" (http://www.usatoday.com/tech/science/columnist/vergano/2008-11-08-mayan-decline_N.htm). Interestingly, Al Gore's blog then somewhat misinterpreted the USA Today article by stating that "A new study suggests the Mayan civilization might have collapsed due to environmental disasters" (http://blog.algore.com/2008/11/looking_back_to_look_forward.html). Even the National Geographic

News "Maya Rituals Caused Ancient Decline in Big Game," who's reading of the research was much more balanced, presented the work alongside the classic image of jaguar sacrifice at Copan (http://news.nationalgeographic.com/news/2007/11/071115-maya-sacrifice.html). So much for carefully balanced presentation of what was in essence a heuristic exploration using ecological models and animal bones as proxy! The situation could be simply a source of head-shaking amusement at the inaccuracies of the press. Unfortunately, the reality is that these misrepresentations are the messages that are most widely available to the modern Maya and other residents of the area (Reuters Guatemala). They are also the ones that are used in portraying the Maya [the movie Apocalypto (Gibson 2006) for example, or "Collapse" by Jared Diamond (2004)], and in providing political support for conservation efforts (Al Gore's blog).

In conversations with conservation biologists and the Maya hunters, Emery also perhaps missed the mark in ensuring that her research was fully understood. The biologists continue to find it difficult to accept the role of archaeological data in providing baselines and models for modern animal conservation (for full discussions see Frazier 2007; Lyman and Cannon 2004). Although for ecological discussions on the importance of conservation research in human-managed ecosystems see such works as Gardner et al. (2010). The Maya hunters were also somewhat dubious of the relevance of Emery's information, for reasons that will be discussed later in this paper. However, she continues to feel it is important to fully share her data with the scientific communities (both anthropological and biological), the general public (unfortunately via the media), and the local practitioners and environmental conservationists. Therefore, in this paper we present a new analysis of modern and historic Maya hunting impacts that we compare to Emery's studies of ancient assemblages. We also discuss the importance of presentation of the full dataset, with clear discussions of the potential difficulties in the analysis, and with an eye to the audience and their understanding of the topic and methods.

Research Background

Our research is based in the geographic region that was once the Maya heartland, now including the countries of Mexico (from the Isthmus of Tehuantepec south), Guatemala, Belize, and Honduras (the northwestern half). This region was undoubtedly occupied from earliest Paleoindian times, but the first evidence of "Maya" activities occurs in the Preclassic ~2000 BC. The ancient Maya are most commonly recognized by the massive constructions of their densely settled cities in the tropical forests, the "temples in the jungle." The Classic Maya civilization is also characterized by literary and artistic accomplishments, by a mastery of calendrics and mathematics, and the early development of statehood with hereditary rulership and a fully hierarchical society at least by Late Preclassic (300 BC to AD 100). The Late Classic florescence of the southern lowlands with its divine kings, immense cities, large populations, and complex economic systems, met with a social and political

disruption in the Terminal Classic (AD 800–1000) and into the Postclassic (AD 1000–1500 and contact). This "collapse" may have been associated with landscape and climatic changes, but was certainly characterized by population shifts, cessation of monumental construction and abandonment of many sites in the southern lowland core, and sweeping economic and political changes. The Maya people and many aspects of their culture have survived these internal shifts, the arrival of the Europeans, modernization, and civil strife including attempted genocide, to remain one of the dominant indigenous cultures in Mesoamerica today (Menchu 1983).

Particularly in the southern lowland heartland of Classic Maya florescence, the populations of the past were higher even than they are today, the cities were hubs of social and economic activity, and a political elite competed for high-status goods, including symbolically important animals. In the highlands of Guatemala and southern Mexico, and the northern Yucatan lowlands, the modern population now far outnumbers the ancient population but these areas were also densely populated and intensively used in the past. The Maya region, including southern lowland semi-tropical forests, northern lowland xeric landscapes, and volcanic deciduous forest uplands, together encompasses one of the world's biodiversity hotspots, containing the second largest proportion of endemic vertebrates in the world (DeClerck et al. 2010:Table 6.1; Myers et al. 2000:857, Table 6.1). Despite seemingly overwhelming odds for unsustainable environmental interactions during the 2,000 years of Maya occupation, three decades of zooarchaeological research has provided no evidence of animal extinctions or even local extirpations (Emery 2007) such as we see in many other areas (e.g., Steadman 2006). As described above, zooarchaeological studies of hunting impact have provided no proof of long-term or consistent unsustainable animal use over the period of occupation of the Maya region. Similarly, later landscape analyses based on animal–habitat correlations did not find evidence for pan-Maya area deforestation although it is clear that forest-cover was regionally variable (Emery and Thornton 2008a, b). It is most likely even in areas where primary forest-cover was depleted, that secondary forests were well managed to retain biodiversity (Ford and Emery 2008; Ford and Nigh 2009). Together, these results indicate an overall tendency toward sustainable land and animal use among the ancient Maya although the site-level details also emphasize the negative effects of extreme population growth, political competition, and external stressors such as climate change (Emery and Thornton, in press).

However, implicit in the definition of sustainability is the idea of intentionality. And here our research has turned to ethnozoology, the study of modern indigenous and local animal use practices.

Highland Ethnozoology

This interest in modern and historic hunting practices grows out of collaborative research between Emery and Brown, focusing on Brown's studies of modern hunting ceremonialism in the Atitlán area or region of Guatemala (Fig. 6.2). Hunting shrines,

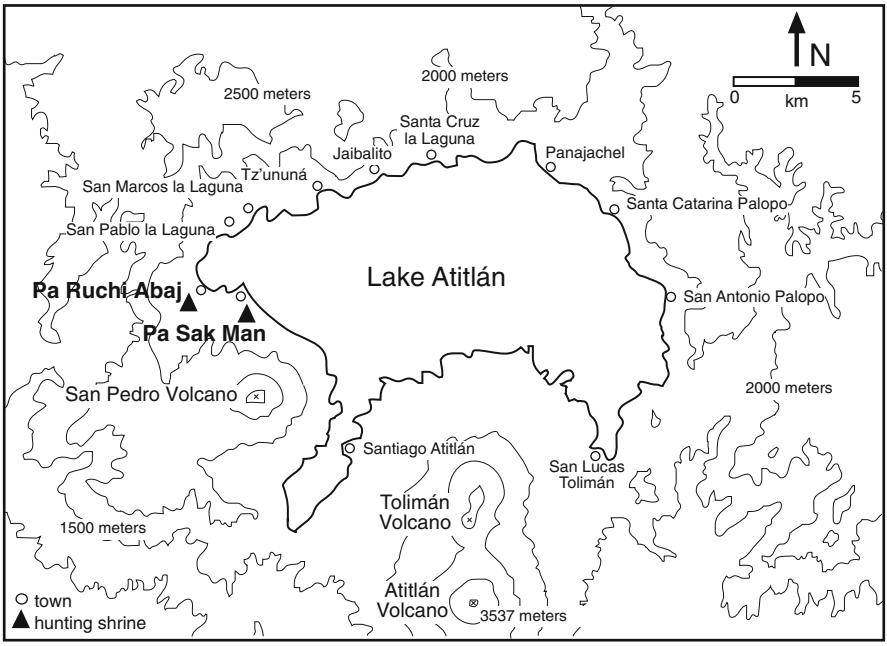

Fig. 6.2 Map of Lake Atitlán, Guatemala with shrine sites marked (map by Brown)

the first of their type to be correctly identified in the Maya region, were first described by Brown in her study recording sacred sites/wilderness shrines in the Tz'utujil, K'iche' and Kaqchikel areas of highland Guatemala. Brown's larger research project resulted in the identification, description, and mapping of over 100 shrine sites, 40 of which are located around Lake Atitlán (Brown 2002, 2004, 2005; Brown and Romero 2002). Brown has identified 17 hunting shrines around Lake Atitlán associated with the communities of Santiago Atitlán, San Pedro la Laguna, San Juan la Laguna, San Pablo la Laguna, Tz'ununá, San Antonio Palopó and the archaeological site of Chuitinamit (Brown 2006). Many of these are abandoned, but some are still in active use by the modern hunters of the region for various rites associated with hunting and wild game. Each is associated with a stone landscape feature (the doorway into the mountain), altars and hearths for ritual performance, and a cache of skeletal remains of hunted animals (Figs. 6.3 and 6.4).

Brown has shown that for the modern highland Atitlán Maya, hunting is a highly ceremonialized activity linked to a strong animistic belief in an Animal Guardian or *dueño* (owner) of wild or game animals who resides in the mountains and hills and protects and regenerates the wild animal populations (Brown 2004, 2005; Brown and Emery 2008). This is one of many beliefs associated with a concept of the cyclical regeneration of life force that in hunting ceremonies ensures animal population regeneration through return of animal parts by hunters to the Animal

Fig. 6.3 Overview of portion of Pa Sak Man rock shelter showing bone cache behind rock wall and under boulders (photo by Brown)

Guardian (Brown 2005:140). In 2006 and 2007, Brown and Emery joined forces on a collaborative zooarchaeological and spatial archaeology study of three of these shrines in which we defined the material correlates of the ritual practices associated with hunting ceremonialism (Brown and Emery 2008).[1] Subsequently, Emery and her students used these correlates to examine archaeological assemblages for evidence of similar ancient hunting shrines (Anderson 2009; Emery et al. 2007, 2009). The work presented here represents our first attempt to use the animal remains from the hunting caches in search of markers for hunting sustainability.

Brown has shown that contemporary Tz'utujil and Kaqchikel hunters conduct pre- and post-hunt rituals to ensure personal safety and success in the pursuit of wild game. Many pre- and post-hunt rituals take place at hunting shrines associated with sacred landscape features, usually caves or rockshelters, openings into the rocky

[1] We mapped and defined activity areas at each of three active communal shrines with the assistance of hunters and ritual practitioners. We recorded zooarchaeological data such as species, element, age, sex, side, and modifications on all remains, and linked these to the specific activity areas at each shrine. More recently we have been using these data to search for hunting shrines in the archaeological record which might indicate a continuity of these beliefs and practices into the ancient history of the Maya (Emery et al. 2009).

Fig. 6.4 A ritual practitioner prepares an offering of sugar, copal incense, and candles on a stone altar before investigations at a hunting shrine (photo by Brown)

hillsides and mountains where the Guardian of the Animals is believed to reside (Brown and Emery 2008: 315). At these locations, hunters often bring offerings to the Guardian with the hope that he will grant permission to take the lives of animals that reside in his forest domain.[2] After a successful hunt, the bones from the hunted animal are carefully curated and returned to the hunting shrine as part of the post-hunt ritual that also included offerings of thanks and material objects (Brown 2005:132). The process of butchering, handling, and returning animal bones to the hunting shrine in an appropriate manner is part of the social obligation that hunters have to the Animal Guardian (Anderson 2009; Brown and Emery 2008: 311, 314). It allows the hunters to prove they have followed the instructions of the animal guardian and have not hunted too many animals.[3] More importantly to this discussion, it also returns the deceased animal's life force to the Guardian who then uses the curated bones to repopulate the forests and ensure a steady, sustainable supply of forest game. This process is linked to the Maya cycle of death and rebirth called *jaloj-k'exoj* (Carlsen and Prechtel 1991:32–36) in which life-cycle changes (*jal*) are

[2] In Santiago Atitlán, the Tz'utujil Maya make pre-hunt offerings and hunting permission requests to the animal guardian in the *Cofradía* San Juan where they have transformed a colonial-period statue of Saint John the Baptist into the Guardian of the Animals (Carlsen 1997:98).

[3] As the caretaker of wild fauna, specifically land mammals, the *dueño* protects the creatures of the forest making sure hunters do not abuse them or take more creatures then needed. If hunters do not maintain all ceremonial protocol, the animal guardian exacts revenge that can result in illness or even death of the person (Brown and Emery 2008).

linked to the transfer and continuity of life (*k'ex*). Brown (2005:140) suggests that the bones are "planted" as seeds for the later "flowering of the dead" (Carlsen and Prechtel 1991) as part of a symbolically linked requirement to replace an animal's life (*jal*) through regeneration (*k'ex*) using the animal's bones.

Brown argues convincingly that this belief system and the practices associated with it might have prehistoric antecedents (Brown 2005:138). The belief in an animal guardian is geographically widespread within the Maya region and into Mexico and Honduras. Historic, Colonial, and Postclassic documents trace a long historic continuity in hunting ceremonialism, and hunting-related rites are evident in even the earliest Classic Maya depictions and writings. A close relationship between the modern Animal Guardian, the Colonial Suhui Dzip, the Postclassic God Y/Uuc Zip, and the Classic period T'zip has been well documented in the literature (for more details, see Emery et al. 2009).[4]

[4] In her extensive review, Brown notes ethnographic accounts of an animal guardian among the Yukatek, Mopan, Huastec, K'iche', Tzeltal, and the Tz'utujil Maya (all examples are from Brown 2005:138). The Chortí of Guatemala receive instructions from the guardian of the deer in a dream before their hunt (Wisdom 1940:72–73). The Yukatek Maya provide maize offerings to the forest spirit known as T'zip, the supernatural protector of deer, to ensure hunting success (Redfield and Villa Rojas 1934:140). The Mopán Maya of Belize burn copal offerings to the morning star as the owner of animals (Thompson 1930:142). Among the Huastec Maya of Veracruz, pre-hunt rituals include the ceremonial opening of a corral with an enclosed deer skull which signifies the release of a deer from the "master of the animals" (Alcorn 1984:88). The Huichol of northern Mexico offer rites to the divine owner of deer (Myerhoff 1974:201). Brown offers many more examples.

Brown and Emery (2008) also report that in the Guatemalan highlands, Archbishop Pedro Cortes y Larraz (1958 [1768–1770]:119–120) referred to hunting rituals where burned offerings were made around a deer carcass to a deer lord named Xaqui Coxol and he noted that the deer bones were carefully guarded to avoid the anger of Xaqui Coxol. Sapper (1897:268) recorded a deer-hunting ritual and offering of the head to Tzultakah (lord of the forest and guardian of animals) by Tzeltal Maya of Chiapas. Colonial period indigenous texts such as the sixteenth-century K'iche' Popol Vuh also document an animal guardian (Tedlock 1985:51, 76–77).

Several researchers have linked the modern and historic descriptions of the animal guardian to depictions of God Y in the codices, a god associated by many researchers with hunting and wild animals, particularly deer. God Y is evident in the Madrid Maya codex (Tozzer 1941:155, n. 780; Vail 1997:75; Zimmermann 1956), in various hunting almanacs, using deer accessories such as a deer headdress, antlers, and deer-ear ornaments (Bill 1997:114; Vail 1997), or with a deer, in both the Madrid (Taack 1973; Vail 1997) and the Maya Dresden codex (Colas 2006:83; Taube 2003:473, 475, Figures 7b-c). *God Y's name is read as Uuc Zip* or 7 Zip *in Yucatec orthography* (Davoust 1997; Taube 2003:473), and the deer is sometimes described as *yatan* or "wife" of *Uuc Zip*. Gabrielle Vail (1997, 2005) and others (Bill et al. 2000; Bricker 1991; Colas 2006; Taube 1988) link God Y with the hunting god *Suhui Dzip* described by Diego de Landa (Tozzer 1941).

In Classic Period iconography, Taube (Taube 1997, 2003) has described the deer guardian *T'zip* depicted as a wrinkled old man with deer-like attributes including deer ears, antlers, and lips, as well as hunting clothing and accoutrement such as a grass skirt, broad-brimmed hat, or a conch shell trumpet (Brown 2005:139). Known depictions of *T'zip* are found on Classic Period ceramic vessels (Taube 2003:Fig. 26.7e,g) and in the painted murals of Bonampak (Taube 1997). Epigraphic references to *T'zip* are found in stone inscriptions at Copan (Taube 2003:Fig. 26.7c) and Dos Pilas (Taube 2003:Fig. 26.7b).

However, the apparent sustainability ethic that is embedded in the lore of the Guardian is not necessarily equivalent to an explicit model of sustainable hunting among the hunters. In interviews with the modern Atitlán hunters, we have been told that they take any animal that "offers" itself because those animals were sent by the Guardian[5] (Brown and Emery 2008:312). During our informal conversations with the Maya ritual practitioners and hunters in 2007, it became obvious that the hunters do not specifically associate their activities with an attempt to maintain healthy animal populations although they are clearly aware of appropriate hunting methods since they also discussed the importance of avoiding breeding females and juveniles. When we discussed our archaeological findings with them, they were interested, but when we suggested that they too could learn from the studies, they reassured us that such information was unnecessary since the Animal Guardian determined appropriate hunting culls.

In a separate study in 2005, Brown and Emery conducted additional interviews with both indigenous (Itzaj) and local (Kekchi migrants from the highland) hunters in the Petén lowlands as an incidental part of other research on the practices of animal acquisition, use, and discard (Emery 2008a; Emery et al. 2009). The Itzaj Maya have been resident in the region since before the Postclassic period, likely having originated in the northern Yucatan. The Kekchi migrants are displaced highlanders who moved to the region beginning in the 1940s. In that study we interviewed 16 hunters, four of whom were specialist/full-time hunters, two recent migrants who were accustomed to hunting with tourists as well as for their own communities, and two traditional Itza hunters (Emery 2005 Unpublished Interview Notes). We found that although all had heard of the Animal Guardian or a similar being (both Itzaj hunters and one Kekchi hunter), none commented on following the same practices of either nonselective hunting or bone caching. The Itzaj hunters made explicit statements of conservation ethics about both hunting and other environmental resource uses, noting that they do not hunt females during and following the breeding season (or, at all if they are considered a "menstruating" species such as the small agouti), that they do not hunt juvenile individuals, and that they do not take more than a few individuals at a time.[6] They were apparently unaware of, or uncaring of, the various "official" hunting regulations stated by the local wildlife officials (such as CONAP). The migrant Kekchi Maya were more specific about appropriate hunting seasons,

[5] Formal interviews by Brown and informal discussions with Emery in 2007

[6] Clear prey age and sex preferences are made by both the specialized hunters and the farmer/hunters. None of the hunters preferentially will hunt an immature animal of any game class except when hunting crias to take as pets (Emery personal experience and Jorge). All the hunters agree that males are preferred over females when hunting large game either because the males are bigger (Gabriel) or because the females might have young (Gabriel, Guadeloupe, Jorge) and may continue producing (Cornelio). Less emphasis is put on sex of small game and although males are still preferred (Guadeloupe, Cornelio), "they don't stop to check" (Guadeloupe). Interestingly, one informant (Cornelio) commented that only males are taken when hunting sereques and micos because "the female menstruates and they're too much like little women". (All from Emery 2005 Interview Notes)

target catches, and the like, suggesting that they were well aware of "official" hunting regulations and may not have been entirely accurate in their discussion of hunting methods (Emery 2005 Unpublished Interview Notes).

Overall, this new insight presented us with an intriguing question that we test in this paper. Would the modern traditional practices, couched in symbolic and animistic terms and yet so clearly embedded in a long cultural history of respect for animal populations, prove to be more sustainable than the ancient practices? We hypothesized that these hunters, despite their stated lack of agency in prey choice at least in the highlands, were in fact following a generations-old set of mores and customs designed to limit overhunting and that foraging model tests of resource depression would reveal the prey population to be overall larger, less diverse, and more mature than the ancient prey. To be forthcoming about our own biases, we sincerely hoped to find clear evidence of sustainable activity in the modern assemblages because this would allow us to present our results in a positive light to the hunters who were so willing to participate in our research.

A Comparison of Ancient and Modern Hunting Sustainability

The Comparative Samples

This paper describes the Atitlán cache remains in terms of foraging ecology and other sustainability measures that are used in zooarchaeological studies and that are often used in modern ethnographic and conservation biology studies of hunting sustainability. These measures are then compared to archaeological samples.

The Atitlan Cache Assemblages

We use samples from two of the three shrines that we studied in collaboration in 2007 (Brown and Emery 2008). Both were well preserved and reflective of the activities that created them. The third shrine we investigated had been partially destroyed by a rock-fall and our analyses were incomplete. The two shrines used in this analysis were also similar in that the hunters professed to return all the bones of the skeletons of all the game they hunted (Brown and Emery 2008:313). The hunters noted that every bone returned was regenerated by the Animal Guardian as a new animal, so it was important to return even the smallest toe bone. Bones were curated after hanging in baskets at the hunters' homes and were returned on a regular basis, sometimes determined by calendrics or auspicious events (Brown and Emery 2008:314).

The first shrine used in this comparative analysis is Pa Ruchi Abaj, a communal hunting shrine associated with the town of San Juan la Laguna. The site, a flat shelf nestled in front of a massive outcrop and surrounded by large boulders, is completely covered by bone remains that appear to be a single faunal cache representing a

dense cap of primarily mammalian bones at least half a meter thick (Brown and Emery 2008:307; Emery et al. 2007). We calculated that the remains contained in this cache were in excess of 600,000 (Brown and Emery 2008:318; Emery et al. 2007). The cache/performance space is approximately 3 m × 3 m, fronted by a retaining wall and in situ boulders, and reaching back into two alcoves on either side of the outcrop. A single hearth lies partially on flat ground and partially on a flat boulder-top at the front of the site, separated by a few centimeters from the trailing edge of the deposit. An altar composed of several flat rocks separates the north alcove from the open space in front. Pa Ruchi Abaj is currently abandoned, although there was some evidence that it is currently undergoing reclamation and limited use. Brown's ethnographic research found that most residents of San Juan la Laguna did not remember a time when Pa Ruchi Abaj was in use. The exception was one 89-year-old resident who remembered attending a post-hunting ceremony at Pa Ruchi Abaj when he was about 10 years of age (Brown 2006:13). This suggests that primary use of the site was at least 80 years ago.

The second shrine used for comparative analysis of hunting sustainability here is Pa Sak Man (Brown and Emery 2008:308). This is one of three hunting shrines recorded around San Pedro la Laguna, and is an active communal shrine site located approximately 400 m south of the town. The site consists of a west-facing rock shelter used for various types of ceremonies including hunting rites. The most conspicuous features at Pa Sak Man are the bone deposits. Two main fauna caches are present, one of which consists of hundreds of bones carefully placed under an alcove within the southern part of the shelter. A smaller primary feature was found on an elevated ledge in the east part of the shelter. Additionally, bones were tucked into various small alcoves along the rock shelter's back wall. The shrine also contained an altar area, sacrificial offering hearths, and a cleared maintained performance space. Hunters discussed using this site both for pre-hunt requests for hunting permission and for post-hunt caching and other dedicatory rites (Brown Unpublished Interview Notes).

The Archaeological Assemblages

The results of the cache analysis are presented in comparison with ancient examples from both the highlands and lowlands. We compare the hunting cache assemblage with animal remains from archaeological sites – the largest highland Preclassic center (Kaminaljuyu), a large lowland political capital of the Classic period (Dos Pilas), a mid-size lowland political capital of the same period (Motul de San Jose), and a Classic period secondary center under the rulership of Dos Pilas (Tamarindito). Kaminaljuyu was chosen because it is a highland center, but the sample is small and less useful in comparative terms (Emery et al. in press). Dos Pilas was chosen because it is one of the sites Emery has studied and presented in other publications (Emery 2007, 2008b, 2010), however, this is a large political center and the assemblage is representative of both elite activity (particularly in the Late Classic) and bone artifact crafting (particularly in the Terminal Classic). Therefore we have also

chosen to include two other sites studied by Emery: Motul de San Jose, a smaller though still important political capital (Emery 2003, in press) and Tamarindito, a secondary center that was not as politically active as either capital site (for full details for Tamarindito and other Petexbatun sites, see Emery 2010).

Methods of the Comparison

All samples were identified by Emery and her students using identical methods, most using the comparative collections at the Florida Museum of Natural History, University of Florida. The hunting shrine remains were identified on-site using a digital archive of the FLMNH comparative collections since these were ritually valued sites and the practitioners requested that all remains stay on site. We were permitted to collect the remains for analysis and then return them to their cache locations following identification.

All remains, modern and archaeological, were identified to the lowest possible taxonomic level. Taxonomy is based on the latest nomenclature available from http://www.itis.gov. We also analyzed element, element portion, side, age, sex, and modifications. All analyses are accompanied by full contextual information. This presentation does not provide full details of the analyses as these are available in the publications cited above. Here, we present a full list of species with counts for NISP (Number of Identified Specimens). This measure provides a maximum estimate of the number of animals represented in the sample. It presents an inflated value for species with very numerous skeletal elements. In our comparative analysis this is true only for the armadillo with its enormous number of scutes. For that reason, in this analysis, scutes are excluded (for more details, see Grayson 1984; Reitz and Wing 2008).[7]

This investigation is based on the results of various measures conducted for each time period at each site. These include the ratio of large to overall game species, diversity (heterogeneity), age profiles, and taxonomic vulnerability. Each of these measures is an attempt to evaluate the long-term sustainability of hunting practices. To estimate the effect of hunting on the local populations, we do not include any exotic taxa in these analyses. Since all of these sites are located inland, all marine species are exotic to their location and are therefore not included. We also do not

[7] We cannot provide a direct quantification of the actual number of animals that contributed to our samples because the processes of use, deposition, and preservation are so variable that it is impossible to accurately predict the correlations between the animals used and the animal bones recovered. The NISP provides a count of all specimens analyzed but this measure over-represents animals that have very numerous skeletal elements as well as those with very well preserved elements (e.g. between robust bivalve shells and the fragile and delicate cranial bones of a fish). However, our comparisons are based on taxa from a single class, mammals, that are relatively similar in terms of preservation and recovery. Therefore, the NISP provides an accurate assessment of relative frequency in this study.

include the domestic dog since a domesticated species is not affected by hunting pressure although it was clearly eaten in the past (see for example, Clutton-Brock and Hammond 1994; Valadez Azúa 2000).

We begin with an evaluation of harvest efficiency based on models developed and used in foraging ecology (Stephens and Krebs 1986) and applied to zooarchaeological data (Broughton 2001; Broughton et al. 2007). These studies have shown that humans, like other predators, attempt to maximize the efficiency of meat return by focusing on the preferred ("highest ranked") species. Broughton (1994:502) has shown that overall prey size can be used as a direct proxy for prey rank although the relationship between size and nutrient return is not an absolute correlate. When the high ranked or largest and most easily hunted prey are overexploited, these populations are reduced and the prey become less available to the hunters and less efficient to harvest (Broughton 2001; Madsen 1993). This reduction is termed a resource depression. Ethnobiological and ecological studies show that hunters faced with a resource depression typically turn to a wider diversity of smaller bodied prey. In zooarchaeological terms therefore, high foraging efficiency is represented by a dominance of large, easily hunted, prey species. The adverse impact of high foraging efficiency, or overhunting of these favored prey, can be seen in two ways: (1) the relative reduction of large prey taxa and increase in smaller prey taxa, and (2) the increase in diversity of prey taxa overall.

We measure foraging efficiency here as the ratio between the number of remains identified as top-ranked species by size (white-tailed deer, peccaries, brocket deer, tapirs and large cats) and those identified as all other mammalian taxa combined [Σ large mammals/Σ(large mammals + all mammals)]. We estimated the diversity of past hunted prey as taxonomic heterogeneity using Simpson's (1949) index of heterogeneity [$N(N-1)/\Sigma n(n-1)$] where n = specimen count/taxon, N = total specimen count. These measures have been used frequently in archaeological studies (Cruz-Uribe 1988; Leonard and Jones 1989).

We also consider the effects of hunting on specific taxa and individuals within populations. Hunting practices that minimize the effect on a population's ability to reproduce are those that are the most sustainable. Animal populations are most severely impacted when hunters reduce the proportion of breeding females, do not permit juveniles to reach full maturity, or allow the population to reach levels below which reproduction is unlikely to be sufficient to fully (or healthily) repopulate the group. Here we measure the proportion of juvenile individuals within the animal remains, specifically evaluating the proportion of pre-breeding-age juvenile elements as shown by completely unfused epiphyses, unerupted teeth, and other markers of juvenile status. There is insufficient evidence in these zooarchaeological samples to compare sex of the hunted population although that would be very useful.

Ecologists determine animal population vulnerability to exploitation using data on rate of population increase, longevity, and generation time (Bodmer et al. 1997; Robinson and Redford 1991; Robinson 2000, 2001). In general terms, long-lived species with low natural productivity (low rates of natural population increase and long generation times) are most vulnerable to harvest. In addition, species with larger body sizes are generally slow to reproduce and often have low rates of natural

productivity. These species are more vulnerable in situations of reduced population density as a result of hunting pressure, and when habitats become less available, for example as a result of deforestation (Bodmer et al. 1997; Naranjo and Bodmer 2007). Unfortunately, ecological information on the specific rates of reproduction and longevity is rare for the lowland Maya region (although, see Novack 2003) despite work by the WCS and other conservation biologists in the area (for example, see Thornton et al. in press; Zeller 2007). Needless to say, there is no equivalent specific data for the ancient animal populations. Therefore in order to determine which species should be considered most "vulnerable" to harvest pressure, we rely on generalized information on species productivity (r_{max} or intrinsic rate of natural increase), longevity (as age at last reproduction), and generation time (as age at first reproduction) as compiled from the literature for various neotropical regions (Bodmer et al. 1997; Mugaas et al. 1993; Novack 2003; Novack et al. 2005; Robinson and Bennett 2000, 2004; Robinson and Redford 1986, 1991; Slade et al. 1998; Zapata Rios 2001).[8]

As shown in Table 6.2, the vulnerable taxa of the ancient and modern Maya world primarily include the cats (jaguar, puma, and perhaps ocelot), monkeys (both howler and spider), and the large-bodied tapir. More stable taxa include rabbits, squirrels, opossums, white-tailed deer, raccoons, the peccaries, the paca and agouti, the coati, and the armadillo. Taxa such as brocket deer and tamandua are also considered vulnerable using some measures, but are not consistently considered as such, so we do not include them here.

This study is biased by the comparison of highland and lowland assemblages. These are two different ecosystems with different animal population dynamics. The cultural groups, despite all being Maya, are also quite different in many ways, and we are unable to know what differences might have existed over the very long period of archaeological prehistory. In addition, the human population distributions would have been very different over time with the highest population densities having occurred in the Late Classic lowlands, probably even higher than the modern densities in the villages surrounding the modern/historic caches. In addition, investigation methods differed between assemblages. Most or all of the remains were recovered in the modern assemblage while the ancient assemblages were likely much less representative of the entire hunted prey group.

In addition to comparing samples between cultural regions, we also attempt to compare between the hunting shrines. The shrine of Pa Ruchi Abaj was likely the oldest (memory of grandfathers using the site, but little recent activity) and Pa Sak Man the youngest (modern activity even during our studies). At the shrines only mammals were included in the animals to be returned for curations (we were also taken to a fishing shrine, but unfortunately the remains of fish and other water fauna

[8] Data from other neotropical areas, although not as accurate as data from the specific region from Novack 2003 and Novack et al. 2005, are likely be within the range of population variation to be expected in comparing modern to ancient populations.

Table 6.2 Table of data used in estimating the vulnerability of the primary game species of the Maya

	Body mass (kg)	Longevity (age of last reproduction)	Generation time (age of first reproduction)	Intrinsic rate of natural increase (r_{max}, = age of first last reproduction and annual birthrate)	Comparative species
Howler monkey	6.5[b]	25[b] = long	4.5[b] = old	0.17[b] = more vulnerable [g]	
Lowland tapir	149[b]	23[b] = long	3.7[b] = old	0.2[b] = more vulnerable [g]	*(Tapirus terrestris)*
Jaguar	69[c]	14[c] = long	3.5[c] = old	0.23[e] = more vulnerable	
Spider monkey	8[b]	25[b] = long	2.5[b] = intermediate	0.24[b] = more vulnerable [g]	
Puma	37[b]	11[b] = long	2.7[b] = intermediate	0.3[d] = more vulnerable	
Brocket deer	17[a]	8[b] = short/12[e]	1.1[b] = young	0.4[b] = somewhat vulnerable (less vulnerable [g])	
Ocelot	10[c]	10[c] = short	1.5[c] = intermediate	0.46[e] = somewhat vulnerable	
Tamandua	6[a]	18[b] = long	2[b] = intermediate	0.48[b] = somewhat vulnerable	
White nosed coati	3[a]	7[c] = short	2.5[e] = intermediate	0.62[f] from weight, 0.56 from generation = less vulnerable	
Paca	6[a]	12[b] = long	1[b] = young	0.67[b] = less vulnerable	
Armadillo	5[a]	8[b] = short	2[b] = young	0.69[b] = less vulnerable	
White-lipped peccary	29[a]	13[b] = long	1.5[b] = intermediate	0.84[b] = less vulnerable[g]	
Agouti	3[a]	10[b] = short	0.7[b] = young	1.1[b] = less vulnerable[g]	*(Dasyprocta leporina)*
Collared peccary	17[a]	13[b] = long	0.9[b] = young	1.25[b] = less vulnerable[g]	
Raccoon	5[e]	16[e] = long	0.8[e] = young	1.34[f] (from weight) 0.53 from generation = less vulnerable	*(Procyon lotor)*
White-tailed deer	35[a]	10[b] = short	0.5[b] = young	0.73[b] = less vulnerable	
Opossum	1[d]	very short[d]	Young[d]	2.92[d] = less vulnerable	*(Didelphis marsupialis)*
Squirrels	0.33[b]	<5[f] = very short	1[f] = young	3.28 = much less vulnerable	*(Sciurus carolinensis)*
Rabbits	1[b]	2[b] = very short	0.2 = very young[b]	11.51[b] = much less vulnerable	*(Sylvilagus floridanus)*

These values are often used by ecologists to derive quantitative measures of species vulnerability. However, several vital variables are unknown in the archaeological record (such as population density which impacts rate of reproduction and survivalship), so the values are used here only for qualitative assessment

[a]Novack (2003)
[b]Robinson and Redford (1986)
[c]Zapata Rios (2001)
[d]Robinson (2000): Table 6.2
[e]Mugaas et al. (1993)
[f]Slade et al. (1998)
[g]Bodmer et al. (1997)

cached there are cached underwater and are no longer in situ). Therefore, we base our calculations on a subsample from each site that includes only the local mammals, because this is the group that was included by hunters in the highland caches. Thus, the results of these measures for zooarchaeological samples will differ from published results that included full assemblages and/or assemblages only from dietary/residential deposits.

This comparison is not ideal for several reasons: first, that the environments and therefore available resources are so different as discussed above (and in view of that, it is interesting that the proportionate representation is actually quite similar). Second, that dogs are the only domesticated animal in these assemblages and were treated differently before and after Colonial intrusion.[9] In the historic/modern hunting caches, dogs are explicitly excluded as a domestic animal – the hunting caches are for wild game only. Dogs are included in all the sacred events as hunters in their own right, blessed at the cofradía and charged with appropriate behavior on all hunts (Brown and Emery 2008). And third, that the hunting caches explicitly contain only mammals, and no mammals below the size of a pocket gopher (Brown 2006; Emery et al. 2007). However, despite these differences, the taxonomic analysis suggests that through time and between habitats, the Maya have used a very similar corpus of animals in their daily life. Since our comparative analyses exclude dogs, all non-mammals, and all mammals below the size of a pocket-gopher, we are confident that these present enough similarities to allow the comparison to inform our understanding of hunting practices.

Results

Taxonomic Comparisons

A first basic comparison of taxa used and their proportions within each assemblage (Table 6.3) shows considerable overlap in taxa used despite differences in time-period and environment. At all sites mammals are predominant, though reptiles are also very common at the ancient sites (the historic/modern sites have only mammals). When combined, mammals represent 89% (Dos Pilas), 58% (Motul de San Jose), 49% (Tamarindito), 80% (Kaminaljuyu), with reptiles representing 3% (Dos Pilas), 7% (Motul de San Jose), 43% (Tamarindito), 0.04% (Kaminaljuyu). Exotic mollusks and marine fish are present in high proportions at all the ancient sites [5% (Dos Pilas), 4% (Motul de San Jose), 0.41% (Tamarindito), 0.12% (Kaminaljuyu)].

[9] Dog is likely to have been managed differently at the various sites. It is one of the most frequently encountered species at Preclassic Kaminaljuyu as it is at many Preclassic sites across Mesoamerica (Clutton-Brock and Hammond 1994; Wing 1978). At Kaminaljuyu dogs are generally found in association with elite and ritual deposits, several times accompanying burials (Emery et al. in press; Kidder et al. 1946). Again, this seems to be a Preclassic trend (Rosenswig 2006; Teeter 2001). Dogs are less often found in ritual deposits in the later lowland sites.

Table 6.3 Relative values of NISP for taxa

Taxon	Dos Pilas	Motul de San Jose	Tamarindito	Kaminaljuyu	Pa Sak Man	Pa Ruchi Abaj	Total
Brachyura (crabs)	0.02	0	0.10	0	0	0	0.01
Mollusca (mollusks)	0.09	0.15	0	0	0	0	0.07
Mollusca, marine	0.91	1.51	0	0	0	0	0.71
Tellina (tellins)	0.01	0	0	0	0	0	0
Olividae (olives)	0.08	0.33	0	0	0	0	0.10
Oliva sayana/reticularis (lettered/netted olive)	0.34	0.15	0.10	0	0	0	0.20
Oliva porphyria (tent/camp olive)	0.01	0	0	0	0	0	0
Olivella (dwarf olives)	0.18	0.30	0	0	0	0	0.14
Prunum apicinum (Atlantic marginella)	0.54	0.35	0	0	0	0	0.33
Jenneria pustulata (Jenner's pustulate cowry)	0	0.03	0	0	0	0	0
Cassididae/Strombidae (helmets/conchs)	1.36	1.35	0	0	0	0	0.91
Strombus alatus (Florida fighting conch)	0.01	0.03	0	0	0	0	0.01
Strombus gigas/costatus (queen/milk conch)	0.03	0.03	0	0	0	0	0.02
Dentaliidae (tusk shell)	0.03	0.05	0.10	0	0	0	0.03
Pachychilus (jute)	0	4.39	0.10	0	0	0	0.75
Pomacea flagellata (apple snail)	0.03	6.34	0.93	0	0	0	1.13
Dinocardium r. vanhyningi (robust cockle)	0.01	0	0	0	0	0	0
Pteria/Pinctada (pearly oysters)	0.07	0	0	0	0	0	0.03
Spondylus (thorny oysters)	1.63	0.18	0.10	0	0	0	0.85
Unionidae (river clams)	0.03	0.13	0	0	0	0	0.03
Psoronaias ("thick" river clam)	1.29	4.19	1.14	0	0	0	1.40
Vertebrata (vertebrates)	1.32	12.33	2.38	14.91	1.72	1.21	4.67
Rajiformes/Myliobatiformes (rays)	0.02	0.03	0.10	0	0	0	0.02
Osteichthyes (bony fish)	0.03	0.38	0.52	1.37	0	0	0.24
Lepisosteus (gars)	0	0	0.10	2.94	0	0	0.31

(continued)

Table 6.3 (continued)

Taxon	Dos Pilas	Motul de San Jose	Tamarindito	Kaminaljuyu	Pa Sak Man	Pa Ruchi Abaj	Total
Cichlasoma (American cichlids)	0	0.05	0	0.08	0	0	0.02
Centropomus (robalos and snooks)	0	0	0	0.08	0	0	0.01
Lutjanus/Serranidae (snapper/grouper)	0	0	0	0.08	0	0	0.01
Tetrapoda (4 limbed vertebrates)	0	0.90	0	0	0	0	0.15
Bufo/Rana (toad/frog)	0	0.08	0.31	0	0	0	0.03
Ranidae	0.03	0	0.10	0	0	0	0.02
Reptilia	0	0.15	0.41	0	0	0	0.04
Squamata (lizards/snakes)	0	0.35	0.10	0	0	0	0.06
Iguanidae (iguanas, chuckwallas)	0	0.03	0	0	0	0	0
Serpentes	0.01	0.40	0.10	0	0	0	0.08
Crocodylus (crocodiles)	0.01	0.08	0.10	0	0	0	0.02
Testudines (turtles)	1.38	1.38	20.97	0	0	0	1.79
Kinosternidae (mud/musk turtles)	0.05	0	0.10	0	0	0	0.03
Kinosternon (small mud/musk turtles)	0.06	0.20	2.07	0.04	0	0	0.15
Staurotypus triporcatus (giant musk turtle)	0.08	0.23	1.03	0	0	0	0.12
Dermatemys/Staurotypus	0.86	0.15	1.96	0	0	0	0.54
Dermatemys mawii (Central American river turtle)	0.06	3.18	14.36	0	0	0	1.16
Trachemys scripta (common slider)	0.14	1.40	2.17	0	0	0	0.40
Aves (birds)	0.17	0.25	0.21	0.12	0	0	0.15
Aves, large not Meleagrididae (hawk, macaw sized)	0	0.08	0.31	0	0	0	0.03
Aves, intermediate (parrot, jay sized)	0	0.05	0	0	0	0	0.01
Aves, small (perching bird sized)	0	0.13	0	0	0	0	0.02
Anas strepera (gadwall)	0	0	0	0.04	0	0	0
Galliformes, small (fowls)	0.01	0.05	0	0	0	0	0.01
Meleagrididae (quail and turkey)	0	0.03	0.52	0	0	0	0.03
Colinus (quails)	0.03	0.03	0	0.04	0	0	0.02

Meleagris (turkeys)	0	0.15	0	0	0	0	0.03
Passeriniformes (perching birds)	0	0.05	0	0	0	0	0.01
Mammalia (mammals)	71.42	15.26	23.66	56.56	0	0.36	45.18
Mammalia, very large	0.02	0.08	0.21	0	0.30	0.07	0.07
Mammalia, large	7.62	17.67	1.86	11.43	9.13	1.93	9.33
Mammalia, intermediate	0.27	7.99	2.07	7.04	14.01	9.84	4.65
Mammalia, small	0.05	1.40	0.21	0.54	0.03	0.86	0.38
Didelphidae (opossum)	0.02	0.30	0.21	0	0.24	0.14	0.11
Tamandua mexicana (northern tamandua)	0	0.13	0	0	0.07	00	0.03
Dasypus novemcinctus (nine-banded armadillo)	0.05	1.10	0.31	0	17.38	6.92	2.83
Chiroptera (bats)	0.01	0.05	0	0	0	0	0.01
Alouatta/Ateles (howler/spider monkey)	0	0	0.10	0	0.03	0	0.01
Carnivora (carnivores)	0.02	0.10	0.10	0	0.03	0	0.03
Procyonidae (raccoons and coatis)	0	0	0	0	1.52	0.64	0.23
Nasua narica (white nosed coati)	0	0	0	0	2.39	3.35	0.50
Procyon lotor (Northern raccoon)	0	0	0.10	0	1.11	0.14	0.15
Canidae/Felidae	0.38	0	0.31	0	0	0	0.20
Canidae (dog family)	0	0.08	0	0	0.03	0	0.02
Canis lupus familiaris (domestic dog)	1.07	1.18	0.93	4.27	0	0	1.21
Urocyon cinereoargenteus (gray fox)	0.01	0.03	0.21	0.04	0.03	0	0.03
Felidae (cat family)	0.08	0.05	0.21	0	0	0.14	0.07
Felidae, large (jaguar, puma)	0.97	0.13	0.52	0	0.17	0.14	0.56
Felidae, intermediate (large ocelot, jaguarundi)	0.35	0	0	0	0.10	0	0.19
Felidae, small (margay, small ocelot)	0.14	0	0.10	0	0	0	0.08
Panthera onca (jaguar)	0.19	0.05	0	0	0	0	0.11
Leopardus pardalis (ocelot)	0	0.05	0.21	0	0.07	0	0.03
Tapirus bairdii (Baird's tapir)	0.01	0	0	0	0.44	0.29	0.08

(continued)

Table 6.3 (continued)

Taxon	Dos Pilas	Motul de San Jose	Tamarindito	Kaminaljuyu	Pa Sak Man	Pa Ruchi Abaj	Total
Artiodactyla (even-toed ungulates)	0.86	0.30	1.14	0	7.54	14.69	2.36
Tayassuidae (peccaries)	0.19	0.28	2.89	0	9.40	7.92	1.92
Tayassu tajacu (collared peccary)	0	0	0	0	1.11	0.14	0.15
Cervidae (deers)	2.26	0.68	0.62	0.12	1.18	5.56	1.77
Odocoileus virginianus (white-tailed deer)	2.41	7.54	5.99	0.21	29.37	42.30	8.98
Mazama (brocket deers)	0.06	0.88	1.55	0	0.03	0.93	0.30
Rodentia (rodents)	0.02	0	0.62	0	0.10	0	0.05
Rodentia, intermediate (pocket gophers, squirrels)	0.02	0.03	0.21	0	0	0	0.02
Rodentia, small (mice, rats)	0.32	2.38	3.62	0	0	0	0.71
Sciuridae (squirrels)	0	0.03	0	0	0	0	0
Geomyidae (pocket gophers)	0	0.05	0.10	0	0	0	0.01
Orthogeomys (giant pocket gopher)	0.02	0.05	0	0.04	0	0.07	0.03
Agoutidae/Dasyproctidae	0.02	0	0.21	0	0.47	0.43	0.10
Agouti paca (paca)	0.19	0.13	0.41	0	1.48	0.86	0.37
Dasyprocta punctata (agouti)	0.04	0.13	0.83	0	0.03	1.07	0.14
Sylvilagus (rabbits)	0	0.33	0	0.04	0.47	0	0.12
Total NISP	11,802	3,990	968	2,415	2,969	1,402	23,546
Summarized categories							
Exotic mollusks and fish	5.20	4.31	0.41	0.17	0	0	3.37
Local mollusks (freshwater)	1.35	15.04	2.17	0	0	0	3.31
Local fish	0.03	0.43	0.62	4.47	0	0	0.57
Turtles	2.64	6.54	42.67	0.04	0	0	4.19
All reptiles	2.66	7.54	43.39	0.04	0	0	4.40
Galliform birds	0.03	0.25	0.52	0.04	0	0	0.08
All birds	0.20	0.80	1.03	0.21	0	0	0.30

Dogs	1.07	1.18	0.93	4.27	0	0	1.21
Wild cats	1.75	0.28	1.03	0	0.34	0.29	1.02
Peccaries	0.19	0.28	2.89	0	10.51	8.06	2.07
Deer	4.74	9.10	8.16	0.33	30.58	48.79	11.05
All artiodactyls	5.80	9.67	12.19	0.33	48.64	71.54	15.47
Large and Intermediate Rodents	0.28	0.40	1.76	0.04	1.99	2.43	0.68
All Mammals	89.10	58.42	49.48	80.29	98.28	98.79	

Taxonomic nomenclature follows http://www.itis.gov. Individual taxa are presented above, combined taxonomic groups are presented below. Human remains and intrusive land mollusks were not consistently recovered so are not included in these counts. Exotic mollusks are listed, but are not considered in the comparison. Armadillo scutes are excluded because these overwhelm the samples

Note: very large mammal (tapir/manatee sized, over 100 kg); large mammal (15.1–100 kg, peccary/deer/large cat sized); intermediate mammals (large/int mammal = 7–15 kg, monkey, canid, int cat sized; medium = 2.1–6.9 kg, paca, small cat, kinkajou, tamandua, armadillo, procyonid, fox sized; int/small mammal = 1–2 kg, rabbit, opossum, agouti sized); small mammal (under 1 kg, cricetid rodent, bat sized)

Local fish and birds (primarily game birds such as quail and turkey) are also fairly common at all ancient sites and at most non-cache sites turtles are very abundant.[10] When combined, turtles represent 3% at Dos Pilas, 6% at Motul de San Jose, 43% at Tamarindito, though only 0.04% at Kaminaljuyu where local fish (4%) are also frequent. In almost all cases, with the significant exception of Kaminaljuyu where dogs are the most common taxa, the dominant species are the large artiodactyls (deer and peccaries). When combined, these represent 6% (Dos Pilas), 10% (Motul de San Jose), 12% (Tamarindito), and 71% and 49% of the modern assemblages at Pa Ruchi Abaj and Pa Sak Man respectively.[11] Domestic dogs are very common in all ancient deposits, but are not included in the modern deposits because they are not considered part of the "wild game" component. However, the other intermediate carnivores, raccoons and coatis, are very frequent in the modern deposits.

Foraging Efficiency and Prey Vulnerability in the Cache Deposits

As described above, the foraging efficiency model suggests that predators will generally optimize their resource intake by pursuing large-bodied prey preferentially until these are no longer available. When the efficiency of these prey is less than optimal, predators will diversify their resource use to include a wider range of taxa and thereby expand their dietary breadth. They will also focus more widely on smaller-bodied prey in the face of increasing difficulty in obtaining the larger-bodied prey.

The results of our comparison between the relatively older hunting cache at Pa Ruchi Abaj and that from the still-active site of Pa Sak Man shows that the proportion of large mammals to all mammals is lower in the more modern assemblage: 0.74 at Pa Ruchi Abaj vs 0.60 at Pa Sak Man (Table 6.4, Fig. 6.5). As mentioned above, large-bodied prey are considered to include deer, peccary, tapirs, and the largest cats, the jaguar and puma. This result indicates that smaller-bodied preys have become a more frequent addition to the resource base. In addition, the diversity of the assemblage is higher in the modern versus the historic assemblage: 3.39 at Pa Ruchi Abaj vs 4.15 at Pa Sak Man. This indicates that there has been an expansion of the hunting breadth of the Atitlán hunters over the last few generations. The specific species that seem to have been used at Pa Sak Man but not in the past at Pa Ruchi Abaj include rabbits, gray fox, small carnivores (weasels and the like), howler monkey, and tamandua. These are all relatively small taxa and are often rare or more vulnerable to hunting pressure (see later discussion).

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[10] This analysis is based on NISP which over-represents taxa with higher numbers of bony elements such as the turtle. The turtle has been conservatively estimated in all cases, but these values should be considered high. In all comparative analyses, the use of only mammals will render most taxonomic differences due to NISP irrelevant. However, the numerous scutes of the armadillo have been eliminated from the analysis as well since these also affect the comparisons when using NISP.

[11] Because these two sites contain only mammals, artiodactyls represent a significantly higher proportion than at other sites. In all comparative analyses, the use of only mammals will counteract this difference

Table 6.4 Calculations used in the analysis of hunting impact on the historic/modern hunting caches of the Guatemalan highlands

	Pa Ruchi Abaj	Pa Sak Man	
	Historic	Modern	Total
Total mammals	1,385	2,918	4,303
Σ NISP large mammals/Σ NISP large mammals + Σ total mammals	0.74	0.60	0.64
Evenness (D/S)	0.21	0.20	0.18
Diversity ($N(N-1)/\Sigma\, n(n-1)$)	3.39	4.15	4.00
% juvenile all	24.51	32.56	n/a
% vulnerable species of all mammals (tapir, felids, monkeys)	0.65	1.13	0.98

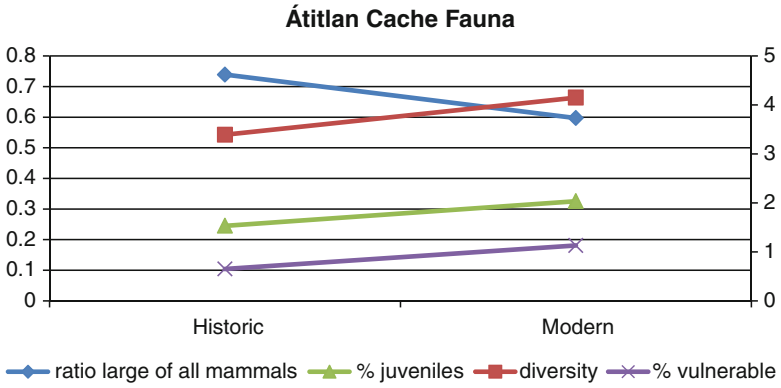

Fig. 6.5 Chart of all measures used to track exploitation of the Atitlan hunting cache animals

We have used two measures of prey vulnerability, both described in more detail above. In the first measure of prey vulnerability, we quantify the proportion of juvenile individuals (pre-breeding age) as an indication of the impact the hunters will have on the breeding ability of the animal population. In the second measure of prey vulnerability, we compare the frequency of "vulnerable" taxa (those with low natural productivity and large body sizes) with the more "stable" taxa (those with high productivity and smaller body sizes).

In the cache assemblages the proportion of both juveniles and vulnerable species is higher in the more modern cache at Pa Sak Man, than in the older cache at Pa Ruchi Abaj. While Pa Ruchi Abaj had only 25% juveniles and 0.65% vulnerable species, Pa Sak Man had 33% juveniles and 1.13% vulnerable species. These findings suggest that the impact of hunting in this fashion will be more detrimental to the overall prey base, but it may also indicate that the less-vulnerable species and individuals are no longer available. In other words, these results might be telling us either that the hunters using the more modern cache at Pa Sak Man are less sustainable in their hunting practices than were the past hunters using the Pa Ruchi Abaj cache,

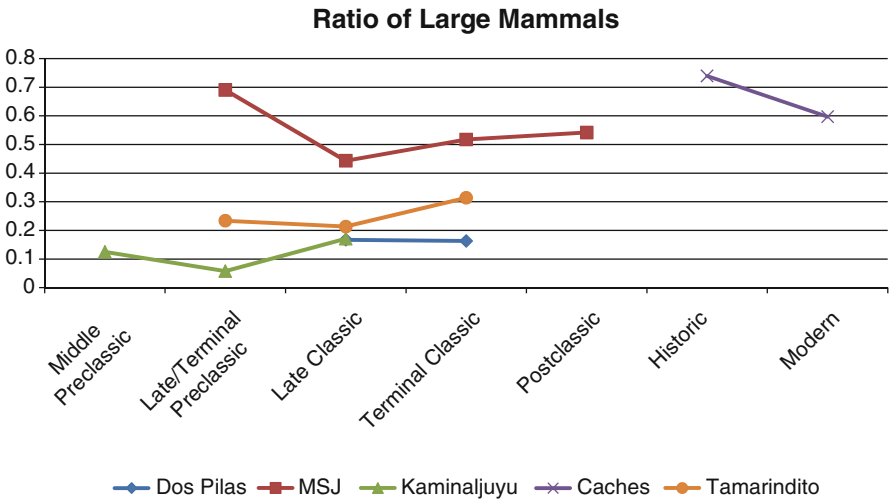

Fig. 6.6 Ratios of large mammals to all mammals in all bone assemblages

or that there are simply fewer of the large-bodied, mature, stable taxa available to the modern hunters than there were to their grandfathers. In terms of the taxa of the Maya highlands, this suggests that deer, peccary, and tapirs are less numerous and less available to the more modern hunters than they were in past generations.

Comparing Caches to Archaeological Assemblages

Figures 6.6 and 6.7 illustrate the comparative analysis of large mammal ratios and taxonomic diversity. Table 6.5 provides an overview of the results of this broader comparison between caches and archaeological assemblages. Overall, in both measures the historic/modern caches are very similar to the archaeological assemblages. The ratio of large mammals varies from 0.60 to 0.74 in the caches and from 0 to 0.69 in the pre-Columbian examples, while diversity varies from 3.39 to 4.15 in the caches and from 1 to 4.99 in the pre-Columbian examples. For each measure, the historic/modern cache samples are at the high end of the ranges.

Taxonomic diversity varies widely between time periods represented across all samples. However, the patterns are somewhat consistent (Fig. 6.8). Taxonomic diversity is quite low in Preclassic assemblages and at all sites reaches a peak during the Late Classic period, falling again in the Terminal Classic. The site of Motul de San Jose provides the only Postclassic assemblage and diversity is very similar between that assemblage and the older of the two cache assemblages 3.19 at Motul de San Jose vs 3.39 at Pa Ruchi' Abaj. This suggests a continued rise in taxonomic diversity among hunted fauna from the Terminal Classic onward, though it is important to emphasize the long span of time and space that separates the lowland

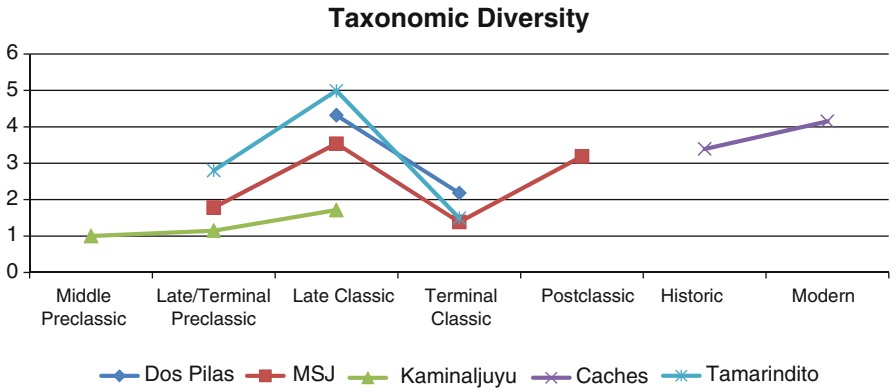

Fig. 6.7 Mammalian diversity (heterogeneity) for all mammalian assemblages

Peten Motul de San Jose site (1200 AD) from the highland historic caches (likely last intensively used within the past 50–100 years).

The comparative analysis of use of large game is not as clear. The results appear different for each site examined. At the highland site of Kaminaljuyu, large mammals are least abundant at the end of the Preclassic (the period of greatest population and political activity) and are more so during the Late Classic (a time of minimal resettlement but very limited activity). At the Petexbatun sites of Tamarindito and Dos Pilas, change is limited, with somewhat fewer large game in the Late Classic period of greatest settlement and political activity, and more large game represented at Tamarindito during the final phase of limited occupation in the Terminal Classic. At Motul de San Jose, large game are most abundant during the period of first occupation in the Preclassic, least in the Late Classic, the period of florescence in this polity, and increasing quantities again into the Terminal Classic and Postclassic when settlement was limited. The correlation appears most significant with population size and political activity rather than with absolute time period. This accords well with Emery's earlier studies of hunting activities (Emery 2008b).

It is the combination of these two factors, hunting pressure on large game and taxonomic diversity, that are supposed by the foraging efficiency model to indicate foraging pressure or non-sustainable hunting. However, the two measures do not correlate well in this study. At Kaminaljuyu while large game ratios drop and diversity rises at the end of the Preclassic, the same is not true during the Late Classic. Large game and highly diverse taxa were being used in the later period when populations were small, though fewer large game and a diverse taxa were used when human populations were high. At Motul de San Jose, the drop in large game during the highly politically active period of the Late Classic is indeed accompanied by a rise in taxonomic diversity and the subsequent rise is associated with a drop in taxonomic diversity in the Terminal Classic. However, in the Postclassic, when human populations were very small, the hunters brought in both large game and diverse taxa. These combinations suggest that although the earliest hunters of the Maya world concentrated on large game to the exclusion of other animals, these activities

Table 6.5 Calculations used in the analysis of hunting impact on the archaeological assemblages. Note that totals include undated materials (and are therefore sometimes larger than totals for dated assemblages only). Missing data indicate that either no remains or insufficient remains were recovered from this site for this time period to allow analysis

Kaminaljuyu	Middle Preclassic	Late Preclassic	Terminal Preclassic	Late Classic	Terminal Classic	Post Classic	Total
Total mammals	64	466	121	82	–	–	1,939
Σ NISP large mammals/Σ NISP large mammals + Σ total mammals	0.13	0.06	0	0.17	–	–	0.15
Evenness (D/S)	1	0.38	1	0.57	–	–	0.23
Diversity ($N(N-1)/\Sigma n(n-1)$)	1	1.15	1	1.71	–	–	1.16
% juvenile all	–	28.57	–	–	–	–	n/a
% vulnerable species of all mammals (tapir, felids, monkeys)	0	0	0	0	–	–	0
Dos Pilas							
Total mammals	–	–	–	771	9,744	–	1,0515
Σ NISP large mammals/Σ NISP large mammals + Σ total mammals	–	–	–	0.17	0.16	–	0.16
Evenness (D/S)	–	–	–	0.27	0.17	–	0.19
Diversity ($N(N-1)/\Sigma n(n-1)$)	–	–	–	4.32	2.18	–	3.37
% juvenile all	–	–	–	23.68	23.28	–	n/a
% vulnerable species of all mammals (tapir, felids, monkeys)	–	–	–	3.63	1.86	–	1.99
MSJ			[Late/Terminal]				
Total mammals	–	–	42	1,634	373	131	2,331
Σ NISP large mammals/Σ NISP large mammals + Σ total mammals	–	–	0.69	0.44	0.52	0.54	0.46
Evenness (D*S*)	–	–	0.36	0.20	0.08	0.27	0.07

Diversity ($N(N-1)/\Sigma n(n-1)$)	–	–	1.78	3.54	1.43	3.19	3.38
% juvenile all	–	–	0	18.82	22.22	14.29	n/a
% vulnerable species of all mammals (tapir, felids, monkeys)	–	–	0	0.80	0.27	0	0.60
Tamarindito					[Terminal Classic/ Postclassic]		
Total mammals	–	–	77	225	51	–	479
Σ NISP large mammals/Σ NISP large mammals + Σ total mammals	–	–	0.23	0.21	0.31	–	0.30
Evenness (D/S)	–	–	0.47	0.33	0.37	–	0.27
Diversity ($N(N-1)/\Sigma n(n-1)$)	–	–	2.80	4.99	1.49	–	4.57
% juvenile all	–	–	5	27.71	0	–	n/a
% vulnerable species of all mammals (tapir, felids, monkeys)	–	–	1.30	2.22	0	–	2.51

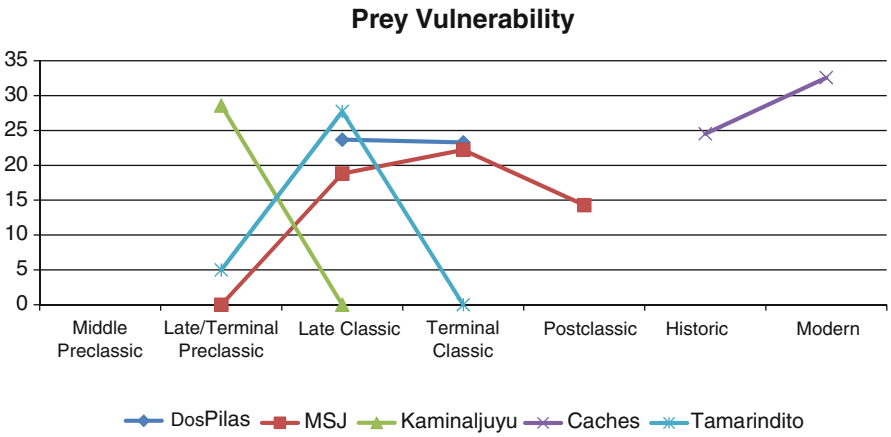

Fig. 6.8 Proportion (% NISP) of all mammals considered most vulnerable to exploitation in all mammalian assemblages

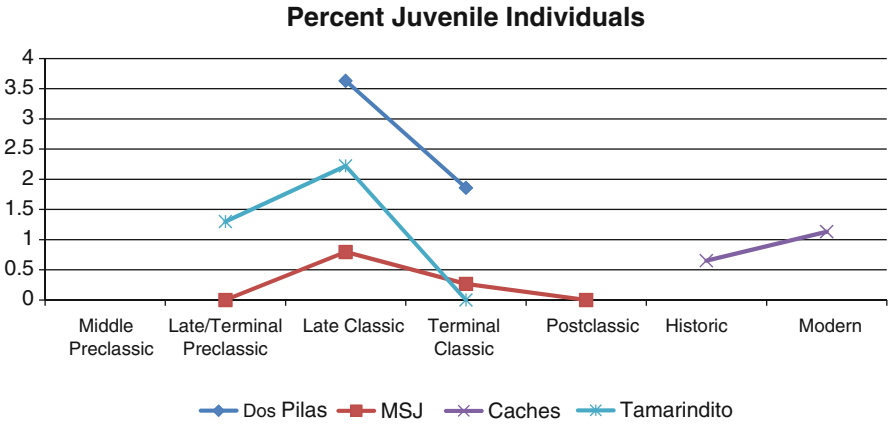

Fig. 6.9 Proportion (%NISP) of mammalian elements classifiable as juvenile by lack of fusion and/or diaphyseal/metaphyseal characters in all assemblages

reduced the availability of large game, requiring that they increase the diversity of their prey base. During later periods a diverse prey base appears to have been favored even when large game animals were more available. Both diversity and proportion of large game are very high in the Postclassic and historic caches. The effects of modern activities, though, have led to a further increase in taxonomic diversity of the hunted prey that coincides with a drop in the proportion of large game brought in by the hunters.

Another approach is to look at the vulnerability of the prey species (Fig. 6.8) and age classes (Fig. 6.9). Again, the cache results are quite consistent with the larger

regional study of archaeological remains.[12] The proportion of vulnerable species in the cache deposits (0.65–1.13) is within, but at the lower end of the range compared to that found in the archaeological deposits (0–3.63). Overall, in the archaeological assemblages the proportion of vulnerable species hunted during the very early and very late periods is quite low in comparison to the periods of highest human populations and political activity. It is important to note that the most vulnerable species of the Maya area are those same species that were used by the Maya as symbolic markers of wealth, status, and power. Large cats such as jaguars and pumas, monkeys, colorful large jungle birds such as macaws, parrots, toucan, and the like, were all hunted and displayed by the ruling nobility and the wealthy elite. It should come as no surprise that during the periods of greatest political activity (and competition) these species were more intensively hunted. Since the hunting of many of these species is now illegal (although it does still continue with frequency), it is also not surprising that the overall proportions of these animals are not as high in the later hunting caches.

As the second measure of vulnerability, juveniles are also found in quite similar proportions in the ancient and historic/modern assemblages. Here though, juveniles are somewhat more frequent in the more modern assemblages (24.51–32.56%) than in the archaeological (0–28.57). In the archaeological assemblages, juvenile remains are also found to be at highest proportions during the periods of highest political activity (Late/Terminal Preclassic at Kaminaljuyu and Late Classic at the lowland Maya sites). The one exception is a slightly higher proportion of juveniles in the Terminal Classic than in the Late Classic at Motul de San Jose. The proportion of juveniles is also fairly stable at Late Classic and Terminal Classic Dos Pilas although there is a drop. By the historic period the proportion of juveniles has risen again and it continues to rise into the modern period.

Discussion

How might this all come together then? In comparative terms the historic and modern Maya bring in relatively more large game, a relatively high diversity of taxa though few vulnerable species and quite high proportions of juveniles. In combination this is a mix of "markers" for sustainable practice since high numbers of large game and proportions of juveniles are not sustainable prey, while high diversities and low proportions of vulnerable species provide a sustainable prey base. In fact, the data are likely showing the effects of past choices as well as the intentions of the hunters.

[12] No remains of vulnerable species were found in the Kaminaljuyu samples examined here (Emery et al. in press). However, burials and caches at the site examined in earlier studies by other researchers did contain vulnerable species such as cats (including jaguars, pumas, ocelots, jaguarundi, and margay cats) and monkeys (both howler and spider monkeys) (Kidder et al. 1946). These were not quantified in the publications, so we are not able to include Kaminaljuyu in this analysis.

The centuries of hunting by ever-greater numbers of hunters as reflected in the historic/modern caches has had its impact on prey populations. Hunters have likely been forced to reduce the proportion of large game and mature individuals that they bring in, relying on a wider diversity of taxa as the result of diet breadth expansion, greater proportions of juveniles, and larger numbers of vulnerable prey.

The archaeological Maya were faced with similar situations. As human populations and political competition grew around ancient cities, hunters were forced to bring in fewer large game animals, relying generally on a higher diversity of prey and younger individuals. However, they undoubtedly caused greater impacts on their animal neighbors by selectively preying on vulnerable species during periods of high political activity, something that is not reflected in the modern caches. Removal of these vulnerable, and often keystone, species, impacts entire ecologies, throwing population dynamics into disarray.

Do the modern Maya, often held up as those with the "insider knowledge," really hunt in a manner sustainable under the modern conditions of human–environment interactions? Did the ancient Maya, castigated in scientific tomes and public displays alike as environmental berserkers, really hunt in a manner significantly different from that of their modern counterparts? Clearly the answer is much more complex and the "lessons" to be gleaned are more difficult to pry from the data than we might hope.

This result then brings us back to the questions of this volume – whether it is ethical or appropriate to publish our data. There is no doubt that Emery's experiences with public representations of her scientific presentations is at least in part the result of the conflicting motivations of different groups – any data or story can be manipulated to serve the purposes of the teller. The question of environmental management is loaded with political, social, and symbolic import and the same data can be used to argue for the inherent sustainability of indigenous strategies (based on millennia of trial and error) or the inherent incompatibility of human resource exploitation and the natural environment (based on a Boserup model of unchecked human expansion). As anyone who listens to modern politico-speak is well aware today, this is a fact of human nature.

However, it is important to recognize that a significant hurdle to ethical presentation of data lies in the difficulty of presenting complex "conclusions" that rest on models and proxy evidence. Science is the art of hypothesizing, interpreting, and predicting. Rarely is it simply a source of straight-forward facts. In the case of sustainability studies, there is no simple "measure" of sustainability beyond the basic definition which is extraction without reduction of the resource base (and even that definition is debated, see Robinson 2001). Sustainability is understood only within the context of the specific organisms and ecosystems involved and the stage of their relationship in a dynamic history. Wildlife biologists/ecologists can measure the relative proportion of prey species in hunts over time, or the proportions of one or more sex or age groups, and interpret the difference as the result of sustainable or unsustainable activity. However, they use those counts as proxy for a much more complex relationship that changes gradually over time, and their interpretations are based on the extent to which the change mirrors their predictions of sustainable activity

as stated in our initial hypotheses. And those predictions are based on models of interactions between community members that themselves are based on repeated observations of similar situations, never the identical situation. This process of scientific analysis is so inherently understood by the researchers and writers of scientific papers, that we forget that our readers or listeners are sometimes unaware of this process or of what our "data" actually represent: not facts, and rarely more than educated guesses (or more politely stated, "models" and "heuristic devices"). We present our results within the context of our expected audience. When Emery presented her data primarily to the biological community, it allowed her to assume a certain degree of familiarity with the scientific method for her original readers, but she ignored the potential for misinterpretation by the non-scientist or even non-biologist who have been taught to expect "facts" and "data" from the specialists, not models and best-guesses.

In addition, in presenting her data to Maya colleagues, Emery neglected to take into account an even more fundamental difference – the recognition of agency, intent, and purpose among the actors of the constantly evolving dialogue between humans, animals, and landscapes. For the Tz'utujil Maya of highland Guatemala, to whom she naively presented her "facts," humans are only one, and often a very minor one, in a closely linked group of decision-makers. Animals present themselves as prey and hunters take those animals only when the ancestor spirit or literally, Owner or Guardian of the Animals, judges it appropriate (see Chacon, this volume, for similar beliefs among the Amazonian Achuar). Her "facts" were initially received as either so well-known as to be laughable (predator/prey relationships), or ridiculous (in assuming that the hunter has any managerial role in resource availability). This was eye-opening to say the least!

We are not able to determine whether the highland and lowland Maya of Guatemala understand their impact on the local game populations or believe that, as long as proper protocols are followed with regard to the Animal Guardian, the game is inexhaustible. (Needless to say, we are interested in following up these studies with more such investigations.) However, it was clear that Emery's results, as she presented them, were of little practical use to her Maya friends and informants. Sustainability studies are often criticized because they neglect the component of "intent" – that an activity is only sustainable if its intention is sustainability over the long term. We argue that this is not the case in animal groups and should not necessarily be considered the case in human groups. The development of an effective, responsive, and implicit system of hunting practices and beliefs does not require that the hunter believe themselves the only agent in the management equation, any more than a predator must believe themselves to be the managers of their prey to co-exist in a sustainable relationship.

In this paper, we have presented some of the potential and pitfalls of our own research into the sustainability of ancient Maya hunting activities as a basis for exploring the ethics and methods for presenting the results of such work. We are still not sure what the solution is to the hurdles to presentation of our data to our sister-disciplines, to the public, and to our informants, friends, and colleagues in our study -regions. However, we can answer Richard Chacon's basic question about whether

it is ethical to present our results – we believe it is absolutely imperative that we do so! Eventually, these data from the archaeological record will allow us to better manage our future. We can no more refuse to publish the result than we can cut off access to cancer-curing plants for fear of the possibility of causing some harm in the experimentation phase. It is our obligation to share our data with the scientific community, with the public, and most importantly with those who directly or through their ancestors have provided us with the data. However, and this is an enormous "however", we are responsible for considering the nature of our presentation in terms of the context of the recipient. We must consider the manner of our presentation beyond the simple question of language (and how many of us consider even that?) to think about fundamental cultural differences (between scientists and layfolk as much as between different cultural or social groups).

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References

Adams, Richard E., Macleod, Murdo J. 2000 Cambridge History of the Native Peoples of the Americas. Cambridge University Press, Cambridge.

Albarella, Umberto 2001 Exploring the real nature of environmental archaeology: An introduction. In *Environmental Archaeology: Meaning and Purpose*, edited by U. Albarella, pp. 3–16. Kluwer Academic Publishers, London.

Alcorn, Janis B. 1984 *Huastec Mayan Ethnobotany*. University of Texas Press, Austin, TX.

Anderson, Elyse. 2009 Exploring Maya Ritual Fauna: Caves and the Proposed Link with Contemporary Hunting Ceremonialism. Master's Thesis, Anthropology, University of Florida, Gainesville, FL.

Bill, Cassandra R. 1997 The Roles and Relationships of God M and Other Black Gods in the Codices, with Specific Reference to Pages 50–56 of the Madrid Codex. In *Papers on the Madrid Codex*, edited by V. R. Bricker and G. Vail, pp. 111–145. Middle American Research Institute, Pub. 64, Tulane University, New Orleans.

Bill, Cassandra R., Christine L. Hernández and Victoria R. Bricker. 2000 The Relationship Between Early Colonial Maya New Year's Ceremonies and Some Almanacs in the Madrid Codex. *Ancient Mesoamerica* 11:149–168.

Bodmer, Richard E., John F. Eisenberg and Kent H. Redford. 1997 Hunting and the likelihood of extinction of Amazonian mammals. *Conservation Biology* 11(2):460–466.

Bricker, Victoria R. 1991 Faunal Offerings in the Dresden Codex. In *Sixth Palenque Round Table, 1986*, edited by M. G. Robertson and V. M. Fields, pp. 285–292. University of Oklahoma Press, Norman.

Broughton, Jack M. 1994 Declines in Mammalian Foraging Efficiency During the Late Holocene, San Francisco Bay, California. *Journal of Anthropological Archaeology* 13:341–401.

Broughton, Jack M. 2001 Resource Intensification and Late Holocene Human Impacts on Pacific Coast Bird Populations: Evidence from the Emeryville Shellmound Avifauna. In *Posing Questions for a Scientific Archaeology*, edited by T. L. Hunt, C. P. Lipo and S. L. Sterling, pp. 251–278. Bergin and Garvey, Westport, Connecticut.

Broughton, Jack M., Daniel Mullins and Tamara Ekker. 2007 Avian resource depression or intertaxonomic variation in bone density? A test with San Francisco Bay avifaunas. *Journal of Archaeological Science* 34:374–391.

Brown, Linda. 2002 The Structure of Ritual Practice: An Ethnoarchaeological Exploration of Activity Areas at Rural Community Shrines in the Maya Highlands. Unpublished Ph.D. Dissertation, Anthropology, University of Colorado.

Brown, Linda. 2005 Planting the Bones: Hunting Ceremonialism at Contemporary and Nineteenth-Century Shrines in the Guatemalan Highlands. *Latin American Antiquity* 16(131–146).

Brown, Linda. 2006 Planting the Bones: An Ethnoarchaeological Exploration of Hunting Shrines and Deposits. In *Grantee Reports*. Foundation for the Advancement of Mesoamerican Studies, Inc., Crystal River, FL.

Brown, Linda A. 2004 Dangerous Places and Wild Spaces: Creating Meaning with Materials and Space at Contemporary Maya Shrines on El Duende Mountain. *Journal of Archaeological Method and Theory* 11(1):31–58.

Brown, Linda A. and Kitty F. Emery. 2008 Negotiations with the Animate Forest: Hunting Shrines and Houses in the Maya Highlands. *Journal of Archaeological Method and Theory* 15:300–337.

Brown, Linda and Luis Alberto Romero. 2002 Lugares Sagrados para Ritos de la Cacería. In *XV Simposio de Investigaciones Arqueologicas en Guatemala, 2001*, edited by J. P. Laporte, H. Escobedo and B. Arroyo, pp. 771–778. Museo National de Arqueología y Ethnología, Guatemala City.

Carlsen, Robert S. 1997 *War for the Heart and Soul of a Highland Maya Town*. University of Texas Press, Austin, TX.

Carlsen, Robert S. and M. Prechtel. 1991 The Flowering of the Dead: An Interpretation of Highland Maya Culture. *Man* 26:23–42.

Clutton-Brock, J. and Norman Hammond. 1994 Hot Dogs: Comestible canids in Preclassic Maya culture at Cuello, Belize. *Journal of Archaeological Sciences* 21:819–826.

Colas, Pierre R. 2006 The Hunting Scenes in the Madrid Codex: A Planner for Hunting Rituals. In *Sacred Books, Sacred Languages: Two Thousand Years of Ritual and Religious Maya Literature*, edited by G. V. Rivera and G. L. Fort, pp. 81–92. Verlag Anton Saurwein: 10 ed. Acta Mesoamerica, Markt Schawaben.

Cortes y Laraz, Pedro. 1958 [1768–1770] *Descripción Geográfico-Moral de la Diócesis de Goathemala*. Tipografia Nacional, Guatemala City.

Cruz-Uribe, K. 1988 The Use and Meaning of Species Diversity and Richness in Archaeological Faunas. *Journal of Archaeological Science* 15(2):179–196.

Davoust, Michel. 1997 *Un Nouveau Commentaire du Codex de Dresde*. CNRS Editions, Paris.

DeClerck, Fabrice, A.J., Robin Chazdon, Karen D. Holl, Jeffrey C. Milder, Bryan Finegan, Alejandra Martinez-Salinas, Pablo Imbach, Lindsay Canet and Zayra Ramos. 2010 Biodiversity Conservation in Human-Modified Landscapes of Mesoamerica: Past, Present, and Future. *Biological Conservation* pre-print.

Diamond, Jared. 2004 *Collapse: How Societies Choose to Fail or Succeed*. Viking Adult, New York.

Emery, Kitty F. 2003 The Economics of Natural Resource Use at Ancient Motul de San Jose, Guatemala. *Mayab* 16:33–48.

Emery, Kitty F. 2007 Assessing the impact of ancient Maya animal use. *Journal of Nature Conservation* 15(3):184–195.

Emery, Kitty F. 2008a Medicinal Curation and Use of Animals by the Itzaj Maya of Guatemala: Implications for Zooarchaeology. *Proceedings of the Canadian Association of Archaeology*. Peterborough, ON.

Emery, Kitty F. 2008b A Zooarchaeological Test for Dietary Resource Depression at the End of the Classic Period in the Petexbatun, Guatemala. *Human Ecology* 36(5):617–634.

Emery, Kitty F. 2010 *Dietary, Environmental, and Societal Implications of Ancient Maya Animal Use in the Petexbatun: A Zooarchaeological Perspective on the Collapse*. Vanderbilt University Press, Nashville, TN.

Emery, Kitty F. in press Zooarchaeology of Motul de San Jose, an Economic Perspective. In *Politics, History, and Economy at the Classic Maya Polity of Motul de San Jose, Guatemala*, edited by A. E. Foias and K. F. Emery. University of Florida Presses, Gainesville, FL.

Emery, Kitty F., Linda A. Brown, Elyse M. Anderson, Erin Kennedy Thornton and Michelle LeFebvre. 2007 Ethno-Zoology of Modern Maya Ritual Animal Bone Caches and Implications for Interpretations of Ancient Maya Diet and Ritual. *Proceedings of the University of Calgary Chacmool Conference*. Calgary, Alberta.

Emery, Kitty F., Susan Milbrath, Elyse Anderson and Erol Kavountzis. 2009 Maya Codices, Caves, and Animals: Zooarchaeological and Symbolic Evidence. Paper presented at the Symposium on Animal Symbolism in the Mesoamerican Codex Tradition, Albuquerque, NM.

Emery, Kitty F. and Erin Kennedy Thornton. 2008a Zooarchaeological Habitat Analysis of Ancient Maya Landscape Changes. *Journal of Ethnobiology* 28(2):154–179.

Emery, Kitty F. and Erin Kennedy Thornton. 2008b Zooarchaeological Isotopic Chemistry: A Regional Perspective on Biotic Change during the Classic Maya Occupation of the Guatemalan Peten. *Quaternary International* 191:131–143.

Emery, Kitty F. and Erin Kennedy Thornton. in press Tracking Climate Change in the Ancient Maya World through Zooarchaeological Habitat Analyses. In *The Great Maya Droughts in Cultural Context*, edited by G. Iannone. University Press of Colorado, Boulder, CO.

Emery, Kitty F., Erin Kennedy Thornton, Nicole R. Cannarozzi, Stephen D. Houston and Hector Escobedo. in press Ancient Animals of the Southern Maya Highlands: Zooarchaeology of Kaminaljuyu. In *Archaeology of Mesoamerican Animals*, edited by C. Götz and K. F. Emery. David Brown Book Company, London.

Ford, Anabel and Kitty F. Emery. 2008 Exploring the Legacy of the Maya Forest. *Journal of Ethnobiology* 28(2):147–153.

Ford, Anabel and Ronald B. Nigh. 2009 Origins of the Maya Forest Garden: A Resource Management System. *Journal of Ethnobiology* 29(2):213–236.

Frazier, Jack. 2007 Special Issue on Zooarchaeology and Conservation. *Journal of Nature Conservation* 15(3).

Gardner, Toby A., Jos Barlow, Navjot S. Sodhi and Carlos A. Peres. 2010 A Multi-Region Assessment of Tropical Forest Biodiversity in a Human-Modified World. *Biological Conservation* 143(10):2293–2300.

Gibson, Mel. 2006 Apocalypto. Touchstone Pictures.

Grayson, Donald K. 1984 *Quantitative Zooarchaeology*. Academic Press, New York.

Kidder, Alfred V., Jesse D. Jennings and Edward M. Shook. 1946 *Excavations at Kaminaljuyu, Guatemala*. Carnegie Institution of Washington, Publication 576. Carnegie Institution, Washington, DC.

Leonard, R. and G. Jones. 1989 *Quantifying Diversity in Archaeology*. Cambridge University Press, Cambridge.

Lyman, R. Lee and Kenneth P. Cannon (editors). 2004 *Zooarchaeology and Conservation Biology*. University of Utah Press, Salt Lake City, UT.

Madsen, David B. 1993 Testing Diet Breadth Models: Examining Adaptive Change in the Late Prehistoric Great Basin. *Journal of Archaeological Science* 20:321–329.

Menchu, Rigoberta. 1983 *I, Rigoberta Menchu An Indian Woman in Guatemala*. Verso, London.

Mugaas, John N., John Seidensticker and Kathleen P. Mahlke-Johnson. 1993 *Metabolic Adaptation to Climate and Distribution of the Raccoon Procyon lotor and Other Procyonidae*. Smithsonian Contributions to Zoology, No 542. Smithsonian Institution Press, Washington D.C.

Myerhoff, Barbara G. 1974 *Peyote Hunt: The Sacred Journey of the Huichol Indians*. Cornell University Press, Ithaca, NY.

Myers, Norman, Russell A. Mittermeier, Cristina G. Mittermeier, Gustavo A.B. da Fonseca and Jennifer Kent. 2000 Biodiversity Hotspots for Conservation Priorities. *Nature* 403:853–858.

Naranjo, Eduardo J. and Richard E. Bodmer. 2007 Source-Sink Systems and Conservation of Hunted Ungulates in the Lacandon Forest, Mexico. *Biological Conservation* 138:412–420.

Naranjo, Eduardo J., Michelle M. Guerra, Richard E. Bodmer and Jorge E. Bolaños. 2004 Subsistence Hunting by Three Ethnic Groups of the Lacandon Forest, Mexico. *Journal of Ethnobiology* 24(2):233–253.

Novack, Anthony J. 2003 Impacts of subsistence hunting on the foraging ecology of jaguar and puma in the Maya Biosphere Reserve, Guatemala. MSc, Wildlife Ecology, University of Florida, Gainesville.

Novack, Anthony J., Martin B. Main, Melvin E. Sunquist and Ronald F. Labisky. 2005 Foraging Ecology of Jaguar (Panthera onca) and Puma (Puma concolor) in Hunted and Non-Hunted Sites Within the Maya Biosphere Reserve, Guatemala. *Journal of Zoology, London* 267:167–178.

Redfield, Robert and Alfonso Villa Rojas. 1934 *Chan Kom, A Maya Village*. Carnegie Institution of Washington, publication 448, Washington, D.C.

Reitz, Elizabeth J., Wing, Elizabeth S., 2008. *Zooarchaeology*. Cambridge University Press, New York.

Robinson, John G. and Elizabeth L. Bennett. 2004 Having your wildlife and eating it too: An analysis of hunting sustainability across tropical ecosystems. *Animal Conservation* 7(4):397–408.

Robinson, John G. and Kent H. Redford. 1991 Sustainable Harvest of Neotropical Wildlife. In *Neotropical Wildlife Use and Conservation*, edited by J. G. Robinson and K. H. Redford, pp. 415–429. University of Chicago Press, Chicago, IL.

Robinson, John G. 2000 Calculating Maximum Sustainable Harvests and Sustainable Offtakes. In *Hunting for Sustainability in Tropical Forests*, edited by J. G. Robinson and E. L. Bennett, pp. 521–524. Columbia University Press, New York, NY.

Robinson, John G. 2001 Using Sustainable Use Approaches to Conserve Exploited Species. In *Conservation of Exploited Species*, edited by J. Reynolds, G. A. Mace, K. H. Redford and J. G. Robinson, pp. 485–498. Cambridge University Press, Cambridge.

Robinson, John G. 2010 Ethical Pluralism, Pragmatism, and Sustainability in Conservation Practice. *Biological Conservation* doi:10.1016/j.biocon.2010.04.017.

Robinson, John G. and Elizabeth L. Bennett. 2000 Carrying Capacity Limits to Sustainable Hunting in Tropical Forests. In *Hunting for Sustainability in Tropical Forests*, edited by J. G. Robinson and E. L. Bennett, pp. 13–30. Columbia University Press, New York.

Robinson, John G. and Kent H. Redford. 1986 Intrinsic Rate of Natural Increase in Neotropical Forest Mammals: Relationship to Phylogeny and Diet. *Oecologia* 68:516–520.

Rosenswig, Robert M. 2006 Sedentism and Food Production in Early Complex Societies of the Soconusco, Mexico. *World Archaeology* 38(2):330–355.

Sapper, Karl. 1897 *Northern Central America with a Trip to the Highlands of Anahuac: Travels and Studies of the Years 1888–1895*. F. Viewig, Brunswick.

Sharer, Robert J., Traxler, Loa P. 2005 The Ancient Maya, 6th Edition. Stanford University Press, California.

Simpson, E.H. 1949 Measurement of Diversity. *Nature* 163:688.

Slade, Norman A., Richard Gomulkiewicz and Helen M. Alexander. 1998 Alternatives to Robinson and Redford's Method of Assessing Overharvest from Incomplete Demographic Data. *Conservation Biology* 12(1):148–155.

Steadman, David W. 2006 *Extinction and Biogeography of Tropical Pacific Birds*. University of Chicago Press, Chicago, IL.

Stephens, D.W. and J.R. Krebs. 1986 *Foraging Theory*. Princeton University Press, Princeton, NJ.

Taack, George H. 1973 An Iconographic Study of Deer Hunting Scenes in Maya Painting: Codex Madrid and Vases from Calcehtok and Altun Ha. Master's thesis, University of New Mexico, Albuquerque, N.M.

Taube, Karl A. 1988 The Ancient Yucatec New Year Festival: The Liminal Period in Maya Ritual and Cosmology. Ph.D. Dissertation, Department of Anthropology, Yale University, New Haven.

Taube, Karl A. 1997 A God Named Zip. *Archaeology* 50:39.

Taube, Karl A. 2003 Ancient and Contemporary Maya Conceptions about Forest and Field. In *The Lowlands Maya Area: Three Millennia at the Human-Wildland Interface*, edited by A. Gomez-Pompa, M. F. Allen, S. L. Fedick and J. J. Jiménez-Osornio, pp. 461–492. Food Products Press, New York, NY.

Tedlock, Dennis. 1985 *Popol Vuh: The Mayan Book of the Dawn of Life*. Simon and Schuster, New York.

Teeter, Wendy G. 2001 Animal Utilization in a Growing City: Vertebrate Exploitation at Caracol, Belize. Ph.D. Dissertation, Department of Anthropology, University of California, Los Angeles, Los Angeles.

Thompson, J. Eric S. 1930 *Ethnology of the Mayas of Southern and Central British Honduras, Anthropological Series 17(2)*. Field Museum of Natural History, Chicago, IL.

Thornton, Daniel, Lyn Branch and Melvin Sunquist. 2011 Passive Sampling Effects and Landscape Location Alter Associations Between Species Traits and Response to Fragmentation. *Ecological Applications* 21(3):817–829.

Tozzer, Alfred M. 1941 *Landa's Relacion de las Cosas de Yucatan*. Harvard University, Papers of the Peabody Museum of American Archaeology and Ethnology, Vol. 18, Cambridge MA.

Vail, Gabrielle. 1997 The Deer-Trapping Almanacs in the Madrid Codex. In *Papers on the Madrid Codex*, edited by V. R. Bricker and G. Vail, pp. 73–110. Middle American Research Institute, Pub. 64, Tulane University, New Orleans.

Vail, Gabrielle. 2005 Renewal Ceremonies in the Madrid Codex. In *Painted Books and Indigenous Knowledge in Mesoamerica: Manuscript Studies in Honor of Mary Elizabeth Smith*, edited by E. H. Boone, pp. 179–209. Middle American Research Institute, Pub. 69, Tulane University, New Orleans.

Valadez Azúa, Raúl. 2000 Prehispanic Dog Types in Middle America. In *Dogs Through Time: An Archaeological Perspective*, edited by S. J. Crockford, pp. 193–204. BAR International Series 889, Oxford.

Wing, Elizabeth S. 1978 Use of Dogs for Food: An Adaptation to the Coastal Environment. In *Prehistoric Coastal Adaptations: The Economy and Ecology of Maritime Middle America.*, edited by B. L. Stark and B. Voorhies, pp. 29–41. Studies in Archaeology. Academic Press, New York.

Wisdom, Charles. 1940 *The Chorti Indians of Guatemala*. University of Chicago Press, Chicago, IL.

Zapata Rios, Galo. 2001 Sustentabilidad de la caceria de subsistencia: El caso de cuatro comunidades Quichuas en la Amazonia Nororiental Ecuatoriana. *Journal of Neotropical Mammalogy* 8(1):59–66.

Zeller, Kathy. 2007 *Jaguars in the New Millennium Data Set Update: The State of the Jaguar in 2006*. Report prepared for the Wildlife Conservation Society's Jaguar Conservation Program.

Zimmermann, Günter. 1956 *Die Hieroglyphen der Maya-Handschriften*. Cram, de Gruyter, Hamburg.

Chapter 7
Sympathetic Ethnocentrism, Repression, and Auto-repression of Q'eqchi' Maya Blood Sacrifice

Arthur A. Demarest and Brent Woodfill

Abstract From the period of the contact with Europeans up to the present, blood sacrifice of turkeys and other animals has been a fundamental element in Q'eqchi' Maya ritual, religion, and culture. In the face of suppression by the church, evangelicals, and, especially, the government, such sacrifices actually became a form of resistance in the 1960s–1980s. Today, however, institutions and individuals *sympathetic* to the Q'eqchi' and their struggles systematically omit animal sacrifice from descriptions of Maya culture and from educational programs on Maya culture, even in Q'eqchi' schools. Similarly, elements of the Maya movement, national spiritual leaders, and government-sponsored publications also omit discussion of sacrifice or they grossly underestimate its scale, importance, and nature. Some educational programs, religious groups, and support organizations even verbally discourage such practices, believing that they reflect poorly on the Maya and on the contemporary sanitized visions of an environmentally sensitive and pantheistic people. These manifestations of sympathetic ethnocentrism have a damaging effect in some communities and on Q'eqchi' self-image. The issue has become divisive, affecting community and interregional unity. Disagreements concerning animal sacrifice are also causing intergenerational conflict within communities, as younger members are more influenced by education programs and other sources that deprecate animal sacrifice. Thus, well-meaning attempts to sanitize the Q'eqchi' Maya "image" are, in fact, instruments of assimilation which are ultimately repressive and deleterious to Q'eqchi' communities, intracommunity and intercommunity identity, solidarity, and resistance.

A.A. Demarest, Ph.D. (✉)
Department of Anthropology, Vanderbilt University, VU Station # 356050,
2301 Vanderbilt Place, Nashville, TN 37235, USA
e-mail: arthur.a.demarest@vanderbilt.edu

B. Woodfill, Ph.D.
Researcher, University of Louisiana at Lafayette
104 University Circle, Lafayette, LA 70504, USA
e-mail: brentwoodfill@gmail.com

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The concept of sacrifice is central to all religion and ritual (Hubert and Mauss 1964; Mauss 1967), but blood sacrifice was specifically critical to Mesoamerican religion (see, for example, Sharer and Traxler 2006; Demarest 2004). In the Classic Maya world, contrary to popular representation, *human* sacrifice was a minor part of blood offerings, although more common in the Postclassic (e.g., Demarest 1984). Blood was most often given to the ancestors and deities through *auto-sacrifice*, the laceration of their genital area by high lords, and more commonly through offerings of blood from fingers and other areas by males and laceration of their cheeks and tongues by high-ranking females (e.g., Schele and Miller 1986; Schele and Freidel 1991). Similar rituals of auto-sacrifice were carried out at the local level (e.g., McAnany 1995). The practice of blood sacrifice was widespread during the conquest and Colonial periods, despite vigorous suppression of such practices by the Spanish overlords and the church (e.g., Landa 1975; Thompson 1938; Tedlock 1985). Of course, it was *human* sacrifice that was most vigorously suppressed.

Q'eqchi' Blood Sacrifice: Continuity, Change, Repression, and Resistance

Most common, however, in both the Precolumbian and Colonial period, especially at the local level, were sacrifices of animals, especially turkeys, the only fully domesticated animal of the ancient Maya, but also jaguars, deer, and other species. Ethnohistorical evidence describes such animal sacrifices and subsequent feasting and there is even specific archaeological evidence of turkey feasting (Sharer and Sedat 1987). As today among the Q'eqchi' and most Maya groups, offerings of the blood of animal in rituals were followed by feasting on the rest of the animal. Note that this practice of minimal religious offering of blood and meat and then feasting on the rest of the animal is common worldwide, including in the Western tradition of the Jews, Greeks, and Romans. Thus, animal sacrifice in Colonial period and modern Maya communities could generally escape intense scrutiny if viewed in terms of communal "feasting." Other major concepts in the Old Testament, as well as the sacrificial metaphors of Latin Catholicism, parallel Maya animal sacrifice, allowing such practices to continue in modified, though often less public, form.

Other aspects of Precolumbian religion continued in varying degrees and in syncretic form, due to such similarities with the concepts of Catholicism (e.g., Adams 1952; Scotchmer 1986; Siegel 1949). Fusion with Maya spiritual entities and Maya ancestor worship was facilitated by the "polytheistic tint" of Latin Catholicism with its emphasis on many saints and the Virgin Mary, all "beatified" (i.e., essentially deified) real historical persons. In a sense this is not unlike ancient Maya ancestor and "collective ancestor worship" of the deceased divine kings. Many large public rituals also continued in modified form, although elite priests and their temples were eliminated, leaving ritual practice primarily at the community level. Public blood sacrifice in major towns disappeared. In some cases sacrifices and associated rituals moved into the caves (Wilson 1995:68–89; Cabarrus 1979) which is both a less

public context and yet the most important place of worship for the Precolumbian Maya (Woodfill and Spenard 2001; Woodfill et al. 2002; Brady 2009; Demarest 2004). In what is today the core area of Q'eqchi' communities, the mountainous Alta Verapaz and adjacent lowlands of the southern Peten, caves have been the principal focus of ritual since at least 800 BC (Woodfill 2010; Brady and Ashmore 1999).

Thus, elements of Q'eqchi' religion including sacrifice have continued, but in various degrees of syncretism with Christianity with differing degrees of public visibility (Scotchmer 1986). These variations and distinctions reflect varying degrees of evangelization, oppression, disapproval, "auto-repression" (see below) and, in some cases, a greater degree of geographical or logistical distance from more developed areas.

However, trait "survival" in traditional terms is not the only, nor the principal, factor for the presence of elements of Precolumbian ritual – resistance, rival, and resurgence have defined or created new forms of those practices. The revival and even emphasis on certain practices, though often covert, has been an element of conscious resistance and identity reinforcement of the Q'eqchi' Maya, particularly among the groups most affected by violence, oppression, poverty, and geographical displacement (c.f. Arias 1990; Carmack 1998; Cojti Cuxil 1991, 1994; Fischer and Brown 1996; Montejo 1999; Warren 1993, 1998). Q'eqchi' rituals can also be an assertion of local "property" rights (e.g., Garcia 2003a, 2007; Del Cid and Garcia 2005).

Yet many Maya rituals – especially animal sacrifice – have been limited at times by direct prohibition and also by decades of evangelization, both Protestant and "new evangelical" Catholicism (Cabarrus 1998; Garrard-Burnett 1998; Stoll 1988). Ritual practices have also been affected by migration and its consequent community dispersion and then recombination into new communities. In some communities with whom we have collaborated that were located off of the direct path of roads, "traditional" Q'eqchi' Maya blood sacrifice rituals seem more prevalent. These events cannot, however, be seen directly as "traditional," since, as discussed earlier, the concepts of direct continuity and "authenticity" are problematic at best in the dynamic landscape of Guatemala. Nonetheless, in some specific areas elements of ritual practices sometimes can be traced back to at least before the revitalization and nationalization of Maya ritual during and after 1954–1996 civil war period and certainly before the more recent influences of the Maya movement, the political solicitation of the Maya and political patronage, and before the beginnings of Maya "cultural tourism." There, broad aspects of modern Q'eqchi' ritual may still reflect, to some degree, two millennia of general Maya worldviews.

Of course, one of the most prevalent Precolumbian ritual elements was sacrifice of all types, but especially blood sacrifice, as well as the emphasis on sacred geography and caves. Wilson (1995) and others have detailed how the Q'eqchi' of the Verapaz maintained and revitalized cave worship and sacrifice. Simultaneously more sacred and less public, caves have continued to be settings for ritual and to be central to ideology throughout the many twentieth-century periods of change, suppression, revival, resistance, and resurgence in Maya culture. The Q'eqchi' along the two most frequented highland-to-lowland Verapaz routes were subjected to great external pressures on their religion and culture in general. This factor may

have contributed to even further emphasis on *cave* settings for ritual through the Verapaz mountains and piedmont passes and valleys.

Most prevalent in the highland piedmont zones, especially in the caves, were rituals to the Tzuultaq'a "the spirits of the hills and valleys." A Tzuultaq'a (male or female) is associated with hills, springs, caves, archaeological sites, and unusual rock formations. The exegesis of Tzuultaq'a rituals and beliefs is a complex matter as such entities have a long history from Precolumbian to modern times with conceptual changes due to syncretic processes, reformulation, and the combining of concepts from other Maya groups (Cabarrus 1998; Garcia 2003a, b, 2007; Schackt 1984). Here, what is most significant is the blood sacrifice associated with the propitiation and petitions to the Tzuultaq'a.

Wilson (1995) notes that in the 1600s, missionaries observed with horror the blood sacrifice prevalent in the Q'eqchi' Alta Verapaz region, especially in the caves: "Many came from various parts [to submit themselves] to the diabolical cutting and went off very content" [Padre Delgado translated by Thompson (1938)]. Such cave auto-sacrifice, its setting, its instruments, and even the specific parts of the body to be bled are the same as those described in ancient lowland Maya monumental texts and illustrated in sculptures from over a millennium earlier (e.g., Schele and Miller 1986). The blood-letting described by Father Delgado in the early seventeenth century cannot be attributed to external influence or resistance since that was the period of earliest contact in the Verapaz and the practices described by the priest were of the most ancient Precolumbian form.

However, regarding the modern situation, Wilson (1995:59) observes that "In terms of sacrifice, the mountains have become less bloodthirsty over the years. Since the Spanish invasion, the extirpative efforts of foreign missionaries have squelched such practices." Padre Delgado himself tells us "I took away the cutting instrument, I preached against it, and some of them invited me to do the same [whereupon] I hastened to dissuade them from that atrocity and evil" (Thompson 1938:594, from Wilson 1995).

Modern Q'eqchi' Settlement and Variability in Religion and Ritual in the Alta Verapaz/Southern Peten Region

The texts of Father Delgado, the oral traditions of the highland Maya (e.g., Tedlock 1985), and the ethnohistorical syntheses of Thompson (1938), Sapper (1985), and others leave no doubt about the reality of Colonial period and Precolumbian blood sacrifice, nor about its repression in the past four centuries. Yet, despite suppression, contemporary blood sacrifice is found throughout the highland and piedmont Verapaz region, in the caves but also in those communities that are somewhat more isolated and/or have maintained a conservative Maya/Catholic religious tradition. Aspects of the ideology are very similar in concepts to Precolumbian worldviews, albeit the sacrifice is, of course, restricted to animal sacrifice, rather than human auto-sacrifice, and it is transformed in various ways by the above-discussed interplay of repression, resistance, and syncretism.

Fig. 7.1 Zone of archaeological, ethnographic, and development work at the intersection of the highlands and Peten jungle regions of Guatemala with the Q'eqchi' communities, caves, and archaeological/sacred sites

In the area of the Vanderbilt Cancuen Regional Archaeological and Development Project, sacrificial rituals are present in many of the Q'eqchi' Maya communities in differing forms, reflecting variation between communities (Demarest 2002; Del Cid and Demarest 2004; Garcia 2002a, b). This zone sits at the interface between the southern Maya highlands of the Verapaz and the Peten lowlands (Fig. 7.1), a dramatic

geological and ecological frontier[1]. In Precolumbian times, it has been established that this specific area was the direct interface between the very different societies of the chiefdoms of the highlands and piedmont and the lowland Maya kingdoms (Demarest et al. 2007, 2008a, b; Woodfill 2010). A Q'eqchi'-speaking population has occupied this area for at least several centuries. The language spoken in earlier periods is still being debated by paleolinguists. Maler observed the Q'eqchi' presence around the Cancuen ruins and the area of his early reconnaissance (Maler 1908). Later Carot and others (e.g., Dreux 1974; Carot 1989; Woodfill 2010) noted both the Precolumbian and the continuing ritual use of the caves in the eroded piedmont limestone hills, 10–50 km south of Cancuen and the beginning of the lowlands.

Throughout the past century, the Q'eqchi' population continued to immigrate slowly into this region and then further north into the Peten, and even beyond, east to the Caribbean. However, during the 1954–1996 civil war in the highlands of Guatemala, the numbers of immigrants increased greatly and the rate of movement accelerated into the Cancuen region and beyond. Many of the Q'eqchi' communities in the far southeastern Peten region around the site of Cancuen were established in the 1950s and 1960s. They maintained, and still maintain, ritual relations with the Q'eqchi' "homeland" of the "founders" near the city of Coban in the Alta Verapaz highlands, including the town and areas of San Pedro Carcha and San Juan Chamelco, as we have observed in visits to that highland homeland for blessings, pilgrimages, and to bring sacred items from there that are needed for certain rituals.

There is the great variability between the communities in the Cancuen highland frontier zone due in part to immigration in different periods and settlement into a variety of environments. Some settled in more accessible areas along the dirt roads that were, and remain, the main contact routes with the highlands and outside world. There, the many caves were always the focus of ritual and worship. Others settled still further north along the Pasión River in the Peten rainforest. The Pasión River had been the major route of lowland commerce since at least the eighth century BC and remained the "highway" of the Western Peten lowlands through Colonial and modern times. Some groups settled along the Pasión River for the good soils or the river transport route between Maya communities. Another principal reason for settling further north and east along the river was flight from the brutality of the civil war and the "burned earth" policies of the largely unsupervised army contingents in the northern Alta Verapaz and along the road routes into the Peten further north. During our period of work in the region, from the 1980s to 2000, the Pasión River was still the route of local exchange between the Maya communities; however, the river towns and villages became even more isolated and impoverished after 1990 when gravel roads and a highway north were built and became the major corridors for transport and trade.

Beyond the question of the impact of geographical location, variability in sacrificial practice around Cancuen also reflects the diversity of the population in the area. The occupants of the area include ladinos who are primarily cattle ranchers, some

[1] In political units this is the far northern Department of Alta Verapaz, *Municipios* of Raxruha and Chisec, and the far southern boundary of the *Municipio* of Sayaxche, Department of Peten.

cowboys, *narcotraficantes*, and the residents of the nearest large town, Raxruha. The Q'eqchi' communities include protestant evangelicals, catechistic evangelical Catholics, and, more commonly, Maya/Catholic groups. Some communities have a mixed population in these terms, but most lean one way or the other: toward either more fully Christian evangelical practices, with a few elements of Maya ritual maintained, or toward a version of syncretic Maya Latin Catholicism, the latter more familiar to us from the past century of ethnographic studies of other Maya groups (e.g., Adams 1952; Estrada Monroy 1979; Scotchmer 1986; Siegel 1949). Yet other sources of variability and change in Q'eqchi' Maya religion in our highland/lowland interface region are the influence of radio, political, or NGO promotion of pan-Maya activism, national education, initial tourism, and other factors discussed later.

Contemporary Q'eqchi' Maya/Catholic Rituals in the Cancuen Region

Contemporary Q'eqchi' rituals are seldom described in a thorough ethnographic manner. The best known studies are those of Cabarrus (1998) and Wilson (1995), but these are "global" statements on the religion and culture in general – that of Cabarrus in its Christian context and that of Wilson in a political context of repression and resistance. Less cited Spanish sources provide more detailed descriptions (e.g., Boremanse 1998; Estrada Monroy 1990; Pacheco 1985, 1988). The most complete and detailed descriptions and analyses are those of David Garcia the ethnographer who worked with the Cancuen archaeological project living in the communities near Cancuen (Garcia 2002a, b, 2003b; Garcia et al. 2002) and then continuing ethnographic research for years after (Garcia 2003a, c, 2007). His studies on Q'eqchi' religion and rituals are not only specific and detailed, but describe religious practices in several different communities including ones with populations that were primarily traditional Maya/Catholic, primarily protestant evangelical, of mixed religions and with communities with differing degrees of contact and participation in "greater Guatemala" outside of the area. These detailed accounts of rituals include some of the sacrifices discussed later (2003a, 2007).

Beyond that, both of the authors themselves have fully participated many times in rituals in different Q'eqchi' communities and in various contexts over many years. This familiarity is due to the fact that the Cancuen archaeological and development project is involved with the communities in projects of co-management of the archaeological site, the sacred site, and the ecological reserve that is Cancuen. The project also collaborates in projects of potable water systems, river transport, "microempresas," ecotourism, religion, including church construction and assistance in co-sponsorship of many events ranging from river community soccer tournaments to some of the rituals described later (Demarest 2002; Demarest and Garcia 2004; Garcia 2002b; Garcia et al. 2002; Woodfill et al. 2002; Del Cid and Garcia 2005; Del Cid and Demarest 2004).

Ethnography is not the "day job" of these two archaeological co-authors, and so we do not take notes, record, or take photos in the most private stages of ritual, but

we do share the same food, drink, and actions with the *guias espirituales* and other participants. While our nonethnographer status makes questionable own assessments below, it also may have facilitated our close participation which has become more inclusive over the years, allowing us to be present at all the levels of ritual described later. Like that of any ethnographer or "outsider" of any kind, our presence is distortive, but the impact on rituals themselves may have diminished over time due to familiarity over 12 consecutive years of close involvement. We also may have different observations to contribute that are different from those of ethnographers. In *archaeological* contexts, the geographical and specific physical location of rituals, offerings, and the open or closed, public or private, nature of the event is fossilized in artifact distributions, deposits, and sometimes paintings, but the esoteric details and most meanings are usually obscure to us. Thus, perhaps we see broad structure more clearly – in other words, we "see the forest," because we cannot "see the trees"!

The Maya Catholic rituals and to a much lesser degree, the celebrations in non-catholic communities have some broad traits that are shared with the Precolumbian Maya religious tradition, whatever may be the source of those communalities – continuity, homology, resistance, or the construction of identity. These shared traits include the importance of caves and sacred geography in general, as discussed earlier, but also features of the *stages* of ritual, as well as the perceptions of animate versus inanimate entities and aspects of blood sacrifice. The studies of Q'eqchi' religion all point out the geographical focus for the "spirits of the earth," the Tzuultaq'as that inhabit each cave, hill, archaeological site, and other loci are the principal focus of much ritual. The explicitly geographical association of the Tzuultaq'as connects them to the unbroken emphasis in the Maya tradition on sacred geography, although, again, the rituals also include offerings to saints and Catholic entities. In the rites of the past half century in the archaeological site of Cancuen, there are also specific loci – an altar, a room, a plaza which are considered the most directly associated with the Tzuultaq'a spirit that "owns" the site. The patterns of sacred geography are always present and are reiterated in many rites in which the four cardinal directions are marked, sometimes in blood or mixtures including blood.

These traditional geographical and locational factors also relate to another broad aspect of contemporary Q'eqchi' rituals that correspond to Precolumbian practice. In many Catholic Q'eqchi' communities, the structure of the longer religious events is divided into discrete multiple stages with differing degrees of participation, as in the archaeologically and epigraphically identified structure of rituals in Precolumbian times. In terms of physical location, Q'eqchi' rituals include first a public event in open community settings, including churches or plazas (Fig. 7.2). Subsequently, or at the same time, there are events with more limited participation often held in a specific place associated with the reasons for the ritual. This second phase of ritual is carried out by male elders who are also community and as spiritual leaders (Fig. 7.3). In many *wa'atesink* events (described later) this second less public, but not, completely private, stage is the last such activity. At some events, however, there is a third event which is locus for events more private. We have participated in rituals at all of these stages.

In archaeological studies of ancient ritual remains in caves, these last two types of rituals been called "private rituals" by Brady and other cave archaeologists

Fig. 7.2 The public stage of Q'eqchi' Maya ritual: (*top left*) *mayehak* in archaeological camp to begin the agricultural and excavation seasons (Dos Pilas 1991); (*top right*) traditional harp and (*center right*) drum music in *wa'atesink* event (La Union 2000); (*center left*) ancient altar at Cancuen revered and used in *mayehak* public rituals; (*bottom right*) more public stage of a *wa'atesink* ritual (La Caoba 2002)

(Brady 2009), but we believe that some of these events are especially exclusive and are best conceived of as "off-stage rituals," as defined by Woodfill in his studies of ancient and modern Maya cave shrines and their use from 800 BC to the present in the region of Cancuen (Woodfill et al. 2002; Woodfill 2010). These rites take place in private, sometimes very isolated, locations in caves. Yet though the public event is in progress at the same time or just before and the community at large does not

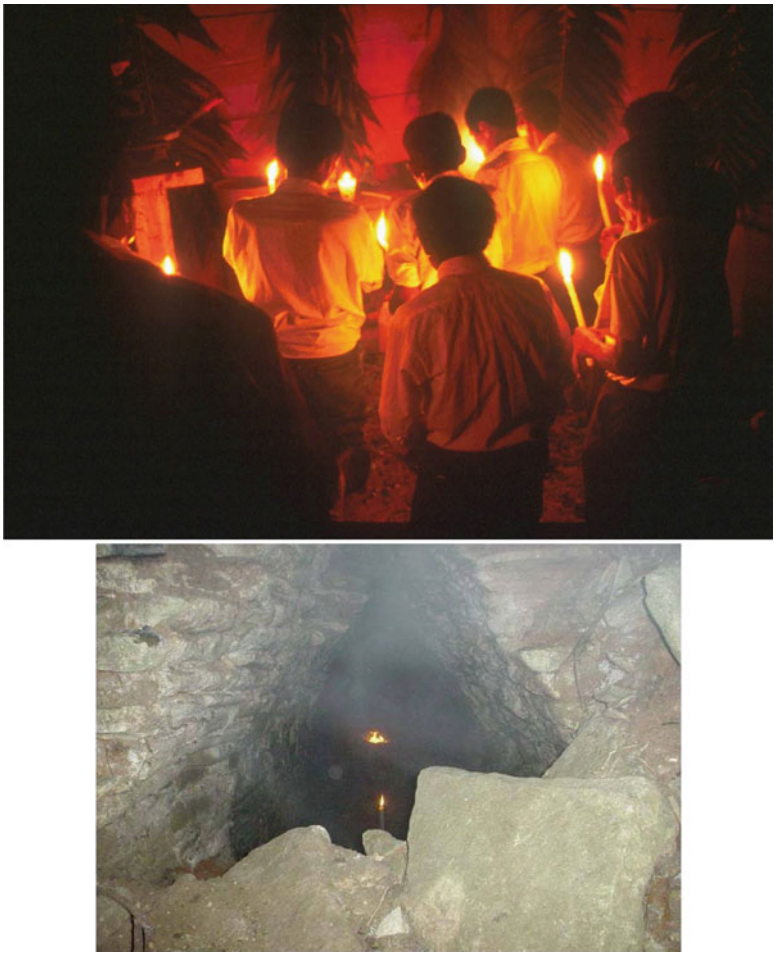

Fig. 7.3 More private stage of Q'eqchi' rituals (with blood sacrifice): (*above*) *wa'atesink* with *ancianos* and acolytes to "feed" a new mill; (*below*) half-buried ancient corbelled-vaulted room in the ruins of the Cancuen palace, a sacred place for more exclusive ritual

witness these rituals, all know that the rite is taking place, and all have a fairly good idea, but not an exact one, of what is taking place in that sacred location nearby. Feasting, sometimes dancing, and other activities can continue during the private ritual or the private one is sometimes the culminating event. In all cases the effect can be dramatic:

> At the end of this public gathering, however, the village elders conspicuously exit, at which point they go into a cave or other sacred space to make offerings and communicate with God and the Tzuultaq'a, or "owner of the land", on the behalf of the community. While this is done without an audience, the entire village sees the elders leave under a cloud of billowing incense with alcohol, chocolate, and animals to be used in the ceremony. The villagers all know who is participating in the "private" ritual, where it is occurring, and what is being offered (Woodfill 2010:268).

Clearly these more private rituals are in some way the most significant, partly because they involve only a few spiritual guides or *ancianos*, but also because of the "staging" of the event. In all aspects, these multistage rituals fit perfectly with Goffman's paradigms for the understanding of community, group, and individual activity in "dramaturgical" terms (Goffman 1963, 1969). In the surface architecture of the ruins of Cancuen itself, as in the cave deposits, we find fossilized ancient settings and two- or three-stage "orchestration" of ceremonies.

What is interesting in our own experience, admittedly anecdotal and unsystematic as participant/guests, is that the level and intensity of the role of blood in the rituals seems to be greater in its more private settings. In contrast, judging from the Precolumbian artistic representations, inscriptions, and architecture, the emphasis on sacrificial events in the previous two millennia of the Maya tradition was as great or greater in the *public* stage, the great spectacles in the open plazas, temple stairways, or huge cavern openings.

This returns us to the question of blood sacrifice in modern Maya ritual and what we perceive to be its "retreat" in the face of internal and external pressures. First, however, we should consider the specific central rituals of the contemporary Q'eqchi' Maya and nature of blood sacrifice in those events.

Blood Sacrifice in Q'eqchi,' *Wa'atesink*, and *Mayehak* Rituals

Wa'atesink rituals and the blood sacrifice involved, as well as some other aspects of Q'eqchi' culture, seem to indicate a far less sharp conceptual distinction between the animate versus inanimate worlds, if compared to Western ideology and language. In the ancient Maya tradition monuments, altars, hieroglyphic stairways, thrones, plazas, and architecture were often specifically named in the inscriptions and they were treated as entities. They were not merely tools or objects of worship, but had a spiritual identity and power. Monuments or architecture were presented with blood offerings upon their construction. More importantly when destroyed they were offered ceremonies and sacrifices. They were carefully defaced and respectfully "interred" in elaborate "termination rituals" involving the destruction and offerings of broken pots, incense, and sometimes sacrifices (e.g., Mock 1998; Woodfill 2010).

One could view weak, more continuous, inanimate/animate distinctions seen today in the *wa'atesink* rituals as an element shared with Precolumbian worldviews. There are, however, both linguistic and cognitive questions regarding such a conclusion and the difference with Western conceptions may be a matter of degree. Yet "spiritual guides" local and those familiar with the pan-Maya dialog have told us explicitly that there is a "soul," a spirit, in many things that must be taken into account and that our Western idea of inanimate things is dangerously fallacious. Thus, such "things" are worthy of receiving sacrifice and, indeed, much blood sacrifice to what we would call "objects."

The *wa'atesink* ritual, perhaps the most common Q'eqchi' religious event, appears to manifest such concepts. *Wa'atesinks* are described in the general context of Q'eqchi' ritual and change by Cabarrus (1998), Estrada Monroy (1979, 1990), Pacheco (1988), and Wilson (1995), and in much greater detail by Garcia (2003a, 2007). We have attended and participated in many of these events in the area of Cancuen. They indicate this additional conceptual element may be shared with the Precolumbian tradition, one most probably the result of continuity, not just various forms of parallelism. *Wa'atesinks* also have blood sacrifice as one of their central elements.

Wa'atesink rituals are carried out after a new house or church or school or boat is built or a new well dug or a new mill purchased or even for seeds, candles, or other objects to be used in Maya ceremonies of any kind. Since our collaborations with the communities in regional development (Del Cid and Demarest 2004; Demarest 2002; Garcia 2002a, b; Garcia et al. 2002) involve the placement of much donated equipment, assistance with construction of churches, buildings, wells, and the like, we have participated with the communities in many *wa'atesinks* over the years. These rituals could be explained in Western terms as a kind of "dedication" or "initiation" ceremony that must be performed before the use of the building, well, machine, or other new "inanimate" object of importance. The concepts of "dedication" or "inaugurations" are not really consonant with the nature of the *wa'atesink*, since those former events are focused on the humans present. The *wa'atesink* ritual is offered directly to the object or building or well *itself* – asking its permission to be used, asking that it keep the users safe, asking for success in its use. "*Wa'atesink*" literally means "give to eat": to provide offerings of prayers, candles, copal, cocoa, and maize to the object to feed it and ask its permission for use. The offerings, and the sacrifices, of course, include blood. The blood of hens or turkeys (in earlier periods, obviously, it was turkeys) is offered up. The blood is painted on the corners of the house or mixed with *masa* (maize dough) and cacao, and sometimes mixed with *b'oj*, the traditional Q'eqchi' fermented alcohol drink.

For *wa'atesninks* or the *mayehak* rituals (see below) large numbers of candles are burned together with incense as part of the sacrifice, part of the "feeding" of the spirit of the object. What is fascinating is that permission must also be asked of the candles themselves to be given as a sacrifice in the ritual. Consequently, there must be a *wa'atesink* to the candles to "feed" and ask *their* permission to be sacrificed in the altar ritual. Sometimes the candles are painted with blood or with a dark mixture of blood, cacao, and maize. In some rituals, the candles are simply wiped with blood. Then, the candles "propitiated" are offered up later in the ritual to the object.

In most of the rituals in which we have participated the first stage is a large public gathering, often in the church, in which the community – men, women, children, visitors –are all present (Fig. 7.2). There is sometimes an offering there quietly placed with a mixture before the images of saints, the virgin, etc. – but there is no overt sacrifice, nor sacrificial offering, except candles and incense. There is singing and prayer and it is largely Catholic service, often a full "celebración de la palabra," a community *mass* without a priest present but led by a local lay deacon or other elder.

Then, a smaller number of people, adult males (Fig. 7.3) led by the elders and *guias espirituales* (often overlapping categories) gather in the new building (house,

mill house, school, church) or around the well or before the new object (water pump, mill engine, boat). For hours, they offer sacrifice of prayers, incense, candles, blood, the food mixture, and sometimes a small amount of meat. In *wa'atesinks* for a building or a housing for a new motor or object, blood or the blood/cacao/maize mixture is painted on the four corners of the building and deposited, sometimes with meat, in a hole the center, replicating the ancient Maya *quincunx* of their sacred cosmology of the four color/directions and the center. Thus, a number of broad Precolumbian conceptions are manifest including the weak inanimate/animate "boundary," sacrifice, levels of staging, sacred geography, and the basic elements of sustenance (maize, cacao, meat, etc.). As for three millennia, blood binding and blood sacrifice are central elements in this more traditional Maya/Catholic version of the *wa'atesink*.

The other most important Q'eqchi' ritual, the *mayehak* also involves sacrifice. This ritual is primarily agricultural asking the Tzuultaq'a, the spirit of the fields and valleys, for a good crop and for safety and success in all stages of the agricultural season. In regions with swidden (or "slash and burn") farming, the *mayehak* is usually carried out at the beginning of the cutting and later burning of the old fields or of newly cut forest after the vegetation has dried. The *mayehak* thus begins the agricultural cycle with ritual and sacrifice to the Tzuultaq'a, although the rituals can be carried out on other occasions. At the initiation of archaeological field seasons we have had, on a number of occasions, *mayehak* rituals with the communities and the workers to request that the Tzuultaq'a in the ruins of Cancuen or other sites give his permission and watch over the archaeological work to make it safe and successful. In two field seasons, the beginning of the agricultural season and that of the archaeological season coincided and there was a "joint" *mayehak*.

The *mayehaks*, and particularly those held in the ruins of Cancuen, again involve multiple stages of increasing exclusivity and increasing blood sacrifice as described earlier for such Q'eqchi' and ancient Maya rituals in general. A small unremarkable ancient stone altar in the main plaza of the epicenter of the ruins (Fig. 7.2) has been – since long before the inception of our project at Cancuen – a setting of open community rituals involving the burning of candles, incense, offerings, music, and singing. For reasons understood only by the spiritual guides (who state this as a simple matter of fact) that particular ancient altar is a focus of the presence of the Tzuultaq'a of the Cancuen ruins, an entity somewhat feared. Then, a second spot, a small half-buried corbelled-vaulted chamber high in the ruins of the eighth-century royal palace (Fig. 7.3) is the setting for more exclusive rituals, involving only the leading elders or spiritual guides. There hens are sometimes sacrificed.

We have participated twice in rituals at a third, even more exclusive, setting in the highest point in the ruins of the palace and the most restricted location at the site, the small patio in front of what was the eighth-century royal throne room. In one last stage of a *mayehak* there, one of the authors was a participant with just four elders in a ritual in which a whole huge sacrificed hog was buried by hand in the mud of the ancient courtyard. Candles (again, themselves stained and by "fed" blood or the blood-and-food offering made to the candles in an earlier *wa'atesink*) were offered up with the hog to the Tzuultaq'a asking for his approval and his protection for the archaeological field season and to dispel the dangers that the work involved. It was

an especially emotionally heightened ritual because a battle with looters, malaria, and a host of other problems had beset the project or some of its members and the goodwill of the Tzuultaq'a clearly was needed.

Again, at this last stage of greatest privacy, the intensity, and the "corporality" of the blood sacrifice was greater. Also, as described earlier, it was "off stage" and so that much more impressive. At the same time all of those still celebrating and feasting in the open archaeological camp area knew that the blood sacrifice of the great hog was taking place in some sacred location deep in the ruins nearby. When the ritual was over we returned to join the end of the music, prayers, and feast.

Some of these events and other similar rituals in the Cancuen project zone are more completely described with many factors analyzed by Garcia (2003a, c, 2007). Here, the key points are the conceptual and structural parallels to Precolumbian concepts, but particularly the central role of sacrifice, especially blood sacrifice, in all of these. The corporal and carnal imagery of blood, meat, and food are central to the ritual, to the preparations for the ritual, and to the feasting that accompanies and follows the rituals. Unlike the Precolumbian events, however, the actual acts of blood sacrifice have been displaced to more private locations.

Western Sensibilities Versus Indigenous Perceptions of Corporality

This work and a number of previous volumes, papers, and debates (e.g., Chacon and Dye 2007; Chacon and Mendoza 2007) have been part of a soul-searching that has explored the question of whether the description and analysis of indigenous and non-Western warfare, cannibalism, headhunting, ecological damage, or other "negatively perceived" traits are appropriate and ethical to report in ethnography, anthropology, or history. Of course, this controversy is part of a broader postmodern dialogue on perceptions of "the Other" (e.g., Alcoff 1991; Badiou 2001; Clifton 1990; Fabian 1983; Foucault 1983; Hames 2001; Levinas 1986; McNiven and Russel 2005; Riding In 1992; Scheper-Hughes 1995). This debate has many facets but the most powerful criticism is that anthropological descriptions can be used to justify acculturation, oppression, and cultural – or even physical – genocide against indigenous groups.

For these authors and others, the ethical debate centers around the question of whether this problem should be addressed by avoidance of reporting those practices or by reporting them in a limited way or by describing only part of those practices in detail or even consciously deemphasizing such factors (for the Maya see, for example, Castañeda 1996, 2002; Cohodas 2001; Demarest and Garcia 2003, 2004; Montejo 1993; Watanabe 1995). All agree, at least in principle, that we should be careful not to consciously or unconsciously overemphasize or sensationalize native practices. Then, however, the ethical question remains as to how we carry out ethnography more completely or "accurately" (albeit, always through our own cultural lens) in the face of such issues.

As elsewhere, these authors argue that our mission, as anthropologists and educators, is not "the purification of the other": the modification or systematic omission in discussion of native practices to make them seem less disturbing or unacceptable to our readers, i.e., to Western eyes or those of Westernized dominant classes. Our position is that the problem is in our own Western negative perceptions of practices alien to our own sensitivities. Therefore, anthropological *education* is the cure; if not, what is anthropology for? Why is it taught? As argued elsewhere, there is no way to avoid this imperative:

> …the only viable alternative [is]: more aggressively and effectively pursing our mission as educators, not only in the classroom, but with the public at large. This mission, like our other ethical obligations to indigenous peoples and communities near our research locations, requires a great deal of sustained effort beyond the confines of our disciplines…. we must work to create a fuller understanding by scholars, students, and the public of "alien practices" of other cultures. Neither ethnocentric revulsion nor ethnocentric purification can substitute for the work of elucidating, as best we can, the nature and meaning of the beliefs and practices of other societies. Of course, this is our fundamental goal as anthropologists (Demarest 2007:611).

This job becomes especially difficult when we touch upon the most sensitive aspects of our *own* cultural tradition. One of those, a pronounced characteristic of Western society, is repulsion in the face of corporality of any kind. This aversion is most obvious as regards death, flesh, and blood. From the *Iliad* to modern war, the act of killing, even unjustified killing, is not considered as unethical or evil as are actions that expose us to the realities of corporality. The hubris and crime of Achilles that led to his downfall was not the killing of Hector, indeed that was the end of a noble duel. It was the abuse of his corpse, dragged behind his chariot after the victory. The Western horror over a downed Blackhawk helicopter in Mogadishu was not the death of a small number of our troops, but from the images of their corpses being mistreated and their decapitated heads on poles. The film industry depends heavily on our horror/repulsion/fascination, not so much with murder, but with frightening encounters with the corporality of gory killings, blood, rotting zombie corpses, and so on.

These images repulse us because our most deeply held beliefs and sensibilities, like that of most cultures, revolve around "the denial of death" (e.g., Becker 1973) and our denial of the corporality that defines the limits of our existence. It is regarding the reporting of corporal practices that anthropologists face the greatest challenge:

> Our job, however, becomes very difficult when scholars must explain practices that directly confront our own cultural sensitivities about death and corporality. In this capacity, we must confront our own cultural myths, metaphors, and mechanisms that shield us as a society and as "functioning individuals" from the debilitating existential awareness of death, corporality, and its most obvious and forceful embodiment: the dead body, the rotting corpse, the trophy head, the dead meat and bone that we become – that we are (Demarest 2007:612).

Note that as the Western tradition has developed a very high level of division of labor, we have attained even more distance from corporality. We have huge industries in human taxidermy and funerary aesthetics to prevent bodies that are to be

buried or cremated from appearing to be corpses – to banish all trace of blood or rotting flesh and to replace it with a tasteful imagery of sleep on interment in "restful" cemeteries or mausoleums.

With further increased division of labor, we have extended even more our ability to avoid confrontation with the very blood, flesh, and death that are central to our own omnivorous diet, subsistence economy, and our own mortal trajectory. As they purchase and consume meat most do not wish to even know about the killing and butchery of cattle, nor the slaughter of other animals which is carried out today by a very few specialists (almost comparable to the small number of morticians!). Our highly urbanized society has relatively few farmers and pastoralists and dealing with animal blood, flesh, and death are activities left to the slaughterhouses and meat packers. Indeed, it is important to both vendors and buyers that the flesh that we eat be nicely packaged and delivered in the same form as our cheese, bread, canned goods, and books. Again, this distance from corporality is one characteristic of the specific "denial of death" of our own culture. Other societies have different approaches to death's denial and the ethical and mortal sensibilities of those non-Western societies revolve around other factors (Becker 1973).

Returning to the indigenous cultures, they clearly do not share our revulsion of the corpse, of blood, of flesh and corporality. There is great proximity and awareness of the blood and the flesh. This is true of their quite distinct caring mortuary practice – honoring by consumption or body part curation their own dead and, sometimes that of others (e.g., Chacon and Dye 2007; Conklin 2001). It is also true in war and aggression, the bodies and blood of enemies are sometimes are considered dangerous, sometimes sacred, sometimes a weapon of fear and intimidation, and, sometimes, as holy protection (Chacon and Dye 2007; Chacon and Mendoza 2007). In most societies, a wide range of values, not the dread that seems natural to us, is associated with flesh, carnality, and blood in general, including animal blood.

Animal sacrifice is often regarded in contemporary Western conceptions as an indigenous symbolic substitute for ancient human sacrifice. Yet, in fact, Maya sacrifice was always predominantly of animals or more often the nonfatal letting and offering of one's own blood. There was not only an absence of fear of corporality, but a devout reverence for the blood, for the public act of sacrifice, and for the use of the flesh and, especially the blood, in many ways. Blood is the essence of life in both ancient Maya and modern Q'eqchi' practice, and is even more sacred than cacao and maize. It is natural that it would be the sustenance wanted by the Tzuultaq'a and the fields themselves in the *mayehak* and demanded by the constructions, settings, candles, and sacrificial objects that are propitiated in the *wa'atesink*.

On a more obvious level one can contrast contemporary North American and European fragile sensitivity to corporality with the familiarity with the flesh of indigenous peoples. The Q'eqchi' often display for days beforehand the beautiful animals for the sacrifices for feasting – turkeys or a cow or bull tethered near the locus of the ritual, or in a public field or plaza. The animals are butchered and the meat prepared for the feast with the participation of all (men, women, children). At many feasts on ritual days that we have attended, the butchering is in the same large structure as the tables for the feasting – continuing at the same time with

axes and machetes. The animal carcasses are hung along the walls and no one is perturbed. This acceptance reflects indigenous perspectives, but is also due in part to the normal direct experiences of any farming and pastoral society, including our own prior to the specialization of butchery, facilitating even greater avoidance of the flesh and blood.

At Q'eqchi' rituals with Western guests, the direct contrast is striking regarding differences attitudes toward corporality. For these visits of officials and donors, the Q'eqchi' often proudly post the very most beautiful ocellated turkeys that will be the prestigious food for the honored guests. Often donors have been invited as guests to thank them for their contributions of funds or materials for a building, well, or appliance. Animal sacrifice is practiced to "feed" the very object to be propitiated, in the *wa'atesink*. Yet just the display of the turkeys or the bull, to be butchered for sacrifice and feasting, elicits unease or sometimes even dismay from some of the guests, even though they are strong supporters of Maya culture. Such reactions, strange to the Q'eqchi', only demonstrate the cherished self-deceptions of our own more carnivorous, but largely urban, society and our Western desire for distance from blood and corporality.

The Retreat of the Blood

We pick up here at the point where Wilson, as cited above (1995:59), noted that "the hills have become less bloodthirsty over the years." Conscious oppression, religious conversion, and other factors discussed earlier suppress blood sacrifice, though Wilson argues that a countercurrent of Q'eqchi' resistance helped to maintain the sacrificial practices in some areas. However, in the experience, observations, and participation of the authors in such ritual events from 1990 to 2011 it appears that many factors are leading to a reduction of blood sacrifice or, at least, its visibility in our northern Verapaz/southwestern Peten region. The influence of evangelical Christians, Q'eqchi' Protestants, and catechist Catholics continues to be a major factor in the diffusion of negative perceptions of blood sacrifice. The subtle deprecation of increased outside contact and interaction is another element, including even those innocent reactions of community supporters just mentioned.

However, less expected sources of negativity toward animal sacrifice include aspects of sympathetic "reporting," or sanitized presentations of Maya religion by scholarly supporters and activists. For example, Maya "Cosmovision" or "Maya Spirituality" is much discussed in the popular press, as well as more scholarly publications, especially in Guatemala and Mexico. Note that even in using the romanticized term "cosmovision" there is an avoidance of the word "religion," a reluctance and careful distinction that does not put these Maya beliefs in a contradictory stance as an alternative to Catholicism, Protestantism, Mormonism, or the other common formal religions of Guatemala and Mexico (religions that are practiced by most of the Maya themselves). Yet the distinction is false since the highly variable indigenous beliefs and practices are completely folded into Christian beliefs and practices – which are

also highly variable. Religion is a messy business; "Cleaning it up" for presentation with unthreatening terminology is part of the broader phenomenon of public presentation which also includes the omission or suppression of animal sacrifice.

Specifically regarding blood sacrifice, the current popular culture, publications, and events in Guatemala presenting Maya spirituality either omit its discussion, or only refer to it obliquely. The government and political parties today are courting the vote of the Maya, millions of whom are now registered citizens. In that context, governments and parties reach out with discourse and description of a peaceful, pantheistic Maya – a familiar romanticized image of indigenous North Americans (c.f. Clifton 1990; Price 1990; Hames 2001; McNiven and Russel 2005). Many newspaper articles, television programs, and ceremonies are sponsored by government agencies, Maya organizations, and NGOs that sympathize with the Maya, many of whom, in turn, are sponsored by European, Canadian, U.S. government agencies or UN organizations. Again, there is no pejorative characterization of blood sacrifice, but it is only cited very rarely and with euphemisms or more often is simply omitted. Such omission is consistent in presentations by Maya organizations and leaders, even in formal publications (e.g., Chochoy et al. 2006; Garcia et al. 2009; Lima Soto 1995; Mendez et al. 2008; Palma 2006). The "Cosmovision Maya" as seen in all of these publications tends to discuss "sacrifice" in terms of "offerings" of prayer, candles, intense, or in the metaphorical, not the carnal, sense. It would be difficult to imagine that there is not an awareness here that the presentation of Maya culture is made to a Western audience and to a political and intellectual elite who might disapprove of reporting any element of Maya culture that they felt might possibly be perceived – by anyone – to be damaging or demeaning. It would appear that animal sacrifice has been added to the list of items that are considered dangerous in this regard.

In a similar way, the various national delegations and spiritual guide groups (most internationally or government sponsored) have carried out rituals at Cancuen or the cave sites. These ceremonies are conducted by a small group of Maya spiritual guides from various language groups and regions, sometimes with a larger audience present, or with government officials – and occasionally with some local leaders and some archaeologists. We have attended a dozen of these pan-Maya rituals. Though they often burn lavish quantities of candles and copal there is no animal sacrifice.

At Cancuen, nonlocal Q'eqchi' spiritual leaders have participated in *mayehaks* and *wa'atesinks* in the ruins of the site center and have made offerings at all three of the most "spiritually" charged locations: the small altar in the main plaza (Fig. 7.2), the half buried corbelled vaulted room in the palace (where local sacrifice of fowl often does take place) (Fig. 7.3), and the small patio atop the palace where one of us participated in the above-described hog sacrifice. However, with the nonlocal or the pan-Maya groups the rituals did not involve blood sacrifice of any kind at any of the three levels. In these rituals some local Maya leaders and spiritual guides were present. We can speculate as to what degree the opulent ceremonies of prestigious outside Maya leaders will influence local practitioners and what conscious, or unconscious, models or pressures it creates on their own models of community ritual.

"Editing" of Maya ritual can also be seen in education in Guatemalan textbooks, workbooks, and flyers in newspapers and in national instruction programs on the ancient and modern Maya. These greatly downplay the role of *ancient* human or animal sacrifice, or even auto-sacrifice. In the same way the discussion of modern Maya culture in texts and educational materials presents a "positive" description of sacrificial ritual and generally do not report nor describe animal sacrifice. These formal characterizations provide guidance to students, especially young Maya away from concepts of blood sacrifice. They rewrite or edit ancient Maya culture, the "Maya tradition," and the widely held contemporary Maya rites described earlier. In part this responds to "playing it safe" politically, but also to an understandable response to hideous popularizations like "Apocalypto," and a sincere desire to enhance the image of the Maya. Whether this sanitizing of Maya practice really helps the Maya communities or ultimately hurts them is a key point discussed later.

At the local level the Q'eqchi' educational groups, usually with foreign or national funding, are beginning the establishment of this zone's first secondary schools with educated Maya teachers and a curriculum sensitive to Q'eqchi' culture in this region, extremely positive developments for the communities near Cancuen. Their educational programs include "Maya Spirituality" and rituals are carried out frequently. Again, the offerings and sacrifices consist of great quantities of candles of different colors, flowers, and other objects which are burned in masses of copal incense. The school rites are expensive, intense, and sincere, but do not include blood offerings or blood sacrifice.

Again, these rituals by the educated Q'eqchi' students and teachers of the schools might be taken as a culturally powerful example by local Maya youth, showing the strength of the Maya tradition and its pantheistic sensibility. However, these religious practices introduce a revision of Q'eqchi' religion which modifies the social reproduction of their ritual. As a consequence the young in the communities may come to feel that the blood leaves a stain on their self-esteem. All of these omissions in the reporting, education, and cultural reproduction of the more sanguinary elements of modern Maya ritual seem to be altering general Q'eqchi' religious practice. Although, obviously, these forms of "auto-repression" are merely *some* of the pressures affecting and diminishing blood sacrifice.

Note that no one is actively coercing the communities to change their forms of sacrifice. Yet animal sacrifice is "retreating" in several ways. It is less frequent, it seems more often to be held in less visible contexts, and it is more common in more remote, less developed Catholic communities (admittedly, this is a subjective non-statistical evaluation based on our own experience with about 20 communities in the Cancuen and northern Alta Verapaz region). In rituals with "outside" participants, animal sacrifice is held only in the more private stage of the ritual and, more often there is no blood sacrifice at all. These factors in under-reporting or the omitting blood sacrifice in education, in Maya movement articles and publications, in externally sponsored public events have affected the social reproduction of Q'eqchi' practices. Blood sacrifice continues to be a major element, though one many, in the events in which we participate, but its distribution and frequency appear to be diminishing. Thus, we hypothesize that the retreat of blood sacrifice is the result, not only of

Christian evangelism, direct repression, community fragmentation, and emigration, but of identity construction by a more educated (in Western terms) Maya elite, and by "auto-repression by the Q'eqchi' themselves that is part of the construction of an "acceptable" Maya identity.

The role of self-esteem in the retreat of blood sacrifice may also be verified by defensive comments and reactions from some local community and spiritual leaders. On a number of occasions of rituals involving blood sacrifice we have been told by such leaders that they "are better Christians" or "better Catholics" than the Catholics in Coban (the largest city several hours south) or "the people in the capital" (Guatemala City). The reasons given for this are several. One is that local Q'eqchi' complete the full rituals, "*todos los ritos*," a reference to the fact that some rites can continue in multiple stages for 3 days and that the local Q'eqchi' version of the Catholic Mass, *La celebración de la Palabra*, lasts from about 7:00 a.m. to 2:00 p.m. and on special days begins with activities the day or night before. Another reason cited is that "we build their own churches," which is true. Some of the leaders and *ancianos* know the Bible very well, and offer another reason. We have been told, during or after rites with traditional mixtures including blood and with the butchering for the feast, that the "Guatemalans [i.e., non-indigenous] have forgotten the Old Testament" and that is why they don't do the sacrifices like the Hebrews. They noted that the Q'eqchi' "like the chosen people, the Jews, sacrifice animals" and use blood and some portions of meat in their rituals.

What is interesting is that these comments were offered without solicitation or questions. We have also noted that when the rites or Q'eqchi' are explained to visiting Western patrons animal or blood sacrifice is not mentioned at all, unless they are explicitly asked about it. Of course, it is speculation as to motives, but we regard these comments as defensive, an understandable response in the midst of the host of factors described earlier that are subtlety, or overtly, deprecatory of these practices, as they will be perceived by others. On this point recall the earlier discussion of Western sensibilities (the "denial"), one example of which was the revulsion at even the reminder of the butchering involved in the feasts or at even seeing the animals to be consumed. In a more subtle way even these visits by Western donors might augment the other more powerful influences that give blood sacrifice negative connotations.

Maya Sacrifice in the Contemporary "Panopticon"

Processes and forces of change in the role and nature of Q'eqchi' beliefs and practices now include a host of observers and "editors" of Maya culture. The popular presentations, public ceremonies, and the publications even by Maya organizations usually involve sponsorship, coordination and supervision by external agencies, the UN, or the government.

Meanwhile, the contemporary situation of the Maya communities and Maya religion in Guatemala have been moving through a rapid dynamic making outdated

even recent ethnographic and political studies. The current situation of pressures on Q'eqchi' culture is not like that described by Wilson (1995), nor Cabarrus (1998), nor the general Maya predicament described by Menchu (1983), Carmack (1988), Arias (1990), or Smith (1990), nor even in more recent texts of description and advocacy like those of Esquit (1997), Fischer and Brown (1996), Montejo (1999), Nelson (1999), and Warren (1998). In the current situation the army is out of the picture, but the Maya are still subject to repression, poverty, and police abuse. Now, however, drug traffic, gangs, ethanol and oil production are among their principal problems of the Q'eqchi' Maya. Yet, perhaps the most powerful external influence on the specifics of Q'eqchi' religion – and perhaps Maya ritual in general – are that host of observers, commentators, political solicitors, advocacy organizations, and sponsors of Maya cultural activities and development. Such groups, especially "Maya" NGOs, often underestimate the variability of Maya practice and tend to homogenize and "edit" it to be compatible with the cultural sensibilities of the UN, North America, and Europe – the financiers of their activities. Those sensibilities and concern for the image – and, thus, presumably, the well-being – of the Q'eqchi' seem to leave a rapidly shrinking space for Q'eqchi' animal sacrifice.

Assumptions among advocacy groups include the belief that blood sacrifice and related practices have been exaggerated and that overemphasis should be corrected. Alternatively, they believe that *any* discussion of those practices themselves should be underreported or even discouraged because they will hurt the Q'eqchi' image and, thus, worsen their situation. Of course, either the assumption or the reality (or both) that blood sacrifice will be negatively perceived goes back to our own Western sensibilities and a very contested contemporary ethic of multicultural and cross-cultural tolerance, yet with the politicizing of description (critiqued below).

The deprecation of blood sacrifice may be more intense for the Q'eqchi', since they are often characterized by even the Maya of other linguistic groups (e.g., K'iche and Kaqchikel), as well as by ladinos, as being more violent because of the prevalence of lynching and looting in the Q'eqchi' areas. They are also disparaged as "less Maya" given their lack of beautiful complex woven Maya fabrics for their clothing and their less impressive rituals. We have encountered such comments innumerable times – even from Maya leaders in the Ministries or NGOs. The Q'eqchi' are aware of these prejudices and they are deeply resented, yet it may also be that they are easily internalized. The most effective countermeasure we have found is information, not distortions, in reporting to others. These distortions or omissions still leave the issue of damaging Q'eqchi' self-esteem. Yet, we have not found it difficult to explain that all of those issues of aggression and corporality are attributable to the statistically demonstrable higher levels of all forms and symptoms of poverty, illiteracy, and desperation among the Q'eqchi' of the Alta Verapaz and southern Peten.

In the current situation the Q'eqchi', and really all Maya, in Guatemala are in a "Panopticon" in Bentham's (1995) and Focault's (1975, 1983) terms. They are observed, "reported upon," encouraged, sponsored and, thus, *redefined* by their observers. Now these include not just evangelists, priests, the military, and anthropologists, but also the great array of supporters, observers, sponsors, and pan-Maya

leaders, described earlier. Add to them many dozens of NGOs, Peace Corp workers, students writing theses from abroad and especially from Guatemalan universities, public schools, additional government organizations at the level of their states (Departments) and large counties (Municipios), "cultural tourists," and (oh yes!) archaeologists. All of these are busy observing and defining what is "real" Maya culture or real "Q'eqchi" culture – often in some generic "Maya" romanticized sense.

Most of these are sympathetic advocates who fight for what the Maya need, their basic rights, and their positive image. Q'eqchi' culture is in another of the endless phases of reformulation, but this time not just from outside overt pressure or from their own internal resistance to that pressure or from various forms of internal evolution of their traditions. Now, in their modern *panopticon* many Q'eqchi' have internalized the perspectives of their observers, and are culturally "reproducing" those perspectives. At the end of the chain of support and dependency are the Western financiers of much of the *panopticon* with their Western values and attitudes.

Ethics and Outcomes

The logic of all of these forms of constructing a modified Maya identity, consciously or an consciously, through modification of practice or in positive reporting or Maya education is ultimately based on a utilitarian ethic that Maya groups and communities will be more positively perceived and will benefit if we downplay or omit description of contemporary, or ancient, Maya blood sacrifice.

There are serious problems with this approach. Like most recent discussions of ethics in reporting, evaluation, or action in anthropology there is an assumption that what is "ethical" is self-evident. There is no comparative evaluation using the various forms of ethical theory. The result is an unthinking judgment of what is ethical in terms of open multicultural tolerance, but with reporting or with actions that will protect and assist those studied. The problem is, however, that such an approach cannot escape an unconscious Western perspective on positive actions. Philosopher Alain Badiou insightfully assesses such an unthinking multicultural ecumenism as a façade with internally defined limits when it comes to practices that are truly alien to us. As Badiou (2001:24) has critiqued such logic:

> …Self-declared apostles of ethics and of the "right to difference" are clearly *horrified by any vigorously sustained difference* … As a matter of fact, this celebrated "other" is acceptable only if he is a *good* other – which is to say what, exactly, if not *the same as us*? …as a result, the respect for differences applies only to those differences that are reasonably consistent with this [emphasis by Badiou].

Such ethnocentrism is the inevitable consequence of not introspectively evaluating problems through the prism of alternative approaches to ethical theory. One alternative ethic is the neo-Kantian "respect for persons" an imperative to not attempt to use or manipulate the behavior of others. Others include the approach of Virtue Theory which argues that we should choose the course of action that is consistent with our own definition of individual virtues, mandates, and justice.

For scholars and scientists, this would tend to guide us to the Aristotelian ethic of "truth," as we can perceive it, and the virtue of "courage" in reporting it. We have learned that the great advantage of Virtue Theory is that, unlike Utilitarianism, it can be used to make decisions at the time of actions without attempts (usually unsuccessful) to calculate outcomes. Of course, these ethical tools and others each have their flaws, but they do provide an alternative "lens" to examine our actions.

On the other hand the ethics of not reporting Maya animal sacrifice or other "offensive" practices is based on a Utilitarian logic that to do so would damage the situation or the opportunities of the Maya in the Western world which they now inhabit. The great defect in the Utilitarian logic of sanitizing Maya ritual is the fundamental flaw found in all Utilitarian ethics, especially when dealing with social engineering: It is founded on the fallacious assumption that outcomes are knowable, or even reasonably predictable. There are circumstances in which this gamble is safer, but in politics and social action it has a terrible record. We would argue that it is particularly wrong to play dice with culture because it is the inequity of our Western "power/knowledge" (Foucault 1970, 1983) that is really defining esteem, self-esteem, or self-deprecation in the Maya communities. Specifically, Western sensibilities (in this case delusions that are hard to justify) are the source of the editing and consequent changes and our influence is based ultimately on North American and European control of the funding of education, information, and political and economic opportunities of the Maya groups.

Regarding unknowable outcomes we would argue that efforts to gloss over, avoid, or omit discussion of blood sacrifice will only leave unanswered the more powerful negative imagery and far greater reach of films like "Apocalypto," and other popular media supporting prejudices against indigenous peoples and specifically Guatemalan views of the Q'eqchi'. The bloodless version of ritual as sponsored texts and other presentations will lose credibility in the face of existing visible ethnographic realities and the ancient archaeological evidence which will undermine what are really naïve, if not condescending, attempts at polishing the Maya image. They simply won't work.

Furthermore, these Utilitarian predictions and efforts to purge the blood from Q'eqchi' ritual may actually damage the integrity and resistance of Maya communities. Whatever the motives these concessions to Western sensibilities are a leveling of "difference." It is these very differences that advocates of indigenous culture had endeavored to preserve. Remember that Wilson's studies showed that Q'eqchi' ritual, specifically blood sacrifice, not only "survived" attempts at extirpation, but were "revitalized" as an effective form of resistance to cultural genocide (Wilson 1991, 1995; c.f. Warren 1993). Also note that during the civil war, and after, depictions of the *ancient* Maya as aggressive and militaristic were embraced by rebel Maya groups at the same time that such presentations of the Maya in archaeology were being condemned by anthropological critics (Demarest and Garcia 2003; c.f. Cohodas 2001).

At the community level there may also be a negative effect of the omission or denigration of animal sacrifice. As discussed earlier, externally sponsored cultural education and bloodless pan-Maya rituals near Cancuen and elsewhere may generate

disparaging attitudes (implicit or explicit) toward blood sacrifice. In turn, that could undermine the authority of the traditional *guias espirituales* and elders, creating an intergenerational conflict and division within the communities. The integrity of the communities is already besieged by pressures and incentives to fragment. These divisive forces come from assaults on property rights by industrial ethanol agriculture, oil production, and a host of other threats to land tenure often leading to fragmentation and emigration. We as participants in the community development projects have observed daily the attempts of the Q'eqchi' men's and women's committees attempts to wrestle with these powerful forces daily (see also Garcia 2003a, 2007; Del Cid and Garcia 2005). Additional external factors instigating intergenerational and intra-community conflicts regarding on belief and ritual would add yet another destabilizing factor (however well intentioned). Note that such intergenerational conflict over belief systems closely parallels the long observed and continuing impact of denouncement of traditional practices by evangelists which has the same divisive effect (Cabarrus 1998:140–158; Garcia 2003a, 2007; Garrad-Burnett 1998; Siegel 1949).

In terms of the ethics of reporting or not reporting, in the case of the blood sacrifice of the Q'eqchi' the choice seems to us to be less difficult than for many of the ethical dilemmas that anthropologists face around the world. As argued and cited earlier, we simply need to *educate* – and not the Maya, but our own Western elite audiences, agencies, and students, especially in Guatemala and Mexico. Here the *panopticon*, the hundreds of eyes and perspectives on the Maya in Guatemala, may actually help us; it provides us a public platform. Reports and provocative approaches, like this one, should be disseminated with a clear description and discussion of animal sacrifice, together with an explicit critique of our own misperceptions of blood sacrifice, our own core sensibilities, our own denial of corporality and the contradictions therein.

At this point in the history of multicultural relations, and the history of Guatemala, we believe that we can win the battle of perceptions with education and with the facts as best we can report them rather than sanitizing or otherwise editing our presentation of Q'eqchi' culture. Perhaps in the process, the reporting, critique, and debate can lead to a better understanding of our own Western state of denial of the realities of corporality and of death – of the presence of the blood.

References

Adams, Richard N. (1952). *Creencias y prácticas del indígena*. Guatemala: Instituto Indigenista Nacional.

Alcoff, Linda. (1991). The Problem of Speaking for Others. *Critical Inquiry* 20:5–32.

Arias, Arturo. (1990). Changing Indian Identity: Guatemala's Violent Transition to Modernity. In: *Guatemalan Indians and the State*, 1540–1988. C. Smith (ed.). Pp. 230–257. Austin: University of Texas Press.

Badiou, Alain. (2001). *Ethics: An Essay on the Understanding of Evil*. New York: Verso Press.

Becker, Ernest. (1973). *The Denial of Death*. New York: The Free Press.

Bentham, Jeremy. (1995). *The Panopticon Writings*. Miran Bozovic (ed.). London: Verso Press.

Boremanse, Didier. (1998). Maquinas de coser y la espiritualidad maya q'eqchi'. La Vitalidad de la cultura q'eqchi' expresada en el rito wa'atesink. *Segundo Congreso de Estudios Mayas*. Colección Estudios Sociales, No. 59. Guatemala: IDIES, Universidad Rafael Landivar.

Brady, James (ed.). (2009). *Exploring Highland Maya Ritual Cave Use: Archaeology and Ethnography in Huehuetenango, Guatemala*. Austin, Texas: Association for Mexican Cave Studies, Monograph 20.

Brady, James, and Wendy Ashmore. (1999). Mountains, Caves, Water: Ideational Landscapes of the Ancient Maya. In: *Archaeologies of Landscape: Contemporary Perspectives*. Wendy Ashmore and A. Bernard Knapp (eds.). Pp. 124–48. Oxford, England: Blackwell.

Cabarrus, Carlos (1979) La Cosmovisión K'eckchi' en el proceso de cambio. Universidad Centroamericano, San Salvador.

Cabarrus, Carlos Rafael. (1998). *La Cosmovision Q'eqchi' en proceso de cambio*. Guatemala: Editorial Cholsamaj.

Carmack, Robert M. (ed.) (1988). *Harvest of Violence: The Maya Indians and the Guatemalan Crises*. Norman: University of Oklahoma Press.

Carmack, Robert (1998) Escalas de identidad maya: una perspectividad civilizacional. Congreso Mayista, Guatemala. State University of New York Press, Albany.

Carot, Patricia. (1989). *Arqueología de las cuevas del norte de Alta Verapaz*. Cuadernos de Estudios Guatemaltecos I. Mexico City: Centre D'Estudies Mexicaines et Centramericaines.

Castañeda, Quetzil. (1996). *In The Museum of Maya Culture: Touring Chichen Itza*. Minneapolis: University of Minnesota Press.

Castañeda, Quetzil. (2002). *Metaethical Analysis of Archaeological Codes: Towards an Ethic of Interpretation*. Unpublished Manuscript, Facultad de Ciencias Antropológicas, Universidad Autónoma de Yucatan, Mérida.

Chacon Richard and David Dye (eds.). (2007). *The Taking and Displaying of Human Body Parts as Trophies by Ameridians*. New York: Springer Press.

Chacon Richard and Ruben Mendoza (eds.). (2007). *Latin American Indigenous Warfare and Ritual Violence*. Tuscon: University of Arizona Press.

Chochoy, Maria Faviana, P.C. Yaxon, Tzopinel Came, Domingo Jayac, and C.A. Tamap. (2006). *Raxalaj mayab' K'aslemalil Cosmovision maya, plenitud de la vida*. Guatemala: Programas de las Naciones Unidas para el Desarrollo.

Clifton, James A. (1990). The Indian Story: A Cultural Fiction. In: *The Invented Indian: Cultural Fictions and Government Policies*. J. A. Clifton (ed.). Pp. 29–48. New Brunswick: Transaction Publishers.

Cohodas, Marvin. (2001). Towards a More Ethical Mayanist Archaeology: Symposium Proposal. Manuscript: University of British Columbia.

Cojti Cuxil, Demetrio. (1991). *Configuración del Pensamiento Político del Pueblo Maya*. Guatemala City: Asociación de Escritores Mayances de Guatemala.

Cojti Cuxil, Demetrio. (1994). *Políticas para la reivindicación de los Mayas de hoy (fundamento de los derechos específicos del Pueblo Maya)*. Guatemala City: Cholsamaj.

Conklin, Beth A. (2001). *Consuming Grief: Compassionate in an Amazonian Society*. Austin: University of Texas Press.

Del Cid, Mario and David R. Garcia. (2005). Cuevas Candelaria, Alta Verapaz: Desmitificando la Participación Comunitaria en la Conservación del Patrimonio Cultural. In: *Simposio XVIII de Investigaciones Arqueológicas en Guatemala*. J.P., Laporte, B. Arroyo, and H. Mejía (eds.). Pp.375–382. Guatemala: Museo Nacional de Arqueología y Etnología.

Del Cid, J. Mario and Arthur A. Demarest. (2004). Desarrollo eco-turístico del sitio arqueológico Cancuen: Un modelo para la conservación del patrimonio y desarrollo participativo. In: *XVII Simposio de Investigaciones Arqueológicas en Guatemala*, 2003. J.P. Laporte, B. Arroyo, H. Escobedo and H. Mejía (eds.). Pp. 117–127. Guatemala: Museo Nacional de Arqueología y Etnología.

Demarest, Arthur A. (1984). Mesoamerican Human Sacrifice in Evolutionary Perspective. In *Ritual Human Sacrifice in Mesoamerica*. E. Boone (ed.). Pp. 227–247. Washington D.C.: Dumbarton Oaks Research Library.

Demarest, Arthur A. (2002). Sitios Arqueológicos, educación y desarrollo sostenible: Proyecto piloto de Cancuen, Guatemala. *Cultura de Guatemala*, Volume 1. (4th. Congreso de Estudios Mayas Lingüística y Antropología de Guatemala).

Demarest, Arthur A. (2004). *Ancient Maya: The Rise and Fal of a Rainforest Civilization*. Cambridge and New York: Cambridge University Press.

Demarest, Arthur and David R. García R. (2003). Perspectivas Postmodernas Acerca de Arqueología, Derechos Indígenas y Desarrollo Humano: Hacia un nuevo Modelo del Patrimonio Cultural. In: *XVI Simposio de Investigaciones Arqueológicas en Guatemala*, J.P. Laporte, B. Arroyo, and H. Escobedo (eds.). Pp. 16–26. Guatemala: Museo Nacional de Arqueología y Etnología.

Demarest, Arthur A. and David R. Garcia. (2004). Praxis y Ética Radical en los Proyectos de Arqueología y Desarrollo: Nuevos Modelo para el Siglo XXI. Paper delivered at the XVII Simposio de Arqueología de Guatemala, Guatemala City.

Demarest, Arthur, Brent Woodfill, Tomas Barrientos, Mirza Monterroso and Federico Fahsen. (2007). La Ruta Altiplano-Tierras Bajas del Occidente, y el surgimiento y caída de la civilización Maya del Clásico. In: *XXI Simposio de Investigaciones Arqueológicas en Guatemala, 2006*. J. P. Laporte, B. Arroyo and H. Mejía (eds.). Pp. 27–44. Guatemala: Asociación Tikal, Museo Nacional de Arqueología y Etnología.

Demarest, Arthur, Tomas Barrientos, Mélanie Forné, Marc Wolf, Ron Bishop, Claudia Arriaza, Waleska Belches and Jose Luis Garrido. (2008a). La Nueva Historia de la Puerta a las Tierras Bajas: Descubrimientos Recientes sobre la Interacción, Arqueología y Epigrafía del sitio Cancuen. In: *XXI Simposio de Investigaciones Arqueológicas en Guatemala, 2007*. J.P. Laporte, B. Arroyo and H. Mejía (eds.). Pp. 515–531. Guatemala: Asociación Tikal, Museo Nacional de Arqueología y Etnología.

Demarest, Arthur, Brent Woodfill, Marc Wolf, Tomas Barrientos, Ronald Bishop, Mirza Monterroso, Edy Barrios, Claudia Quintanilla and Matilde Ivic. (2008b). De la Selva a la Sierra: Investigaciones a lo Largo de las Rutas Ribereñas y Terrestres del Occidente. In: *XXI Simposio de Investigaciones Arqueológicas en Guatemala, 2007*. J. P. Laporte, B. Arroyo, and H. Mejía (eds.). Pp. 179–193. Guatemala: Asociación Tikal, Museo Nacional de Arqueología y Etnología.

Dreux, Daniel. (1974). *Recherches en Alta Verapaz* (1968–1974). Paris: CERSMT.

Estrada Monroy, Agustín. (1979). *El Mundo Kekchi de la Verapaz*. Guatemala: Editorial del Ejército.

Estrada Monroy, Agustin. (1990). Vida esotérica maya-k'ekchi. *Colección Obra Varia No. 3*. Guatemala: Ministerio de Cultura y Deportes de Guatemala.

Esquit Choy, Alberto and Victor Galvez Borrell. (1997). *The Mayan Movement Today: Issues of Indigenous Culture and Development in Guatemala*. Matthew Creelman (trans). Guatemala: FLACSO.

Fabian, Johannes. (1983). *Time and The Other: How Anthropology Makes its Objects*. New York: Columbia University Press.

Fischer, Edward F. and R. McKenna Brown (eds.). (1996). *Maya cultural activism in Guatemala*. Austin: University of Texas Press.

Foucault, Michel. (1970). *The Order of Things: An Archaeology of the Human Sciences*. New York: Vintage Books.

Foucault, Michel. (1975). *Discipline and Punish: The Birth of the Prison*. Alan Sheridan (trans). New York: Vintage Books.

Foucault, Michel. (1983). The Subject and Power. In: *Michel Foucault: Beyond Structuralism and Hermeneutics*. Hubert L. Dreyfus and Paul Rabinow (eds.). Pp. 208–26. Chicago: University of Chicago Press.

Garcia, A. P., G. Curruchiche, and S. Taquira. (2009). *Ruxe'el Mayab' K'aslemal. Raiz espiritu del conocimiento maya*. Guatemala: Dirección General de Educación Bilingüe Intercultural, Instituto de Lingüística y Educación de la Universidad Rafael Landivar, Consejo Nacional de Estudios Mayas.

Garcia David R. (2002a). Cancuen: el caso pionero de una comunidad q'eqchi y un proyecto arqueológico. *Cultura de Guatemala: 4º Congreso de Estudios Mayas, Lingüística y Antropología*. XXIII, 1:167–177. Guatemala: Universidad Rafael Landivar.

Garcia, David R. (2002b). Cancuen, Guatemala: Sacred, Scientific and Sustainable. *Practicing Anthropology* 24(4):25–30.

Garcia, David R. (2003a). *Los Mayas en Cancuen: Ideología y Religión Alrededor de un Proyecto Arqueológico*: Licenciatura Thesis in Antropology. Departamento de Antropología Universidad del Valle de Guatemala.

Garcia, David R. (2003b). Investigaciones Antropológicas en Cancuén. In: *Proyecto Arqueológico Cancuén, Temporada 2002*. A. Demarest, T. Barrientos, B. Kovacevich, M. Callaghan and L. Luin (eds.). Pp. 595–604. Guatemala: Instituto de Antropología e Historia.

García, David R. (2003c). Vínculos espirituales y religión alrededor de Cancuen. In: *XVI Simposio de Investigaciones Arqueológicas en Guatemala, 2002*, J.P. Laporte, B. Arroyo, H. Escobedo and H. Mejía (eds.). Pp. 10–15. Guatemala: Museo Nacional de Arqueología y Etnología.

García, David R. (2007). Territorio y espiritualidad: Lugares Sagrados Q'eqchi'es en Chisec. In: *Mayanización y Vida Cotidiana: La ideología multicultural en la sociedad guatemalteca*. Vol. 2. Bastos and Cumes (eds.). Guatemala: FLACSO/CIRMA.

Garcia, David, Arthur A. Demarest, and Tomas Barrientos. (2002). El Proyecto Arqueológico Cancuen: Un plan piloto para la interacción entre Arqueología en desarrollo social. In: *XV Simposio de Investigaciones Arqueológicas en Guatemala*, J.P. Laporte, H. Escobedo, and B. Arroyo (eds.). Pp. 401–411. Guatemala: Museo Nacional de Arqueología y Etnología.

Garrard-Burnett, Virginia. (1998). *Protestantism in Guatemala: Living in the New Jerusalem*. Austin: University of Texas Press.

Goffman, Erving. (1963). *Behavior in Public Places: Notes on the Social Organization of Gatherings*. Glencoe, IL: The Free Press.

Goffman, Erving. (1969). *The Presentation of Self in Everyday Life*. London: Allen Lane.

Hames, Raymond. (2001). The Political Uses of Ethnographic Description: Ethical Issues Raised by Patrick Tierney's *Darkness in El Dorado. Public Anthropology*. Electronic document http// www.publicanthropology.org/journals/enaging ideas.

Hubert, Henri, and Marcel Mauss. (1964). Sacrifice: Its Nature and Function. S. Hugh-Jones, (trans). London: Cohe and West.

Landa, Diego de (1975). *The Maya: Diego de Landa's Account of the Affairs of Yucatan.* A. R. Pagden (trans.). Chicago: J. Philip O'Hara.

Levinas, Emmanuel. (1986). *Time and the Other*. Pittsburgh: Duquesne University Press.

Lima Soto, Richard E. (1995). *Aproximación a la cosmovisión maya*. Guatemala: Universidad Rafael Landivar.

Maler, Teobert. (1908). Exploration of the Upper Usumacinta and Adjacent Region: Altar de Sacrificios; Seibal; Itsimté-Sácluck; Cankuen. *Memoirs of the Peabody Museum of Archaeology and Ethnology*, Vol. 4 No. 2. Cambridge MA: Harvard University.

Mauss, Marcel. (1967). *The Gift: Forms and Functions of Exchange in Archaic Societies*. Ian Cunnison (trans.). New York: Norton.

McAnany Patricia A. (1995). *Living with the Ancestors: Kinship and Kingship in Ancient Maya Society*. Austin: University of Texas Press.

McNiven, Ian J. and Lynette Russel. (2005). *Appropriated Pasts. Indigenous Peoples and the Colonial Culture of Archaeology*. Lanham, MD: Altamira Press.

Menchu, Rigoberta. (1983). I, *Rigoberta Menchu: An Indian Woman in Guatemala*. Elisabeth Burgos-Debray (ed.). London: Verso Press.

Mendez L., F. Valey, and D. Hernandez. (2008). *Historia mayab' Capitulo: Mayer Maya'nawom B'aanuhom*. Guatemala: Asociacion Maya UK'U'XB'E.

Mock, Shirley Boteler (ed.). (1998). *The Sowing and the Dawning: Termination, Dedication, and Transformation in the archaeological and Ethnographic Record of Mesoamerica*. Albuquerque: University of New Mexico Press.

Montejo, Victor. (1993). In the Name of the Pot, the Sun, the Broken Spear, the Rock, the Stick, the Idol, AD Infinitum Ad Nauseam: An Expose of Anglo Anthropologists' Obsessions with and Invention of Mayan Gods. *Wicaso SA Review* 9(1):12–26.

Montejo, Victor. (1999). *Voices from Exile: Violence and Survival in Modern Maya History*. Norman: University of Oklahoma Press.

Nelson, Diane M. (1999). *A Finger in the Wound: Body Politics in Quicentennial Guatemala*. Berkeley: University of California Press.

Pacheco, Luis. (1985). *La religiosidad Maya-Kekchi alrededor de maíz*. San José, Costa Rica: Editorial Escuela Para Todos.

Pacheco, Luis. (1988). *Tradiciones y costumbres del pueblo Maya kekchi: Noviazgo, matrimonio, secretos*, *etc.* San José, Costa Rica: Editorial Ambar.

Palma, D.A. (2006). Conocimientos y practicas mayas: una aproximación. *Revista Voces* (*Instituto de lingüística y educación*) 1(2):41–119.

Price, John A. (1990). Ethical Advocacy Versus Propaganda: Canada's Indian Support Groups, In: *The Invented Indian: Cultural Fictions and Government Policies*. J. A. Cliffton. (ed.). Pp. 255–270. New Brunswick: Transaction Publishers.

Riding In, James. (1992). Without Ethics and Morality: A Historical Overview of Imperial Archaeology and Americans Indians. *Arizona State Law Journal* 24(1):1–35.

Sapper, Karl. (1985). *The Verapaz in the Sixteenth and Seventeenth Centuries: A Contribution to the Historical Geography and Ethnography of Northeastern Guatemala*. Theodore Guttman (trans). Los Angeles: Institute of Archaeology, University of California, Occasional Paper 13.

Schack, Jon. (1984). The "Tzuultaq'a": Religious Lore and Cultural Processes among the Kekchi. *Belizean Studies* 12(5):16–29.

Schele, Linda and David Freidel. (1991). *A Forest of Kings*. New York: William Morrow.

Schele, Linda and Mary E. Miller. (1986). *The Blood of Kings: Dynasty and Ritual in Maya Art*. New York: George Braziller.

Scheper-Hughes, Nancy. (1995). The Primacy of the Ethical: Propositions for a Militant Anthropology. *Current Anthropology* 36(3):409–440.

Scotchmer, David. (1986). Convergence of the Gods: Comparing Traditional Maya and Christian Maya Cosmologies. In: *Symbol and Meaning Beyond the Closed Corporate Community: Essays in Mesoamerican Studies*. G.H. Gossen (ed.). Albany, NY: SUNY Institute in Mesoamerican Studies.

Sharer, Robert J. and D.W. Sedat. (1987). *Archaeological Investigations in the Northern Maya Highlands* University Museum Monograph 59. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology.

Sharer, Robert. J. and Loa P. Traxler. (2006). *The Ancient Maya*. Stanford: University of California Press.

Siegel, Morris. (1949). Religion in Western Guatemala: A Product of Acculturation. *American Anthropologist* 43:62–76.

Smith, Carol A. (ed.). (1990). *Guatemalan Indians and the State*, 1540–1988. Austin: University of Texas Press.

Stoll, David. (1988). Evangelicals, Guerrillas, and the Army: The Ixil Triangle Under Rios Montt. Publicado. In: *Harvest of Violence*. Robert Carmack (ed.). Pp. 90–116. Norman: University of Okahoma Press.

Tedlock, Dennis. (1985). *Popol Vuh: The Definitive Edition of the Mayan Book of the Dawn of Life and the Glories of Gods and Kings*. New York: Touchstone.

Thompson, J. Eric S. (1938). Sixteen and Seventeen Century Reports on the Chol Mayas. *American Anthropologist* 40:584–604.

Warren, Kay B. (1993). Interpreting the Violence in Guatemala: Shapes of Kaqchikel Silence and Resistance in the 1970s and 1980s. In: *The Violence Within: Cultural and Political Opposition in Divided Nation*, Kay B. Warren. (ed.). Pp. 25–56. Boulder, CO: Westview Press.

Warren, Kay B. (1998). *Indigenous Movements and Their Critics: Pan-Maya Activism in Guatemala*. Princeton, NJ: Princeton University Press.

Watanabe, John. (1995). Unimagining the Maya: Anthropologists, Others, and the Inescapable Hubris of Authorship. *Bulletin of Latin American Research*, 14(1):25–45.

Wilson, Richard. (1991). Machine Guns and Mountain Spirits. *Critique of Anthropology* 11(1):33–61.

Wilson, Richard. (1995). *Maya Resurgence in Guatemala: Q'eqchi' Experiences*. Norman: University of Oklahoma Press.

Woodfill, Brent. (2010). *Ritual and Trade in The Pasion-Verapaz Region Guatemala*. Vanderbilt Institute of Mesoamerican Archaeology Series, Vol. 5. Nashville, TN: Vanderbilt University Press.

Woodfill, Brent, Matt O'Mansky, and Jon Spenard. (2002). Asentamiento y sitios sagrados en la región de Cancuen. In: *XV Simposio de Investigaciones Arqueológicas en Guatemala, 2001*. J.P. Laporte, H. Escobedo and B. Arroyo (eds.). Pp.794–805. Guatemala: Museo Nacional de Arqueología y Etnología.

Woodfill, Brent and John Spenard. (2001). Investigaciones espeleo-arqueologicas regionales de Cancuen. In: *Informe Temporada 2001 Proyecto Arqueológico Cancuen*, Arthur A. Demarest and Tomas Barrientos (eds.). Pp. 235–250. Guatemala: Instituto de Antropología e Historia.

Chapter 8
Relativism, Revisionism, Aboriginalism, and Emic/Etic Truth: The Case Study of *Apocalypto*

Richard D. Hansen

Abstract Popular film depictions of varied cultures, ranging from the Chinese, Africans, and Native Americans have repeatedly provided a variant perception of the culture. In works of fiction, this flaw cannot only provide us with entertainment, but with insights and motives in the ideological, social, or economic agendas of the authors and/or directors as well as those of the critics. Mel Gibson's Maya epic *Apocalypto* has provided an interesting case study depicting indigenous warfare, environmental degradation, and ritual violence, characteristics that have been derived from multidisciplinary research, ethnohistoric studies, and other historical and archaeological investigations. The film received extraordinary attention from the public, both as positive feedback and negative criticism from a wide range of observers. Thus, the elements of truth, public perception, relativism, revisionism, and emic/etic perspectives coalesced into a case where truth, fiction, and the virtues and vices of the authors and director of the film as well as those of critics were exposed. A fictional movie such as *Apocalypto* can provide entertainment and/or evoke moods and thoughts that usually extend beyond the "normal" as a work of art. In documentaries and academic publications and presentations, however, such flaws are much more serious, and provide distortions and misrepresentations of the "truth" that are (equally) perpetuated in literature and popular perceptions.

While certain criticisms of Hollywood portrayals of varied cultures can be justified, particular academic and social agendas equally use aboriginalism, relativism, and revisionism as an attempt to distort the past and manipulate academic and social fabric. Claims of "cultural or religious inequality" are flawed if and when they distort truth, as best determined by multidisciplinary scientific studies, involving a full range of scientific query and investigation, ethnography, ethnohistory, and extensive

R.D. Hansen, Ph.D. (✉)
Department of Anthropology, Institute of Mesoamerican Studies, Idaho State University, 921 South 8th Ave., Stop 8005 Gravely Hall, Pocatello, ID 83209, USA

Foundation for Anthropological Research & Environmental Studies (FARES), Pocatello, ID 83209, USA.
e-mail: hansric2@isu.edu

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methodological procedure. A solution lies in a return to the philosophical foundations of science a la Peirce, Hempel, and Haack, among others, to organize and understand an objective truth as part of the ultimate goal in anthropological research.

Introduction

One of the more common struggles within anthropological disciplines is the concept of an emic interpretation (meaning the native or indigenous perceptions), as opposed to an etic interpretation (the perceptions of the observer) (Pike 1967). In some cases, a "revisionist" will ignore the facts and both the etic and emic interpretations and propose a popular perspective that is void of truth. Some more recent movements such as "aboriginalism" provides a perspective that "Indigenous societies and cultures possess qualities that are fundamentally different from those of non-Aboriginal peoples" (McGhee 2008:579). The avoidance of both the etic and emic perspectives will present serious flaws to an investigator and provides ample argument for a strong multidisciplinary approach to anthropological and archaeological research in the establishment of scientific "facts." One of the more interesting examples of this problem became apparent in the release of the blockbuster film, *Apocalypto*, directed by actor/director Mel Gibson and produced by Mel Gibson and Bruce Davey, with Executive Producers Ned Dowd and Vicki Christianson. The film spurred a chorus of criticisms and complaints from some critics and members of the academic and native communities, a curious reaction in view of the fact that the film is entirely a work of fiction. In other cases, extraordinary praise and complements came from both critics and academic and Native American communities. A special session was organized at the American Anthropological Association meetings in 2007 entitled "*Critiquing Apocalypto: An Anthropological Response to the Perpetuation of Inequality in Popular Media,*" which merited being termed a "Presidential Session" sponsored by the Archaeology Division and the Society for Humanistic Anthropology. The obvious glaring flaw is that one would have to assume that it must have been established previously, somehow, that the film was a "perpetuation of inequality." One of the organizers wrote "Mel Gibson's *Apocalypto* is one recent example within a history of cinematic spectacles to draw directly upon anthropological research yet drastically *misinform* its audience about the nature of indigenous culture" (Ardren 2007a; emphasis mine). Additional recent movies depicting the past, such as *Gladiator (*Ridley Scott, director). *Spartacus (*Stanley Kubrick, director), *Troy (*Wolfgang Peterson, Director), or Gibson's *Braveheart* and *Passion of the Christ* proved extraordinarily successful at the box office (*Gladiator*, *Braveheart*, *Passion of the Christ*), but had similar criticisms of "numerous historical inaccuracies and distortions of fact" from critics and academicians (e.g., Winkler and Martin 2004: Xi, 2007). The fascinating dichotomy of the historical truths and inaccuracies depicted in films and the emic and etic issues involved in popular movies representing the past, and in particular, the case of *Apocalypto*, has prompted a review of the issues of perception, relativism, revisionism, and truth

and demonstrates an important need to re-evaluate anthropological trends and interpretations. In this case, the concept of aboriginalism or "exceptionalism" may have been infused in the criticisms, where it is assumed that "Aboriginal individuals and groups…assume rights over their history that are not assumed by or available to non-Aboriginals" (McGhee 2008: 581). It is clear that many of the criticisms were a direct reflection of the disapproval of Gibson's previous behavior (Bunch 2006), as well as a standing resentment because of the film *Passion of the Christ*, a movie which seemed to serve as a "pebble in the shoe" for many liberal, atheist, and in particular, Jewish people. In other cases, the criticisms were valid observations of the license taken by Gibson and the film staff in different aspects of the film *Apocalypto,* much of which was done for aesthetic reasons or for story expediency. One of the more comprehensive summaries of the film, the issues, and interviews as well as a host of conflicting criticisms are found online with Flixster (http://www.flixster.com/actor/mel-gibson/mel-gibson-apocalypto).

Some of the quibbling may have been as simple as the disagreement as to whether the High Priest had a frown or a smile on his face when he extracted a human heart in *Apocalypto*. This is a benign discussion and a shallow argument. A far more serious issue however, is the posture that some scholars and Native Americans have taken, which denies that human sacrifice among the Maya even took place. Such positions fall into concepts of "revisionism," "aboriginalism," and "relativism" that signals a threat to truth and understanding of the human saga. This chapter will explore this dichotomy through an examination of the historical setting of *Apocalypto*, the acclaims and criticisms of the film, and explore in greater depth just one of the criticisms that the Maya were not practicing large-scale human sacrifice by the Late Postclassic period, and that depiction as such represented an "inequality," "racism," and "slander." The reality of the depicted sacrifice scenes in *Apocalypto,* as determined by ethnohistoric, ethnographic, iconographic, and archaeological data suggests that many of the critics may have subscribed to a revisionist/relativist/aboriginalist perspective which distorts the past and creates a philosophical dilemma that can be addressed by a return to a scientific model proposed by Peirce, Hempel, Haack, and others as a theoretical solution to the issue.

Historical Context

In August 2004, this author (Hansen) was requested to attend a series of meetings at the headquarters of Icon Productions in Santa Monica, California to discuss the ancient Maya. The interests of Mel Gibson, Farhad Safinia, and producer Stephen McEveety of Icon Productions were the perspectives of ancient Maya culture that were observed in the National Geographic film, "Dawn of the Maya" (National Geographic 2004). The meetings resulted in lengthy discussions on nearly every aspect of Maya civilization, chronologies, and societal evolution. This further evolved into several trips to the Maya area, particularly Tikal and the Mirador Basin of northern Guatemala, where Gibson asked questions, toured sites, engaged in

discussions with local Maya inhabitants and workers, and explored the environmental and cultural aspects of Maya civilization. His interest in the Preclassic societies of the Mirador Basin, the Classic cultures as portrayed at Tikal, Palenque, and Copan, and the Postclassic cultures of Mayapan, Tulum, and Iximche led him and associate Farhad Safinia to write the story line for a movie (see Padgett 2006a, b:60). In particular, he wanted a film to be a "chase scene" because it had the more "universal appeal" and was something that he had wanted to do for some time (Flixster 2006:10). A script was drafted by Gibson and Safinia, and research was implemented for setting and filming locations. Hotel facilities were reviewed in Guatemala, Belize, Costa Rica, and Mexico, with the final location selected in Veracruz, Mexico, because of adequate hotel space, ease of access, abundant industrial capability, and sufficient infrastructure for a movie of this nature.

An elaborate set depicting a Maya Postclassic period city was built to accommodate the story. Gibson and his award winning set production engineer, Thomas E. Sanders, built the entire set on an area of about 40 acres (35 ha) on a sugar cane farm bordering a small section of forest behind a hill near the small town of Boqueron, located about 40 miles to the west of Veracruz. A common misconception is that the film used computer graphics to depict the city, which was entirely untrue. Hansen was brought in for consultations and observation on two separate occasions during the middle and termination of the construction of the ancient cityscape. The site selected was, interestingly enough, an ancient village site, as detected by numerous Preclassic figurine and ceramic fragments found in the area. The basic idea was to construct a Postclassic city, complete with pyramids, structures with columns, outset stairways, causeways, and residence structures (Figs. 8.1–8.4). Indeed, the degree of detail in the city was extraordinary. Site designer Tom Sanders was quoted as saying that the film was "the hardest set he had ever worked on" (Padgett 2006a, b:61; personal communication to Hansen 2006), a revealing comment considering the extraordinary sets that Sanders has created and worked on (e.g., *Saving Private Ryan*, *Hook*, *Jurassic Park 3, Superman*, *Braveheart*, *Dracula*). Corn processing facilities, cacao preparation areas, basketry and mat production areas, cotton processing and weaving areas, tropical fruit, bean, and chile production areas, hide tanneries, textile dyeing vats, wood working shops, butcher shops, markets, ceramic and figurine manufacturing, sweat baths, monuments, and residences were all prepared with maximum detail (Figs. 8.5–8.9). Corn husks, iguana skins, mats, turtle shells, ceramic bowls, cooking pots, storage vessels, gourds, baskets, mats, hammocks, ropes, wooden artifacts, lithic waste flakes, grinding stones, feathers, and dogs, ducks, and turkeys were all present within the extensive residential zone (Figs. 8.10–8.14). Existent Ceiba trees, the sacred trees of the Maya, were left standing and incorporated within the city as part of the props (Fig. 8.15). The entire set was extraordinary in detail and represented a authentic reproduction seldom, if ever, provided on film sets. For an anthropologist, it was a time machine, because the elements, both organic and nonorganic included in the set were all characteristic of urban and village Maya societies, both past and present (Figs. 8.16–8.19). However, since part of the story had to involve opulence and splendor, Gibson chose to have a small portion of the reconstructed city, which was the primary plaza and

Fig. 8.1 General view of the cityscape of Apocalypto, near Veracruz Mexico (Photo: R.D. Hansen)

Fig. 8.2 Cityscape designer Thomas Sanders in front of some of his creations for the movie Apocalypto (Photo: R.D. Hansen)

Fig. 8.3 Postclassic architecture near one of the streets of the city (Photo: R.D. Hansen)

Fig. 8.4 The Tzompantli and Postclassic period architecture near the main plaza on the movie set. Note the *vertical poles* similar to that detected at Chichen Itza (Photo: R.D. Hansen)

Fig. 8.5 Market scene in the Postclassic city set of Apocalypto (Photo: R.D. Hansen)

Fig. 8.6 Postclassic period architecture near the market in the cityscape of Apocalypto (Photo: R.D. Hansen)

Fig. 8.7 Postclassic period architecture with drying chile pods in the city scape (Photo: R.D. Hansen)

Fig. 8.8 Postclassic period butcher shop in city scape of Apocalypto (Photo: R.D. Hansen)

Fig. 8.9 Ceramic production area in the cityscape of Apocalypto (Photo: R.D. Hansen)

Fig. 8.10 Residential area with basketry and mat production materials (Photo: R.D. Hansen)

Fig. 8.11 Domestic refuse near one of the residence structures in the cityscape of Apocalypto. (Photo: R.D. Hansen)

Fig. 8.12 Domestic materials consisting of crocodile hides, armadillo skins, turtle shells, and ceramics with a stone mortar and pestle (Photo: R.D. Hansen)

Fig. 8.13 Domestic materials in a residence construction (Photo: R.D. Hansen)

Fig. 8.14 Domestic refuse outside a residence in the Apocalypto cityscape (Photo: R.D. Hansen)

Fig. 8.15 Ceiba tree, the sacred tree of the Maya, left in situ in the city scape of Apocalypto (Photo: R.D. Hansen)

flanking structures, remain in the Classic period style since they generally were larger structures than those of the Postclassic period (Fig. 8.20). A compromise was reached with the Classic period structures showing age with evidence of deterioration and decay on the buildings. In fact, to accommodate the "reality" of the setting, several of the larger Classic period structures were undergoing "remodeling" into architecture more characteristic of the Postclassic period (Figs. 8.21 and 8.22). Even though the entire city was fictitious, the idea was to replicate the situation like that found at sites such as Cobá, Oxtankah, or Ichpaatun in Quintana Roo, Mexico (Boot 2007), where large, earlier Classic and early Postclassic period structures were surrounded by a later Postclassic city. Yet, the primary buildings of the main plaza were designed to more closely resemble Tikal (Guatemala) because of the obvious manifestations of splendor and cultural achievement. Therefore, some of the primary examples of art and architecture were cobbled together as general, generic Maya images. Chenes and Puuc art were selected on the facades of temples, primarily due to "artistic license," since it was the most glaringly opulent Yucatecan Maya-related art, and only a minor detail in Gibson's mind, in comparison to the story that was to be unfolded (Figs. 8.23 and 8.24). Since the story was set in sixteenth-century coastal Yucatan, the language needed to be Yucatec to provide linguistic authenticity

Fig. 8.16 Bird cages, fowl preparation near a domestic residence in the Apocalypto cityscape (Photo: R.D. Hansen)

Fig. 8.17 Residential materials outside of a residence construction at Apocalypto (Photo: R.D. Hansen)

Fig. 8.18 Domestic productions outside of a residence construction in the *Apocalypto* cityscape (Photo: R.D. Hansen)

Fig. 8.19 Corn preparation area in the *Apocalypto* cityscape (Photo: R.D. Hansen)

Fig. 8.20 The Central Plaza of the *Apocalypto* cityscape. Not the remodeling and construction underway on the weathered building on the left (Photo: R.D. Hansen)

Fig. 8.21 The damaged and weathered structure in the Central Plaza of the *Apocalypto* cityscape undergoing remodeling and construction with more Postclassic architecture forms burying the Classic period building (Photo: R.D. Hansen)

Fig. 8.22 Construction of a Postclassic period structure with a large mound of lime in the foreground (Photo: R.D. Hansen)

Fig. 8.23 Puuc art that adorned the upper structure of a building in the Apocalypto cityscape (Photo: R.D. Hnasen)

Fig. 8.24 Puuc art on a structure in the primary plaza of the cityscape (Photo: R.D. Hansen)

and a realistic context. It was difficult to conceive of a Maya warrior shouting, in English, "Come on Joe, let's go get him!"

Costumes, ornaments, and props were produced in warehouses and workshops in Veracruz supervised by property master Richard (Rick) Young, costume designer Mayes C. Rubeo (*Avatar*), armourer Simon Atherton, (*Gladiator, Saving Private Ryan, Robin Hood, Clash of the Titans*), and a large and diverse staff of outstanding artists, hair, and makeup designers (http://www.visualhollywood.com/movies/apocalypto/credits.php). Extraordinary attention to detail of tattoos, jewelry, textiles, headdresses, banners, shields, weapons, and ceramics was based on images, monuments, ceramics, and murals from archaeological contexts (Figs. 8.25 and 8.26).

Filming was initially conducted in the Catemaco region to the south of Veracruz where a section of primal, original rainforest could still be found for the hunting camp scenes. Gibson employed cutting-edge digital camera technology consisting of Panavision's Genesis system, providing extraordinary capability for specific scenes, and he worked with Oscar-award winning cinematographer Dean Semler (*Dances with Wolves*) to produce the visual effects he wanted. Actors were, for the most part, selected by Gibson and nearly all had no previous film experience (exceptions were Raoul Trujillo {*Black Robe*, *The New World*} and Mayra Sérbulo) (Padgett 2006a, b). Gibson's coaching was exceptional because the actors were credible with no previous experience.

Fig. 8.25 The author with property master Rick Young and staff with Maya banners (Photo: R.D. Hansen)

As noted earlier, the film was to be produced in Yucatec Maya, since the story was to have taken place in the general vicinity of eastern Quintana Roo, location of the first Spanish contacts by shipwrecked sailors Valdivia, Gerónimo de Aguilar and Gonzalo de Guerrero (1511), and later ship bound contact by Francisco Hernandez de Córdoba (1517) and Juan de Grijalva (1518). It was the relatively small amounts of gold and turquoise objects found among the Maya, a result of trade and contact with the Aztecs, that led to further exploration and organization of the conquest of the Aztecs in 1519 under Hernan Cortés. Furthermore, the Spanish friar, Diego de Landa explains that the Mexica had garrisons in Tabasco and Xicalango, and that the Cocom "brought the Mexican people into Mayapan" and other areas of the Yucatan Peninsula (Landa 1941: 32–36) which would explain the widespread influence that Aztec culture had on the Maya in the Yucatan area.

The language training came under the tutelage of Hilario Chi Canul, a native monolingual Yucatecan Maya speaker who eventually learned Spanish at age 14, and who was the Mexican National Champion of Indigenous Maya Oratory in 2007. Dr. Barbara MacLeod (U of Texas, Austin) provided additional postfilming language assistance overdubbing and off-camera lines (see http://www.jonesreport.com/articles/121206_anthropologist_apocalypto.html). Eastern Yucatan was also selected because it would have been the source of origin for the first contact disease

Fig. 8.26 Exquisite detail went into the placement of jade ornaments and headdress constructions by a talented and dedicated team in Veracruz, Mexico (Photo: R.D. Hansen)

in the continental New World (Small Pox), a point that Gibson wanted to make with a diseased little girl (Aquetzali Garcia) in the film. Set production and filming began in September 2005, and extended through June of 2006, with additional shoots in Costa Rica and England during June and July. Since the shooting was not done on a controlled set, it was subject to extremely rugged weather conditions, including extensive heat, humidity, and copious amounts of rain, which delayed the entire film about 3–4 months. Film editing was under the direction of Gibson and John Wright (*Hunt for Red October, Speed, Passion of the Christ*)

Apocalypto: Reactions

Upon its release in December 2006, *Apocalypto* was immediately declared by numerous critics as one of the most outstanding films of its genre and the "most artistically brilliant film" (e.g., Finke 2010; see also Bunch 2006; Berardinelli 2006; McCarthy 2006; Souter 2006; Baumgarten 2006; King 2007). Film critic Christopher Jacobs (2006) noted that "'*Apocalypto*' is not only a well-made film, an interesting anthropological artifact, and food for philosophical–political speculation, but is itself a revelation heralding the end of an era in motion picture

production" (Jacobs 2006; see http://www.und.edu/instruct/cjacobs/Reviews.htm#apocalypto). Talk show hosts Alex Jones and Paul Watson called it the "most powerful film of all time" (Jones and Watson 2006). The film quickly climbed to No. 1 at the box office the first week of its release on December 2006, beating out "Happy Feet," "The Holiday," "Casino Royale," and "Blood Diamond." Similar responses were obtained in Europe and Asia, where the film remained at No. 1 for more than 4 weeks. The film established the UK box office record for the biggest opening weekend for a foreign language film, and reportedly earned $120.6 million (Finke 2010). Gibson received the Trustee Award from First Americans in the Arts (FAITA) and the Latino Business Associations Chairman's Visionary Award. The film won the Dallas-Fort Worth Critics Association Award, the Central Ohio Film Critics Association (FOFCA), and the Phoenix Film Critics Society Award for Best Cinematography. The film was ultimately nominated for three Academy Awards in Makeup, Sound Editing, and Sound Mixing. According to several insiders to the movie industry, the film should also have been nominated for Academy Awards for Costume Design, Cinematography, Foreign-Language Film, and Supporting Actor, but Gibson's unfortunate statements earlier in 2006 damaged his chances for such nominations (personal communication to Hansen, Feb. 2007; personal communication to Hansen, Mar. 2007; see also Finke 2010). It was nominated in the foreign language category for a Golden Globe Award. The film was also nominated for *Best Direction* and *Best International Film* in the Academy of Science Fiction, Fantasy, and Horror Films. It was nominated as the *Outstanding Achievement in Cinematography in Theatrical Releases* by the American Society of Cinematographers as well as *Best Film not in the English Language* by the British Academy of Film and Television (BAFTA).

In spite of the laudatory recognition of the film, many negative criticisms of the film were forthcoming from members of the academic community, and much of this was conveyed to the press. *New York Times* writer Mark McGuire noted negative comments from anthropologists and professors at SUNY Albany in an article entitled "*Apocalypto*' a pack of inaccuracies" (McGuire 2006). A letter was written to the monthly bulletin of the Society for American Archaeology ("SAA Archaeological Record") noting that the film had "technical inaccuracies and distortions in its portrayal of the pre-Contact Maya." "Anyone who cares about the past should be alarmed" and "*Apocalypto* will have set back, by several decades at least, archaeologists' efforts to foster a more informed view of earlier cultures" (Lohse 2007:3). Harvard scholar David Carrasco, professor of religious history at Harvard was reported to have claimed that "Gibson has made the Maya into 'slashers' and their society a hypermasculine fantasy" (Miller 2006:14), a curious interpretation of the film in light of late Postclassic society throughout Mesoamerica. Archaeologist Traci Ardren (University of Miami) spoke out against the film and was quoted extensively throughout U.S. press releases that *Apocalypto* represented "pornography" (Ardren 2006). Ardren and others had somehow assumed that the story dealt with the Late Classic Maya and the collapse in the ninth century, as one of the criticisms was that the "Spanish arrived over 300 years after the last Maya city was abandoned" (?) (Ardren ibid: 2; interrogative mine). Maya cities along the coastal areas

were fully occupied when the Spanish arrived, with hundreds and in several cases, thousands of buildings recorded for several observed sites. However, in a conflicting argument, Ardren noted that she was aware that the "Maya practiced brutal violence upon one another" and that she had "studied child sacrifice during the Classic period" (ibid). Her fallacious supposition that it was Gibson's intent to infuse his personal religion was evident in the arrival of the Spanish, which suggested to her that Gibson meant "the end is near and the savior has come" and that "Gibson's efforts…mask his blatantly colonial message that the Maya needed saving because they were rotten at the core" (ibid). The obvious fallacy here is that her position is based entirely on unsupported assertions. She also implied that Gibson was stating that "there was absolutely nothing redeemable about Maya culture" since there was "no mention….made of the achievements in science and art, the profound spirituality and connection to agricultural cycles, or the engineering feats of Maya cities" (Ardren 2006:2). Such an odd theoretical position is dealt with by several film critics below (see Bunch 2006). While her criticisms were toned down in the special Presidential Session of the American Anthropological Association meeting in Washington, D.C., Ardren noted that:

> Aquetzali, (the diseased little girl with the prophetic statements) with her Hollywood lesions and Lacandon inspired styling, encapsulates the big budget manipulation of cultural history and fact that has disturbed so much of the academic and activist communities while simultaneously enthralling so much of the movie-going public (Ardren 2007b:1).

The obvious questions here are, how does the diseased little girl encapsulate a "big budget manipulation of cultural history and fact"? How does this disturb academic and activist communities? The little girl had Small Pox, a reality of death brought by the Spanish to Latin America. And, the Lacandon inspired styling was totally intentional, seeing how the Lacandon are Yucatecan Maya speakers who migrated very late in Maya history to the interior heartland.

Other criticisms ranged from the presence of a blue and gold macaw ("wasn't a scarlet macaw within reach of a multi-million dollar budget?"), the use of the eclipse ("fastest eclipse in history"), and slavery ("While the Maya engaged in slavery, the film's sister vision of massive subjugated labor is shockingly unfamiliar") (Stone 2007:2–3). These criticisms are curious. The blue and gold macaw was purposely incorporated to display the opulence and extensive trade networks of the Postclassic Maya, who had trading networks as far south as Honduras, Nicaragua, and Costa Rica. The eclipse episode would have been disastrous if the audience would have been forced to sit through an entire eclipse time cycle. It is clear from the film that the elite were acutely aware of the solar event, which in reality, they most likely were. I questioned numerous colleagues (Ph.D. level scholars) about when the next eclipse was to occur, and no one could answer, much less a Postclassic populous in a 1511 fictional Maya city. As for slavery, extensive raiding and slave systems existed throughout Mesoamerica during the late Postclassic period. Landa notes that the Cocom leadership "oppressed the poor and made many slaves" (Landa 1941:32,35; see also Antonio Chi 1582:230–232), and that Cocom rulership "made slaves" and "made slaves of the poorer people" (ibid:36), although the practice apparently extended to much earlier periods.

Another curious criticism was the charge that Gibson was using his religious views (i.e., Catholicism) as the "savior" and the "salvation" of the Maya with the arrival of the Spanish (e.g., McAnany and Gallareta 2010:142). Such arguments indicate an inherent personal prejudice against Gibson. In reality, the Spanish arrival to collect supplies represented a future devastating blow to the Maya, not their salvation, and Gibson and Farhad were fully aware of this (see Maca and McLeod 2007 discussion below). In reality, in addition to a metaphorical "New Beginning," the segment was designed to provide an avenue for a future sequel, should it be desired, and to explain the separation of Yucatecan speakers into the interior forest to form the Lacandon societies in the sierras of northwestern Guatemala and Chiapas which would have occurred around this time.

An even more vehement opposition was voiced by Dr. Julia Gurnsey (University of Texas, Austin) who was "visibly shaken….upset, and not a little angry" (Garcia 2006). According to the interview conducted by the Austin Statesman, she noted: "I hate it. I despise it. I think it's despicable. It's offensive to Maya people. It's offensive to those of us to try to teach cultural sensitivity and alternative world views that might not match our own twenty-first-century Western ones but are nonetheless valid" (Garcia 2006). While Gurnsey was totally entitled to her opinion, she was not entitled to change the facts (elaborated below) which characterize the late Postclassic Maya societies of coastal Yucatan.

Perhaps one of the more comprehensive criticisms and one that seemed to reflect a majority of the academic resistance was in the March/April 2007 *Archaeology* magazine which featured an article entitled "*Betraying the Maya: Who does the violence in Apocalypto really hurt*?" A renowned Maya scholar and colleague noted that the film was "crafted with devotion to detail but with disdain for historical coherence or substance" and that the "film is a big lie about the savagery of the civilization created by the pre-Columbian Maya" (Freidel 2007). In addition he adds, "Allegory and artistic freedom are well and good, except when they *slanderously misrepresent an entire civilization*" (emphasis, mine). In view of the wide public dissemination of these criticisms, it is perhaps worthwhile to explore Freidel's arguments and compare them to the archaeological, ethnohistoric, ethnographic, and epigraphic facts.

According to the criticism, the fallacy was that Gibson did not show the tiered society that Maya civilization represented and "the public deserves a more accurate and sophisticated view of the pre-Columbian Maya, and Gibson ….had the resources, advisors, and talent to have provided it" (Freidel 2007:39; see also Ardren 2006). "Courtiers, craftsmen, warriors, and merchants – the usual professions of urban life – have been documented archaeologically and pictorially in the Classic Maya record" (Freidel 2007:38). According to Freidel, *Apocalypto* degraded the cultural accomplishments and intellectual achievements of the Maya:

> The Classic Maya wrote history, scripture, and poetry that contain knowledge of the human condition and spirit, as well as wisdom that compares favorably with that of ancient Egypt, Mesopotamia, and other hearths of civilization. Finally, the accuracy of modern depictions of the ancient Maya matters deeply and personally to those of us who care about the millions of people who speak a Mayan language…. (Freidel 2007:41).

A similar criticism was posted by two other scholars (McAnany and Gallareta 2010:142):

> In 2007, movie producer/director Mel Gibson "treated" audiences to a *spectacularly inaccurate* portrayal of ancient Maya civilization (emphasis mine). Called *Apocalypto*, Maya rulers and priests were depicted as blood-thirsty savages, Maya farmers as hunters and gatherers, and a Spanish galleon drifting somewhere off the coast of the Yucatán Peninsula seemed the only salvation available to the Comanche and Yaqui actor, Rudy Youngblood, and his brave young wife and two children.

It is easy to lament with Freidel and others the lack of additional examples of Maya achievements in *Apocalypto*, such as ballgames, written scripts, dances, theater, and extensive trade networks. The sophistication of the cityscape, the economic and social activities visible in the film, the elaborate architecture, and the prognostication of the eclipse in *Apocalypto* implied an extraordinary cultural complexity. The extensive detail built into the cityscape at Veracruz would have allowed a greater insight into the economic, social, and political sophistication of the Maya, and it is unfortunate that more of the art, architecture, and the detailed cultural remains did not see more film time.

Another criticism of some merit refers to the murals that were similar to the Preclassic Maya murals of San Bartolo, Peten, Guatemala which were incorporated into the scene, entirely at the whims of the director and the set designer to accommodate the story line. The use of this art was met with resistance by this author because of the obvious chronological disparity and because there were better Postclassic examples from Chichen Itza. The art, however, was selected for aesthetic reasons because it could be portrayed as large enough and explicit enough to mesh with the story. Furthermore, at the time of filming, it was unsure as to whether any images of the murals would be even used or incorporated into the film after editing. The mural moved the film along by allowing the prisoners to realize their fate without additional scenes of conversation.

Additional questions posed by Freidel included phrases like "Were Classic Maya cities the dens of iniquity Gibson envisions?" and "Were city dwellers the bloodthirsty predators Gibson portrays?" (Freidel 2007:38). He further claims "Direct predation and slaughter of ordinary people is a reality in some times and places, but it is a slander when attributed to the ancient Maya." With all respect to the need for cultural sensitivity, the arguments posed by Freidel are entirely *subjective* and unfounded according to the ethnohistoric and archaeological record. Perhaps it would have been useful to have asked the same questions to Capitan Valdivia and the sailors who were with Gonzalo Guerrero and Jeronimo de Aguilar when, after their shipwreck and landing on an Akumal beach in 1511, they were sacrificed and eaten (Cervantes de Salazar 1941:236; Landa 1941:8). Would it have been "slanderous" to accuse the Maya of slaughter when referring to members of the Francisco Mirones y Lezcano expedition into the interior of Yucatan who were sacrificed via heart extractions (Scholes and Adams 1991). A similar fate fell upon the Spanish priests, Fray Cristobal de Prada and Jacinto de Vargas, on the island of the Itza in Peten, Guatemala (Cano 1697/1984:17) as well as Friar Domingo de Vico and his associates in Acalan (Villagutierre 1701/1983: 49). Direct captive predation slaughter and

Fig. 8.27 Wall fresco on the Temple of the Warriors, Chichen Itza, Mexico showing a major raid on a village near the sea. Note that elite and commoner structures are being assaulted, with both male and female captives stripped and captured (after Morris et al. 1931: Plate 139)

sacrifice were inflicted on the occupants of the ravaged villages recorded in murals on the walls of the Temple of the Jaguar and the Temple of the Warriors at Chichen Itza (Miller 1977; Morris et al. 1931) (Figs. 8.27–8.31). Furthermore, the *Apocalypto* story takes place in 1511–1518, the proto-Historic period, not the Classic Maya period 600–700 years previous, a detail that seems to have escaped many of the critics. Freidel commented that the film "juxtaposes ideas about social and political failure from the ninth century crisis" or "collapse " with the "decadence" of the Postclassic period, and that the "term 'decadent' is no longer used to describe that period (Postclassic) by Maya archaeologists" (Freidel 2007:39). It is partially true that the film juxtaposes ideas about the ninth-century Lowland Maya collapse, but it also includes ideas associated with the Preclassic "collapse" documented in the Mirador Basin of northern Guatemala (see Hansen et al. 2002; Schreiner 2000a, b, 2001, 2002). Such perceptions are timeless, particularly since many of the same ills are currently ongoing in many areas of the Maya heartland today.

Freidel noted incorrectly that "Apocalypto is wrong from the opening shot of an idealized rainforest hamlet" because he has assumed there were no broad areas in the Maya heartland where a small hunting society could have existed. He based this perspective on his surveys on the island of Cozumel, where "the entire landscape was defined by stone walls" (Freidel 2007: 39). He suggests that along the entire coast of the Yucatan peninsula "the Spanish encountered people living in towns" (ibid) and that "Gibson's hunter-gatherers are pure fantasy" (ibid). This fallacious argument belies the fact that there *were* vast sections of rainforest in the interior of the Yucatan shelf that had absolutely no human intervention since about A.D. 840

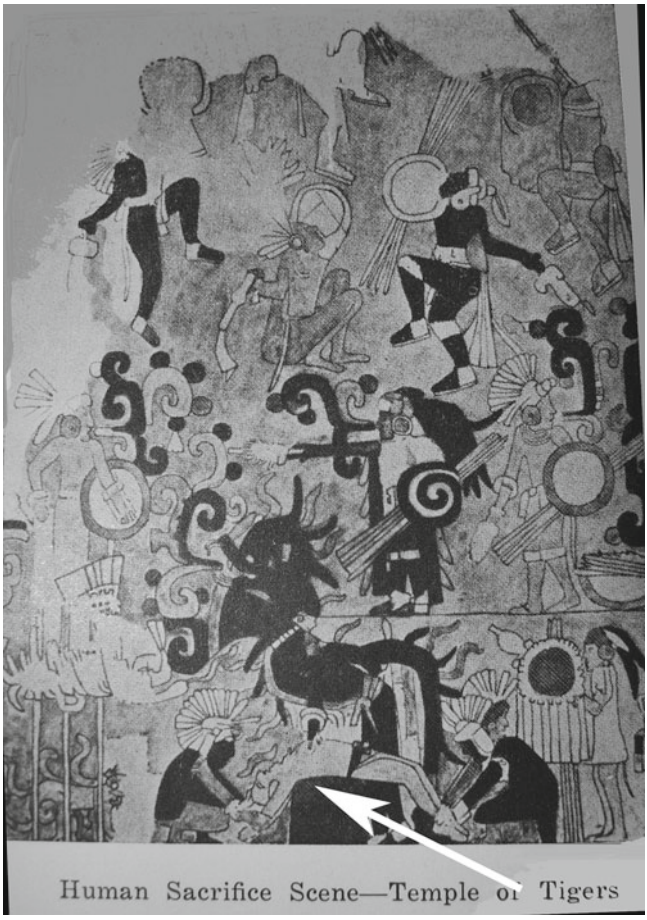

Fig. 8.28 Wall painting in the Temple of the Jaguars showing the heart extraction of a captive (After Morris et al. 1931)

(Wahl 2000, 2005; Wahl et al. 2005, 2006, 2007). Landa notes that the exploration of Hernan Cortes into the interior of Tabasco, Campeche, and Peten in 1524 indicated vast vacant areas of forest (Cortés 1986:372) and subsequent colonial documents such as Avendaño y Loyola testify as to the complete isolation and total abandonment of vast sections with absolutely no human presence (Avendaño y Loyola 1987: 16, 56, 59–64). Landa notes that the inhabitants ("tribes") "wandered around in the uninhabited parts of Yucatan for 40 years" (Landa 1941:30–31) and that they engaged in "hunting in companies of 50, more or less, and when they reach the town, they make their presents to their lord and distribute the rest as among friends" (ibid: 97). A similar situation occurred with the migration of Canek's society from the area of Mayapan to Lake Peten Itza where the populations wandered "for many years in the wilderness" (Villagutierre Soto-Mayor 1701/1983: 24).

Fig. 8.29 Fragment of fresco on the north wall of the Temple of the Warriors showing naked male and female captives, painted blue, with the male showing a cavity in the chest from heart extraction. (modified after Morris et al. (1931): Plate 144a)

The *Mexica* term for the hunters and hunting camps in tropical forests was *amiztequihuaque*, and *amiztlatoque* (see Carrasco 1971:359), suggesting that hunters enjoyed a certain status or class in much the same fashion as the merchants. Gibson's portrayal of small hunting hamlets in the middle of an unpopulated jungle is therefore far more realistic and probable during the Late Postclassic period than the alternative proposed by Freidel.

Freidel notes that "While the ancient Maya had their shortcomings (??), including the organized violence typical of civilized people (??), they were remarkable in their achievements, and not just the brutal monsters depicted by Gibson" (Freidel 2007:39) (interrogatives mine). The dichotomy of these statements is striking: it is precisely the "shortcomings" that Gibson was using as his metaphor for society, and the "organized violence" is a subjective comment of societies whose level of "civilization" may have begun to deteriorate (Collier 1999; Stewart et al. 2001; Collier et al. 2003; Skaperdas 2009). Freidel also suggests that, based on artistic representations from sites such as Yaxchilan, Tikal, and Piedras Negras and hieroglyphic texts from Dos Pilas, Uaxactun, Yaxuna, and Waka-Peru, the elite were not predators of common people or peasants (ibid: 40). This is a flawed perspective perhaps based on a perceived notion of Late Classic societies, not the terminal Postclassic period represented in *Apocalypto* (see below). This small detail seems to have escaped many of the critics, despite the presence of smallpox on one of the characters and the presence of architecture in the cityscape that was obviously Postclassic period architecture. The Maya had long been subjected to or had adopted Toltec practices (skull racks), at least by about AD 1000 if not earlier, and had direct contact and

Fig. 8.30 Fragment of a fresco from the Temple of the Warriors at Chichen Itza showing a prostrate captive with legs doubled, and a perforation in the chest cavity from heart extraction (modified after Morris et al. (1931): Plate 144b)

influence from the Aztec societies (human sacrifice, use of Tlaloc figures, human consumption, trade, exchange). The shocking element of these criticisms is that they totally disregard the numerous colonial documents and writings of Spanish observers, not to mention the vast examples of archaeological data that support the perceptions that Gibson portrayed in the film.

Criticisms asserted that the film was a racist depiction. Yet a TMZ poll (http://www.tmz.com/2007/03/23/mel-goes-ballistic-f-you) conducted on line on March 29, 2007 had 79,395 responses to the question "Is *Apocalypto* racist?" of which 75% (59,546) replied negatively that it was NOT racist. If such a large proportion of the viewing population did not think *Apocalypto* was racist, why did so many prominent academicians proclaim that it was?

As with any film of a historical nature, some of the criticisms of *Apocalypto* have merit. However, many, indeed most of the criticisms do not. As noted earlier, the film was a piece of fiction, a story, and Gibson was within his right to tell the story as he saw fit, particularly if it adhered to the ethnographic, ethnohistoric, and archaeological facts. It may be useful, therefore, to examine the criticisms in light of an anthropological approach and evaluate the merits of them. While there were many criticisms that would merit ample discussion in this chapter, a review of some of the major complaints, such as the level and degree of violence portrayed in the movie, requires further examination in light of multidisciplinary data because it has relevance to anthropological discourse.

Fig. 8.31 Fragments of wall frescoes from Area 19 of the Temple of the Warriors at Chichen Itza showing a captive strewn over a sacrificial stone in preparation for a heart sacrifice (modified after Morris et al. 1931: Plate 145)

Maya Human Sacrifice and Warfare Behavior

The level of sacrifice depicted in *Apocalypto* was based almost entirely on ethnohistoric data and archaeological interpretation, which coincides with the contextual cultural behavior noted in terminal Postclassic and proto-Historic Mesoamerica. Aztec influence, well established as a major protagonist of human sacrifices, had penetrated much of the Maya region through elaborate trade and exchange systems as well as outright Mexican settlements in the Yucatecan heartland, a concept blamed on the Cocom family (Landa 1941:32–39; see Squier Note 66 in de Palacio and

Diego de 1576; Bray 1977; Finamore and Houston 2010:177). Outright migrations of Nahuatl-speaking occupants also occurred in the Highlands of Guatemala, and in El Salvador and Honduras. The Spaniards encountered widespread sacrifice among the major linguistic groups outside the *Mexica* homeland, including the Totonac and Maya areas. For example, the Totonac culture at Cempoala and Gulf Coast region practiced extensive human sacrifice (Diaz de Castillo 1965:102–103), although they occasionally blamed the misdeeds on the Aztecs. At Quiahuitztlan on the eastern Gulf Coast, the "fat Cacique" complained that "every year, many of their sons and daughters were demanded of them for sacrifice" and that the Aztec "tax-gatherers carried off their wives and daughters if they were handsome, and ravished them" (Diaz de Castillo 1965:90). Bernal Diaz de Castillo noted the situation with respect to the towns near the coast:

> When Pedro de Alvarado reached these towns …….he found in the *cues* bodies of men and boys who had been sacrificed, and the walls and altars stained with blood and the hearts placed as offerings before the Idols. He also found the stones on which the sacrifices were made and the stone knives with which to open the chest so as to take out the heart……he found most of the bodies without arms or legs….that they had been carried off to be eaten… I will not say any more of the number of sacrifices, although we found the same thing in every town we afterwards entered (Diaz de Castillo 1965:85).

The Spanish did not have to enter deep into Aztec territory to detect the practice of human sacrifices, but rather, such behavior occurred on, or near the coast which would have had contact with the Lowland Maya. On another occasion, Diaz de Castillo notes that Cortes and his small army

> "slept in another small town" (near the Gulf Coast), where also many sacrifices had been made, but as many readers will be tired of hearing of the great number of Indian men and women whom we found sacrificed in all the towns and roads we passed (ibid:86–87).

The unusual numbers of sacrifices in Postclassic Mesoamerica were noted by Duran (1994), who recorded that, during Aztec coronation ceremonies, the

> ….captives were brought out. All of them were sacrificed in honor of his coronation (a painful ceremony), and it was a pathetic thing to see these wretches as victims of Motecuhzoma. …I am not exaggerating; there were days in which two thousand, three thousand, five thousand, or eight thousand men were sacrificed. Their flesh was eaten…… (Duran 1994:407).

The widespread Mesoamerican sacrificial practices (Aztec, Totonac, Mixtec, Zapotec, Maya) were duly recorded by Spanish observers such as Cortés, Sahagun, Duran, Torquemada, Tapia, Diaz de Castillo, Mirones y Lezcano, Avendaño y Loyala, Cárdenas y Valencia, Cervantes de Salazar, Bernardo Casanova, Villagutierre Soto-Mayor, Cogolludo, and Garcia de Palacios at sites such as the Mexican and Guatemalan Highlands, the Totonac Lowlands (i.e., Cempoala) of the Gulf Coast of Mexico, the Yucatecan Coast (i.e., Landa 1941; Herrera 1601/1941; Cervantes de Salazar 1941) or the interior heartland region (Cano 1697/1984; Scholes and Adams 1991; Avendaño y Loyola 1987; Cogolludo 1688/2008; Villagutierre Soto-Mayor 1701/1983), showing a broad geographical and chronological consistency in the ritual behavior. The Italian translator and publisher Calvo noted, in his newsletter of 1521–1522 that the initial contact at Cozumel by Cortes observed

> "…men and people wearing fine-woven cloth and of every color, who practice numerous excellent arts such as gold-and silver smithery and European-style jewelry making, in honor of the idols they adore and to whom they sacrifice humans, cutting open their chests and pulling out their hearts which they offer to them" (the idols)….and that they (the Spanish) "cast them down (the idols) and put in place of them the image of our Lord and the Virgin Mary with the Cross, which they held in great veneration, and they themselves cleaned the temple where human blood from the sacrifices had fallen" (Calvo 1985: 11).

Human sacrifices by the Maya were frequently engaged in times of famine and plagues (Landa 1941:54) or "some misfortune" (ibid: 115), a point illustrated in *Apocalypto*. The defensive posture of wells, plazas, and residential patterns was so that the Maya could avoid being "captured, sold, and sacrificed" (Herrera 1601/1941:217), and that the "number of people sacrificed was great"(ibid).

Earlier Mexican influences, such as the Toltec presence at Chichen Itza apparently also had a profound influence on sacrificial conduct at an even earlier point in the Postclassic period in the Maya area. The Toltec/Toltec influences are believed to be associated with the *Tzompantli* skull racks in stone in the Great Plaza at Chichen Itza and other sites such as Uxmal. Cano notes the extraction of the hearts of Fray Christobal de Prada and Fray Jacintho de Vargas by the high priest "Cuin Kenek" (Cano 1697/1984:17).

The rituals enacted in the sacrificial executions of Father Diego Delgado, Don Cristobal Na (the chieftain of Tipu who had been converted to Christianity), and 13 Spanish soldiers involved the extraction of hearts and offerings to "idols" as well as the placement of all heads on poles (Tzompantli?) on a small hill near the city (Villagutierre 1701/1983: 92). Cogolludo notes the sacrifice, decapitation, and placement of heads on stakes (*Tzompantli*) in the village of Chemax (Cogolludo 1688/2008: 359; see also page 24, 47).

Furthermore, writings by Cervantes de Salazar noted that the Maya from Cozumel had a "great fear" of those along the coast because "they were at war with those of that coast" (Cervantes de Salazar 1941:233), indicating a constant and consistent state of warfare among the coastal Maya of Yucatan during the late Postclassic-Proto-Historic periods. In addition, some of the extraordinary exploits of Jeronimo de Aguilar were because of his valor on the battlefield against foes entrenched in enduring "hatreds" among the coastal and interior Maya (ibid:237–238). The constant state of warfare was also noted by Landa (1941:41–42) in which more than 150,000 men died in battle, and created a scenario of conflict, revenge, and hatred that worked to the advantage of the Spaniards (ibid). Such warfare involved stealth attacks and brutal treatment of captives:

> Guided by a tall banner, they went out in great silence from the town and thus they marched to attack their enemies, with loud cries and with great cruelties, when they fell upon them unprepared….After the victory they took the jaws off the dead bodies and with the flesh cleaned off, they put them on their arms. In their wars they made great offerings of the spoils, and if they made a prisoner of some distinguished man, they sacrificed him immediately, not wishing to leave any one alive who might injure them afterwards. The rest of the people remained captive in the power of those who had taken them (Landa 1941:123).

The stealth attacks were visible in the village scenes of *Apocalypto* in minute detail, including the wearing of human mandibles as trophies by the dominant leader

of the warring band. The fictitious city in *Apocalypto* had a *Tzompantli* with vertical poles as that depicted in Chichen Itza (see Eberl 2001: 318) and as described by the Spanish. The Aztec *Tzompantli* clearly had the perforations on the parietal side of the skull so that the skulls were displayed horizontally. The practice of heart extraction has been explicitly defined by Diego de Landa and numerous other Spanish observers. According to the accounts, a victim was often stripped naked, anointed with a blue color, and either tied to poles and shot with arrows (a scene that had been edited out and not included in *Apocalypto*), or taken to place of sacrifice (temple), seized by four *Chacs*, and suffered a heart extraction, throwing the decapitated head and body down the steps of the temple (Landa 1941: 117–123; see also the Florentine Codex, p. 58) precisely as depicted in the film. However, the level of violence according to ethnohistoric accounts included the fact that the body was recovered at the base of the steps and flayed, with the skin worn by the naked priest with dancing in great solemnity (Landa 1941:120; Herrera 1601/1941: 219), which was a scene NOT depicted in the film. Furthermore, the exaggerated body pit discovered by the escaping Jaguar Paw in *Apocalypto* is likely to not have existed because, according to Landa, Duran, and other observers, the victims were eaten (Landa 1941: 120; see also Lopez-Medel 1612: L. 227), another scene NOT depicted in *Apocalypto*. However, if mass quantifies of victims were sacrificed similar to Duran's account of the Aztecs, it is entirely possible that such a pit could have existed due to the excess of human flesh that was not consumed.

Lopez-Medel (1612) (1941: 222) notes that "Those compelled (for sacrifice) were captives and men taken in the wars they made against other pueblos, whom they kept in prisons and in cages for this purpose, fattening them." The jawbones on arms were equally depicted in *Apocalypto*, indicating the level of butchery that accompanied Postclassic warfare. The removal and display of human jawbones is also a pan-Mesoamerican feat which dates as early as the Early Classic, based on burials in highland Teotihuacan and the Lowland Maya Mirador Basin site of Tintal (Tintal Burial 1) (Hansen et al. 2006). Lopez-Medel also notes that Maya "sacrifices….were so many in number" (Lopez-Medel (1612/1941: 222).

Freidel purports that the Maya were not predators of common people or peasants. However, Villagutierre records that villages were attacked with some regularity in the sixteenth century:

> In 1552 the cruel and barbarous Lacandones, not content with the raids they had made every year on Spanish and Christian Indian villages in the province of Chiapas, which were closest to them, robbing, killing, taking their wives and children captive in order to sacrifice them to their idols, and having already destroyed 14 villages, continued their customary raids from two villages farthest away in the mountains….and at night attacked two other villages….. They killed and captured many people and sacrificed the children on the church altars, at the foot of the cross, taking out their hearts and smearing the holy images venerated in the temples with the blood. When all this was done, they destroyed and burned the villages, taking with them the men and women as captives….. (Villagutierre 1701/1983:44)

The extraordinary detail in the murals from Chichen Itza confirms Villagutierre's observations and suggests that common people and peasants as well as entire villages were targets for pillage, destruction, sacrifices, and captives (Morris 1931: Plates 139–147; Miller 1977). The extraordinary detail in the murals in the Temple of the

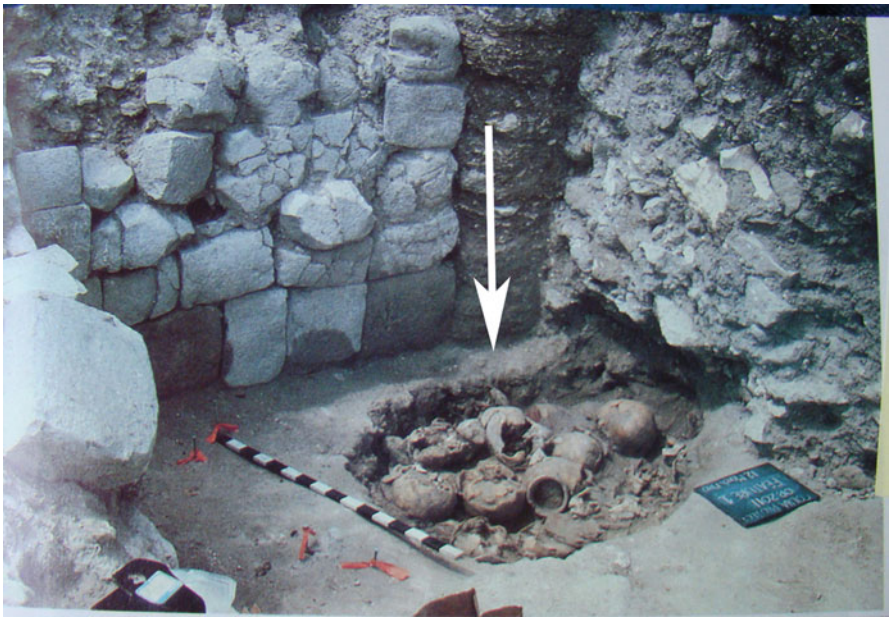

Fig. 8.32 The Colha skull pit at the base of a building at the site (modified, after Hester et al. 1983)

Warriors shows the assault on a village with elite and commoner residences under siege (Figs. 8.27 and 8.28), with the heart extractions and slaughter of male and female captives who had been smeared with blue paint prior to heart extraction at the village (Morris et al. 1931: Plate 144; see Figs. 8.29 and 8.30) and the depictions of more formal heart extractions from captives in a temple complex (ibid: Plate 145; see Fig. 8.31).

The antiquity and geographical extent of Maya human sacrifices is ubiquitous throughout the Maya Lowlands. Explicit images of human captives and heart extraction sacrifices were found in graffiti on Classic period architecture (post occupational?) at Tikal (Orrego and Larios 1983: 169, 172). Excavations at the Maya site of Colha, Belize, revealed an extraordinary pit dating to the Terminal Late Classic period (ca. AD 800–900) which had been placed at the base of a structure (Operation 2011) that yielded 30 decapitated skulls, of which 10 were from children (Mock 1994; Massey 1994; Hester et al. 1983:49–53; see Figs. 8.32 and 8.33). In addition, the bodies of 20 people had been recovered at the base of the nearby pyramid staircase (Operation 2012; Hester et al. 1983:51).

Such dramatic evidence over a vast area of the Maya Lowlands indicates that human sacrifice and human heart extractions were a widespread and common occurrence. The heavily fortified Postclassic sites of Mayapan, Tulum, Ichpaatun, Oxtankab, Tayasal, Muralla de Leon (Rice and Rice 1981), and three walled Terminal Classic sites of Chacchob, Cuca, and Dzonot Ake (Webster 1980) in the

Fig. 8.33 The Colha skull pit at the base of the most prominent building at the site. Note the vertebrate still attached to the skull, indicating that decapitation had probably taken place while the victim was alive (Modified, after Hestor et al. 1983)

Lowlands as well as the heavily fortified Highland Maya sites of Iximche, Mixco Viejo, Rabinal, and Cumarcaj indicate the defensive postures of late Maya centers, a concept clearly in line with the social and political conditions of conflict and wars that Gibson was suggesting in *Apocalypto*.

One of the more outstanding reviews of *Apocalypto* was written by Sonny Bunch (2006), an assistant editor at The Weekly Standard who noted the criticisms from academicians, and pointed out that the facts demonstrated either a complete distortion of reality, or a disturbing incompetence by the academic critics. While the complete version of the review can be seen at (http://www.weeklystandard.com/Content/Public/Articles/000/000/013/075khpyy.asp), some of the more salient points of his arguments were that almost all critics mentioned Gibson's alleged anti-Semitic statement and that the film did not inform adequately about the cultural achievements of the ancient Maya. Bunch notes that:

> *….This is a strange criticism. If you were interested in boning up on calendars, hieroglyphics, and pyramids you could simply watch a middle-school film strip. And who complained that in Gladiator, Ridley Scott showed epic battle scenes and vicious gladiatorial combat instead of teaching us how the aqueducts were built?* (emphasis mine)

Bunch also confronts the critics that suggest that the film portrayed

> "….an offensive and racist notion that Maya people were brutal to one another long before the arrival of Europeans….." Newsweek reports that "although a few Mayan murals do

> illustrate the capture and even torture of prisoners, none depicts decapitation" as a mural in a trailer for the film does. "That is wrong". It's just plain wrong, "the magazine quotes Harvard professor William Fash as saying. Karl Taube, a professor of anthropology at UC Riverside, complained to the Washington Post about the portrayal of slaves building the Mayan pyramids. "We have no evidence of large numbers of slaves," he told the paper.
>
> Even the mere arrival, at the end of the film, of Spanish explorers has been lambasted as culturally insensitive….. Here's Gurnsey, again, providing a questionable interpretation of the film's final minutes: "And the ending with the arrival of the Spanish (conquistadors) underscored the film's message that this culture is doomed because of its own brutality. The implied message is that it's Christianity that saves these brutal savages. "*But none of these complaints holds up particularly well under scrutiny. After all, while it may not mesh well with their post-conquest victimology, the Mayans did partake of bloody human sacrifice.*" (emphasis mine)

While there may be some that might question the validity of the Spanish observations, the fact that the ethnohistoric observations match so seamlessly with the archaeological data from both earlier and later periods indicate that such doubts are highly unlikely. The Maya had vast areas of forest without populations, small hunting groups and camps, chronic warfare and insidious attacks on enemies and sacrificial victims. Captives were exploited as slaves throughout Mesoamerica. One of the best comprehensive studies of human sacrifice in the Maya/Mesoamerica area was published by Ruben G. Mendoza (Mendoza 2007; see also Chacon and Dye 2007; Chacon and Mendoza 2007). Warriors wore the jawbones of slain foes, captured male and female captives, and engaged in exotic trade systems ranging from the Gulf Coast to Costa Rica. A detailed stucco panel at the site of Tonina, Chiapas, Mexico shows a decapitated sacrificial victim clasped in the hand of the Ak Ok Cimi, a death deity. Another stucco panel depicts a decapitated head on a leaf-covered *Tzompantli.* Sacrificial rituals included painting the sacrificial victims blue, erecting *tzompantli*s where human heads were skewered, sacrificing human victims on the "cues" or temples with heart extractions. Victims were decapitated, with the bodies rolled down the staircase and subsequently flayed and butchered (not depicted in the film). Priests and nobility were acutely aware of solar and celestial phenomena such as eclipses, which were celebrated with sacrifices during plagues, famine, or other misfortune.

Apocalypto and Revisionism/Relativism/Aboriginalism

It would be difficult to assert that all the scholars who spoke out against *Apocalypto* were ignorant or incompetent, but why did they make claims that were fallacious or inaccurate in the face of overwhelming data? Why was the response so vehement when many of the issues and situations portrayed in the film were accurate? It is likely that much of the resistance was created by Gibson's anti-Semitic statement during an arrest about 6 months previous to the release of the film. In some cases, the opposition to *Apocalypto* may have been simple ignorance. However, it is also implied that scholars wittingly or unwittingly may have ascribed to a "revisionist"

and/or "relativist/aboriginalist" perspective, concepts which can fall under the title of "neo-pragmatism" (see Buchler 1955:251–289; Haack 1998; Rorty 1982, 1991). A "revisionist" or "sham-reasoning" view may either represent an antithesis of truth or a decorative reasoning of truth, or the clarification and establishment of it (Haack 1997a, 1998; Peirce 1886: in Hartshorne and Weiss, Vol. I, pp. 57–59; McPherson 2003). In some cases, revisionist perspectives ignore the vast amounts of data that have accumulated over periods of time, and seek to promote that which is ideologically expedient or politically "correct" or convenient within the bounds of "language" (e.g., Rorty 1982; McPherson 2003). While it is entirely possible that additional data may help establish a more accurate perspective based on additional information, often added by new technologies, the dangers and damage that a revisionist/relativist perspective can cause, if incorrect, is that it also has the potential to ultimately deceive and distort the reality of the human existence and defy truth. Such a position is "not to find out how things really are, but to advance (oneself) by making a case for some proposition to the truth-value of which he is indifferent" (Haack 1997a:2). It also suggests that "reasoning" can be mainly "decorative" and result in a "rapid deterioration of intellectual vigor" (Peirce I: 57–58, in Hartshorne et al. 1931–1958; see Haack 1998:32). In other cases, a certain movement purports that "indigenous rights should always trump scientific inquiry" (Gillespie 2004:174, citing Zimmerman et al. 2003). Such positions defy the establishment of truth and seek for an unqualified political correctness that is both unwarranted and dangerous to the realities of the human saga. On a more subtle note, it can lull a society into an intellectual complacency, generating a moral and intellectual failure to acknowledge or improve on mistakes or violations of accepted values of universal human rights.

Perhaps a more viable alternative would be to return to the values of truth in science as determined by vigorous methodological procedure and evaluation via a multitude of multidisciplinary approaches. A solution lies in a return to the philosophical foundations of science such as that proposed by Peirce, Hempel, Haack, and others to organize and understand truth and valid objective reasoning as part of the ultimate goal. As Josh Billings noted more than a century ago, "As scarce as truth is, the supply has always been in excess of the demand" (Shaw 1865; Cited in Haack 1997b:241).

Charles Peirce, arguably the "greatest of American philosophers" (Haack 1997a:1) has been credited, along with William James as the creator of "pragmatism" in scientific reasoning (ibid). Peirce had been strongly influenced by the German philosopher Immanuel Kant (1996) (1781, 1787) and the earlier scientists such as Copernicus, Kepler, and Galileo (Peirce 1877, cited in Buchler 1955:6). He wrote that he had also been profoundly influenced by the Scottish theologian John Duns Scotus (1265–1308). Peirce noted that one can "opine that there is such a thing as Truth," meaning that "you mean that something is SO….whether you or I, or anybody thinks it is so or not….The essence of the opinion is that there is something that is SO, no matter if there be an overwhelming vote against it" (Peirce 1898(2):135). He also noted that, in order to determine the veracity of a subject, one would have to "find out the right method of thinking and…follow it out" so

that "truth can be nothing more nor less than the last result to which the following out of this method would ultimately carry us" (Peirce 1898 (5):553). The importance of a multidisciplinary approach is such that as "we push our archaeological and other studies, the more strongly will that conclusion force itself on our minds forever-or would do so, if study were to go on forever…." (Peirce 1898 (5):565–566). The result would "ultimately yield permanent, rational agreement among all inquirers, however various their beliefs at the outset" (Brunning and Forster 1997a, b:8; Buchler 1955; Hempel 1965:141). Therefore, the purpose of science was to "look the truth in the face, whether doing so be conducive to the interests of society or not" (Peirce 1901:300).

Such pragmatism formed in the late 1800s as a response to "antiscience" or "nominalist" movements which continue to the present day in scientific philosophy dressed as "relativism" or negative "revisionism." The role of revisionism is based on the premise that "There is no single, eternal, and immutable 'truth' about past events and their meaning. The unending quest of historians for understanding the past – that is, 'revisionism' – is what makes history vital and meaningful" (McPherson 2003).

In many cases, further revision of historical information can clarify or enhance the knowledge of the past. In other cases, the revision of history was designed to promote certain agendas or to ease or "whitewash" the uncomfortable aspects of events and actions so that "evil must be forgotten, distorted, skimmed over" and "history loses its value as an incentive and…paints perfect men and noble nations, but it does not tell the truth" (Du Bois 1935, cited in Williams 2005:10–11). A positive example of revisionism deals with the new data showing the precocious development of the Preclassic Maya in the Mirador Basin of northern Guatemala, a concept which fundamentally changed the understanding of the developmental and evolutionary history of the ancient Maya (e.g., Dahlin 1984; Hansen 1984, 2001, 2005; Matheny 1987). Another example is the understanding of royal marriage arrangements in ancient Egypt, such as the incestual relationship of Tutankhamun's mother, as determined through DNA (Hawass 2010). A negative example of revisionism is the movement to deny that the Holocaust existed in Europe in World War II (e.g., Barnes 1968, 1969; Hoggan 1969; see Lipstadt 1994).

The "science" of historical revisionism infers that further studies would lead to the same fundamental premise, regardless of the personal opinions or perspectives. In this sense, an objective "absolute truth" is the ultimate goal or "ideal," a la Peirce and Hempel, so that infinite, multidisciplinary studies or new technologies would lead to the same conclusions, "independent of individual opinion or preference" (Hempel 1965:141), a concept which had previously been eloquently espoused by Peirce (Vol. 8: 12, see Delaney 1993:46). In this sense, "truth is a property-and a property which, unlike justification or probability on present evidence, depends on more than the present memory and experience of the speaker" and is "the one insight of 'realism' that we should not jettison" (Putnam 1990:32). The quest for truth then becomes a refining process, an improvement on previously established precepts that were correct. A fundamental "truth" that has to be substantially altered because of new information from increasing multidisciplinary data or new technologies was

never true in the first place, and, in this sense, can be discarded with a revision that can be justified with an eye always on the original premise that was corrected. The process becomes one of refining accuracy and an identification with a continuing community and probability (Sellars 1970:102).

Some of the more radical oppositions to the concept of the Peircean realism have been voiced by Richard Rorty and Donald Davidson (Rorty 1982, 1989, 1991, 1992; Davidson 1986) who have been dubbed "neo-pragmatists" and "relativists" (Haack 1998:31). Rorty has been one of the most influential forces in the "relativistic" thought, in which he notes that he does "not have much use for notions like… 'objective truth'" (Rorty 1992:141) because "science is no more than the handmaiden of technology" (Rorty 1989: 3–4), or the "human world, the world according to conceptual and linguistic conditions" (Hausman 1997:198). According to Rorty, "truth is made because truth belongs to sentences and 'Where there are no sentences, there is no truth'" (ibid:202). In like manner, Davidson's position is that "what gives truth value is the cumulative mass of accepted beliefs that serve as backing for individual sentences when these are consistent with that mass of beliefs" (Hausman 1997:206). This would create what Rorty has referred to as a "seesaw" meaning that one "would never know when we were at the end of inquiry" (Rorty 1989:11, 1991:131).

The response to such a position was posited by Peirce, however, who saw the entire issue as a perspective of hope, "…more than a purely intellectual conception of possibility…..(but)…that there is an actual, concrete state to be expected" (Hausman 1997:219). The refinement of intellectual knowledge, however, begs the need for a multidisciplinary approach, and, in the case of ancient societies, the combined and coordinated efforts of linguistics, ethnohistory, ethnography, archaeology, and the sociocultural and biological anthropology so as to cover a broader range of the emic and etic perspectives of the society. Such refining "truths," when built line upon line and precept upon precept, lead one to arrive at the same conclusions regardless of the personal differences of opinion or biases that were inherent in the observer.

The film *Apocalypto* is a fictional film which told the story of a chase scene, utilizing certain components of the Postclassic Maya cultural behavior as the setting for the drama which was unfolded.

Perhaps the most accurate critique of the film was penned by Allan Maca and Kevin McLeod (2007) at the Presidential Session on *Apocalypto* at the American Anthropological Association Meeting in Washington, D.C. From their perception, "Gibson's (scenes are) vital to his larger purposes regarding the exploration of death, consciousness, and transformation" (Maca and McLeod 2007: 4). In essence, Maca and McLeod grasped the enormous metaphors that Gibson was knitting into the film. As Maca and McLeod (2007) note:

> Mel Gibson's *Apocalypto*, while it may seem on the surface to be another mindless, violent action epic, with the Maya as unwitting casualties, actually sets out to achieve similar goals: an exploration of consciousness and of modern man's need for renewal and transformation. Like most films involving or based on native culture yet made by non-natives, *Apocalypto* is a grandiose and intricately nuanced commentary on white society. Because the hero and the villains are indigenous, however, the film also seeks to explore the basis of our humanity, regardless of race and ethnicity. The artistic devices Gibson uses to communicate his ideas

> draw heavily on tropes, symbols, and plotlines developed by earlier masters; but he also clearly develops and adopts themes and symbolic vehicles that are basic to myth and ritual.

Gibson utilized graphic scenes to visualize contemporary society and the hypocrisy that permeates the issues: the jungle = higher state of consciousness and peace, a societal refuge and environmental neutrality; "Sacrifices = bloody conflict/soldiers in the Middle East"; Body Pit = "Nothing (small)compared to the daily abortion rate in the U.S"; Jaguar Paw escape = "the valiant human spirit in the face of unfavorable odds, the freedom from tyranny and social oppression"; environmental degradation near the city = "conspicuous consumption of resources and the contemporary destruction of the environment"; the pit where Jaguar Paw's family was kept = "struggles , challenges, and obstacles of the contemporary family."

The strategy of joining the past to a critique of the present has been used repeatedly in films for decades. Wolfgang Petersen, the director of *Troy* (2004) is reported to have stated:

> "Look at the present! What the Iliad says about humans and wars is, simply, still true. Power-hungry Agamemnons who want to create a new world order- that is absolutely current. … Of course, we didn't start saying: Let's make a movie about American politics, but (we started) with Homer's epic. But while we were working on it we realized that the parallels to the things that were happening out there were obvious" (Kniebe 2004; cited in Winkler 2007:8)

A certain level of allegory and metaphor permeated nearly all aspects of the film *Apocalypto*. As Maca and McLeod (2007:2) note:

> Contrary to what some have concluded about this film, *Apocalypto* does NOT promote, celebrate or otherwise glorify the Spanish or Christianity; it is quite the opposite really. What is celebrated repeatedly is the jungle, a metaphor for peace, the higher mind and a more evolved consciousness. The jungle is a refuge… a place of understanding.....where true creation and novelty may unfold…….
>
> The leading writers and directors intentionally play with symbols and meanings as a way to innovate. Not all film makers can do this very well. However, *2001: A Space Odyssey* (1968) and *Apocalypse Now* (1979), directed by Stanley Kubrick and Francis Ford Coppola, respectively, are two films that set new models……Both are, explicitly and implicitly, antiwar, anti-US imperialism, and anti-colonialism and focus on the evolution of human consciousness…… These two films are at the center of the visual and philosophical mission of Mel Gibson's *Apocalypto*…..

One of the more interesting concepts that the data on human sacrifice in the Maya/Mesoamerica area has demonstrated is that the Maya were not radically different from anybody else and that they were consistent with the rest of humanity. The story, metaphorically, could be applied to almost any ancient society in the world. The Maya achieved extraordinary accomplishments comparable with Greeks, Romans, Mesopotamians, Egyptians, and Chinese, and they were no less brutal. But the consciousness of the story was far more profound than a "blood and gore flick." The story was Gibson's and Safinia's to tell and, as Maca and McLeod astutely note,

> …… we can't help but wonder if the use of the trap in Apocalypto, as a vehicle for awareness, doesn't also extend to our participation in Mel Gibson's mission, such that all of us……may have been lured to exactly the space and place of discussion that he intended…. this creates discomfort even to contemplate….. (ibid: 6).

Apocalypto will be judged in time as a cinema masterpiece, not only in its superb execution of film production, but also as an allegorical reference to the present. The criticisms, which were both accurate and fallacious, will continue to surround this film due to its unique story, the extraordinary setting, the allegorical and metaphorical references, and the various levels of awareness that are inherent in the film regarding the human saga. We are all a part of it.

References

Ardren, Traci 2006 Is "Apocalypto" Pornographic. *Archaeology, Online Reviews*, December 5, 2006. (http://www.archaeology.org/online/reviews/apocalypto.html)

Ardren, Traci 2007a Critiquing Apocalypto: An Anthropological Response to the Perpetuation of Inequality in Popular Media. Abstract submitted for a Presidential Session, sponsored by the Archaeology Division and the Society for Humanistic Anthropology, American Anthropological Association. Traci Ardren, Organizer & Chair.

Ardren, Traci 2007b Reception Theory and the Reinvention of Alexander, Xerxes, and Jaguar Paw in 21st Century Popular Media. Paper delivered at the Presidential Session, *Critiquing Apocalypto: An Anthropological Response to the Perpetuation of Inequality in Popular Media,* Organized and chaired by Traci Ardren. November 2007, Washington, D.C.

Avendaño y Loyola, Fray Andrés de 1987 Relation of Two Trips to Petén: Made for the Conversion of the Heathen Ytzaex and Cehaches (Relación de las dos Entradas que hize a Petén Ytza para la conversion de los Ytzaex y Cehaches Paganos), translated by Charles P. Bowditch and Guillermo Rivera, edited with notes by Frank E. Comparato. Labyrinthos, Culver City, California.

Barnes, Harry Elmer 1968 Zionist Fraud. In *American Mercury*, Fall 1968.

Barnes, Harry Elmer 1969 Zionist Fraud. Reprinted appendix in *The Myth of the Six Million* by David Hoggan, Noontide Press, Los Angeles, pp. 117 ff.

Baumgarten, Marjorie 2006 Apocalypto. *The Austin Chronicle*, Dec. 8, 2006. http://www.austinchronicle.com/gyrobase/Calendar/Film?Film=oid%3A425445

Berardinelli, James 2006 Apocalypto: A Movie Review. Reel Views. http://www.reelviews.net/php_review_template.php?identifier=877

Boot, Erik 2007 Oxtankah-Summary of Recent Research. *Maya News Updates 2007*, No 11. http://mayanewsupdates.blogspot.com/2007_02_18_archive.html

Bray, Warwick 1977 Maya Metalwork and Its External Connections. In *Social Process in Maya Prehistory*, edited by Norman Hammond, pp. 365–403. Academic Press, New York.

Brunning, Jacqueline and Paul Forster (editors) 1997a *The Rule of Reason: The Philosophy of Charles Sanders Peirce,* edited by Jacqueline Brunning and Paul Forster. University of Toronto Press, Toronto, Buffalo, London.

Brunning, Jacqueline and Paul Forster 1997b Introduction. In *The Rule of Reason: The Philosophy of Charles Sanders Peirce,* edited by Jacqueline Brunning and Paul Forster, pp. 3–12. University of Toronto Press, Toronto, Buffalo, London.

Buchler, Justus 1955 *Philosphical Writings of Peirce,* edited by Justus Buchler. Dover Publications, New York.

Bunch, Sonny 2006 Brutally Honest: The Multicultural Set Doesn't like Mel Gibson's "Apocalypto" because of its Depiction of Mayan Brutality. *The Weekly Standard*, Dec. 15, 2006. (http://www.weeklystandard.com/Content/Public/Articles/000/000/013/075khpyy.asp?page=2)

Calvo, Andrea 1985 (1522) News of the Islands and the Mainland Newly Discovered in India by the Captain of His Imperial Majesty's Fleet. Translated and with notes by Edward F. Tuttle. Labyrinthos, Culver City, California.

Cano, Fray Agustin 1697 (1984) *Manche and Peten: The Hazards of Itza Deceit and Barbarity*, translated by Charles P. Bowditch and Guillermo Rivera, with additional comments by Adela C. Breton. Edited with notes by Frank E. Comparato. Labyrinthos. Culver City.

Carrasco, Pedro 1971 Social Organization of Ancient Mexico. In *Handbook of Middle American Indians, Volume 10, Archaeology of Northern Mesoamerica*, edited by Gordon F. Ekholm and Ignacio Bernal, pp. 349–375. University of Texas Press, Austin and London.

Cervantes de Salazar 1941 *Cronica de la Nueva España*, Libro Segundo, Capitulos XXV-XXIX, pp. 110–122. In *Landa's Relación de las Cosas de Yucatan*. Papers of the Peabody Museum of American Archaeology and Ethnology, edited by Alfred M. Tozzer, Appendix B, pp. 233–239. Harvard University. Vol. XVIII, Cambridge.

Chacon, Richard J., and David H. Dye (editors) 2007 *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, edited by Richard J. Chacon and David H. Dye. Springer Science and Business Media, LLC.

Chacon, Richard J., and Ruben G. Mendoza (editors) 2007 *North American Indigenous Warfare and Ritual Violence*, edited by Richard J. Chacon and Ruben G. Mendoza. University of Arizona Press, Tucson.

Chi, Gaspar Antonio, 1582/1941 Relacion. In *Landa's Relación de las Cosas de Yucatan*. Edited with notes by Alfred M. Tozzer, pp. 230–232. Papers of the Peabody Museum of American Archaeology and Ethnology, Vol. XVIII. Harvard University, Cambridge, Mass.

Cogolludo, Diego López de 1688 / 2008 *Historia de Yucatan*. Linkgua Ediciones, Barcelona, Spain.

Collier, Paul. 1999. On the Economic Consequences of Civil War. *Oxford Economic Papers* 51: 168–183.

Collier, Paul, V.L. Elliott, Håvard Hegre, Anke Hoeffler, Marta Reynal-Querol, and Nicholas Sambanis. 2003. *Breaking the Conflict Trap: Civil War and Development Policy.* Washington, DC: World Bank and Oxford University Press.

Cortés, Hernan 1986 *Hernan Cortes: Letters from Mexico*. Translated and edited by Anthony Pagden and Introduction by J.H. Elliot. Yale University Press, New Haven and London.

Dahlin, Bruce H. 1984 A Colossus in Guatemala: The Pre-Classic Maya City of El Mirador. *Archaeology* 37 (5):18–25.

Davidson, Donald 1986 The Coherence Theory of Truth and Knowledge. In *Truth and Interpretations: Perspectives on the Philosophy of Donald Davidson*, edited by Ernest Lepore, Basil Blackwell, Oxford.

Delaney, C.F. 1993 *Science, Knowledge, and Mind: A Study in the Philosophy of C.S. Peirce*. University of Notre Dame Press, Notre Dame, London.

Diaz de Castillo, Bernal 1965 *The Discovery and Conquest of Mexico*. Noonday Press, New York.

Duran, Fray Diego. 1994 *The History of the Indies of New Spain*. University of Oklahoma Press: Norman and London.

Eberl, Marcus 2001 Death and Conceptions of the Soul. In *Maya: Divine Kings of the Rain Forest,* edited by Nikolai Grube, pp. 311–319. Konnemann Press, Germany.

Finamore, Daniel, and Stephen D. Houston, 2010 *Fiery Pool: The Maya and the Mythic Sea*. Peabody Essex Museum, in association with Yale University Press, New Haven and London.

Finke, Nikke 2010 Can Oscar Voters Forgive & Not Forget Mel. *Deadline Hollywood*. Sept. 22, 2010. http://www.deadline.com/?s=apocalypto.

Flixster 2006 *Apocalypto*. (http://www.flixster.com/actor/mel-gibson/mel-gibson-apocalypto).

Freidel, David A. 2007 Betraying the Maya: Who does the violence in Apocalypto really hurt? *Archaeology*, March/April 2007:38–41.

Garcia, Chris 2006 A History Professor Explains where Mel Gibson got it very very wrong. The American Statesman, Austin, Texas. (http://www.austin360.com/movies/content/shared/movies/stories/2006/12/history.html), (http://www.statesman.com/search/content/shared/movies/stories/2006/12/history.html)

Garcia de Palacio, Diego de 1576 (1985) *Letter to the King of Spain, Being a Description of the Ancient Provinces of Guazacapan, Izalco, Cuscatlan, and Chiquimula, in the Audiencia of Guatemala, with an Account of the Languages, Customs, and Religion of their Aboriginal Inhabitants, and a Description of the Ruins of Copan*. Translated and with notes by Ephraim G.

Squier, and additional notes by Alexander von Frantzius, and Frank E. Comparato. Labyrinthos, Culver City, California, 1985; 66 pp.

Gillespie, Jason D. 2004 Review of Zimmerman, Larry J., Karen D. Vitelli and Julie Hollowell-Zimmer (2003), *Canadian Journal of Archaeology* 28:172–175.

Haack, Susan 1997a Science, Scientism, and Anti-Science in the Age of Preposterism. *Skeptical Inquirer*, November/December 1997, pp. 1–10. (http://www.csicop.org/si/9711/preposterism.html).

Haack, Susan 1997b The First Rule of Reason. In *The Rule of Reason: The Philosphy of Charles Sanders Peirce*, edited by Jacqueline Brunning and Paul Forster, pp. 241–261. University of Toronto Press, Toronto, Buffalo, London.

Haack, Susan 1998 "We Pragmatists….": Peirce and Rorty in Conversation. In *Manifesto of A Passionate Moderate*. University of Chicago Press, 1998:31–47.

Hansen, Richard D. 1984 *Excavations on Structure 34 and the Tigre Area, El Mirador, Peten, Guatemala: A New Look at the Preclassic Lowland Maya.* Master's thesis, Brigham Young University, Provo, Utah. 645 pp.

Hansen, Richard D. 2001 The First Cities- The Beginnings of Urbanization and State Formation in the Maya Lowlands. In *Maya: Divine Kings of the Rain Forest*, edited by Nikolai Grube, pp. 50–65. Konemann Press. Verlag, Germany.

Hansen, Richard D. 2005 Perspectives on Olmec-Maya Interaction in the Middle Formative Period. In *New Perspectives on Formative Mesoamerican Cultures*, edited by Terry G. Powis, pp. 51–72. BAR International Series 1377, Oxford, England.

Hansen, Richard D., Steven Bozarth, John Jacob, David Wahl, and Thomas Schreiner 2002 Climatic and Environmental Variability in the Rise of Maya Civilization: A Preliminary Perspective from Northern Peten. *Ancient Mesoamerica*, 13 (2002):273–295. Cambridge University Press.

Hansen, Richard D., Beatriz Balcarcel, Edgar Suyuc, Hector E. Mejia, Enrique Hernandez, Gendry Valle, Stanley P. Guenter, and Shannon Novak. 2006 Investigaciones arqueológicas en el sitio Tintal, Peten. In *XIX Simposio de Investigaciones Arqueológicas en Guatemala,* edited by Juan Pedro Laporte, Barbara Arroyo, Hector E. Mejia, pp. 683–694. Ministerio de Cultura y Deportes, Instituto de Antropología e Historia, Asociación Tikal, Fundación Arqueológica del Nuevo Mundo.

Hartshorne, Charles, Paul Weiss, and Arthur Burks (editors) 1931–1958 *Collected Papers*, Volumes 1–7. Harvard University Press, Cambridge, Mass.

Hausman, Carl R. 1997 *Charles S. Peirce's Evolutionary Philosophy*. Cambridge University Press.

Hawass, Zahi. 2010 King Tut's Family Secrets. *National Geographic*, Vol. 218, No. 3, pp. 34–59, September 2010.

Hempel, Carl G. 1965 *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science.* The Free Press, New York; Collier-MacMillan Limited, London.

Herrera 1601/1941 *Historia General de los Hechos de los Castellanos en las Islas y Tierra Firme del Mar Océano*, Decada IV, Libro X, Caps. I-IV. In *Landa's Relación de las Cosas de Yucatan*. Edited with notes by Alfred M. Tozzer, pp. 213–220. Papers of the Peabody Museum of American Archaeology and Ethnology, Vol. XVIII. Harvard University, Cambridge, Mass.

Hester, Thomas R., Harry J. Shafer, Jack D. Eaton, R.E.W. Adams, and Giancarlo Ligabue 1983 Colha's Stone Tool Industry. *Archaeology*, Vol. 36, No. 6, pp. 46–52.

Hoggan, David 1969 *The Myth of the Six Million*. Noontide Press, Los Angeles.

Jacobs, Christopher P. 2006 Apocalypto blends action and allegory. *High Plains Reader*: *Selected Film Reviews*, by Christopher P. Jacobs. Dec. 12, 2006. http://www.und.edu/instruct/cjacobs/Reviews.htm#apocalypto

Jones, Alex and Paul Joseph Watson 2006 Apocalypto: The Most Powerful Film of all Time. *Prison Planet*, December 11, 2006. http://www.prisonplanet.com/articles/december2006/111206apocalypto.htm

Kant, Immanuel 1996 (1781, 1787) *Critique of Pure Reason*. Unified edition, translated by Werner S. Pluhar, and Introduction by Patricia Kitcher. Hackett Publishing Company, Inc., Indianapolis/Cambridge.

King, Byron 2007 Apocalypto: A Movie Review. In *Whiskey and Gunpowder: In The Independent Investor's Daily Guide to Gold, Commodities, Profits and Freedom*. Jan. 4, 2007. http://whiskeyandgunpowder.com/apocalypto-a-movie-review

Kniebe, Tobias 2004 Homer ist, wenn man trotzdem lacht: 'Troja'- Regisseur Wolfgang Petersen uber die mythischen Wurzeln des Erzahlens und den Achilles in uns allen, *Suddeutsche Zeitung*, May 11, 2004. http://www.sueddeutsche.de/kultur/artikel/607/31576/print.html

Landa, Diego de 1941 *Landa's Relación de las Cosas de Yucatan*. Edited with notes by Alfred M. Tozzer. Papers of the Peabody Museum of American Archaeology and Ethnology, Vol. XVIII. Harvard University, Cambridge, Mass.

Lipstadt, Deborah *1994 Denying the Holocaust: The Growing Assault on Truth and Memory* . Plume Publishing, Penguin Books, New York, London, 1994.

Lohse, Jon C. 2007 Letters to the Editor. In *The SAA Archaeological Record*, Vol. 7, No. 2, March 2007, p. 3.

Lopez-Medel, Tomas 1612 *Relacion.* Papeles de Muñoz, Tomo 42, Academia de Historia, Madrid. In *Landa's Relación de las Cosas de Yucatan*. Papers of the Peabody Museum of American Archaeology and Ethnology, edited by Alfred M. Tozzer, Appendix B, pp. 221–229. Harvard University. Vol. XVIII, Cambridge.

Maca, Alan and Kevin McLeod 2007 Blockbusting Apocalypto. Paper delivered in the Presidential Session *Critiquing Apocalypto: An Anthropological Response to the Perpetuation of Inequality in Popular Media,* Annual Meeting, American Anthropological Association, Washington, D.C. November 2007. 6 pp. A Presidential Session, sponsored by the Archaeology Division and the Society for Humanistic Anthropology, Traci Ardren, Organizer & Chair.

Massey, Virginia K. 1994 Osteological Analysis of the Skull Pit Children. In *Continuing Archaeology at Colha, Belize*, edited by Thomas R. Hester, Harry J. Schafer, and Jack D. Eaton, Studies in Archaeology 16, pp. 209–220. Texas Archeological Research Laboratory, University of Texas, Austin.

Matheny, Ray T. 1987 Early States in the Maya Lowlands during the Late Pre-Classic Period: Edzna and El Mirador. In *City States of the Maya: Art and Architecture*, edited by Elizabeth B. Benson, pp. 1–44. Rocky Mountain Institute for Pre-Columbian Studies, Denver, Colorado.

McAnany, Patricia A., and Tomás Gallareta Negrón 2010 Bellicose Rulers and Climatological Peril?: Retrofitting Twenty-First-Century Woes on Eighth-Century Maya Society. In *Questioning Collapse: Human Resilience, Ecological Vulnerability, and the Aftermath of Empire*, edited by Patricia A. McAnany and Norman Yoffee, pp. 142–175. Cambridge University Press, Cambridge, New York, et.al.

McCarthy, Todd. 2006 Apocalypto. *Variety: Film,* RBL, a division of Reed Elsevier, Inc. Dec. 4, 2006. http://www.variety.com/review/VE1117932232.html?categoryid=31&cs=1&p=0

McGhee, Robert 2008 Aboriginalism and the Problems of Indigenous Archaeology. American Antiquity, 74(4): 579–597.

McGuire, Mark 2006 "Apocalypto" a pack of inaccuracies. The San Diego Union-Tribune, December 12, 2006. http://www.signonsandiego.com/uniontrib/20061212/news_1c12mel.html

McPherson, James M. 2003 Revisionist Historians. In *Perspectives*, American Historical Association President's Column, September 2003. http://www.historians.org/perspectives/issues/2003/0309/0309pre1.cfm

Mendoza, Rubén G 2007 The Divine Gourd Tree: Tzompantli Skull Racks, Decapitation Rituals and Human Trophies in Ancient Mesoamerica. In *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, edited by Richard J. Chacon and David H. Dye, pp. 396–439. Springer Science and Business Media. http://csumb.academia.edu/RubenMendoza/Papers/119375/The_Divine_Gourd_Tree_Tzompantli_Skull_Racks_Decapitation_Rituals_and_Human_Trophies_in_Ancient_Mesoamerica

Miller, Arthur G. 1977 Captains of the Itza: Unpublished Mural Evidence from Chichen Itza. In *Social Process in Maya Prehistory: Essays in Honor of Sir Eric Thompson,* edited by Norman Hammond, pp. 197–225. Academic Press, New York.

Miller, Lisa 2006 Beliefwatch: Sacrifice. *Newsweek*, Dec. 11, 2006, pp. 14.

Mock, Shirley Boteler 1994 Destruction and Denouement during the Late Terminal Classic: The Colha Skull Pit. In *Continuing Archaeology at Colha, Belize*, edited by Thomas R. Hester, Harry J. Schafer, and Jack D. Eaton, Studies in Archaeology 16, pp. 221–231. Texas Archeological Research Laboratory, University of Texas, Austin.

Morris, Earl H., Jean Charlot, and Ann Axtell Morris 1931 *Temple of the Warriors at Chichen Itza, Yucatan*. Carnegie Institution of Washington, Publication No. 406. Volume II-Plates.

Orrego-Corzo, Miguel and Rudy Larios Villalta 1983 *Reporte de las Investigaciones Arqueológicas en el Grupo 5E-11, Tikal Peten.* Insituto de Antropologia e Historia de Guatemala, Parque Nacional Tikal.

Padgett, Tim 2006a Mel Gibson's Casting Call: For his new film, Apocalypto, the director went for authenticity over star power. *Time,* Arts & Entertainment, Thursday, Mar 9, 2006.

Padgett, Tim 2006b *Apocalypto* Now. *Time* magazine, March 27, 2006: 58–61.

Peirce, Charles S. 1898 (1931–1958) *Collected Papers*, edited by Charles Hartshorne, Paul Weiss, and Arthur Burks, Volumes 1–7; Harvard University Press, Cambridge, Mass. 1931–1958.

Peirce, Charles S. 1886 Qualitative Logic. In *Collected Papers*, edited by Charles Hartshorne, Paul Weiss, and Arthur Burks. Harvard University Press, Cambridge. Vol. 1, 1932.

Peirce, Charles S. 1901 Review of Pearson's The Grammar of Science. In *Popular Science Monthly* 58 (Jan 1901):296–306. Republished in *The Essential Peirce: Selected Philosophical Writings,* Volume 2, 1998, edited by the Peirce Edition Project, Nathan Houser, General Editor, pp. 57–66.

Pike, Kenneth L. 1967. "Etic and emic standpoints for the description of behavior." In *Language and Thought: An Enduring Problem in Psychology*, edited by Donald C. Hildum, pp. 32–39. Princeton, NJ: D. Van Norstrand Company.

Putnam, Hilary 1990 *Realism with a Human Face*, edited by James Conant. Harvard University Press, Cambridge.

Rice, Don S., and Prudence M. Rice 1981 Muralla de Leon: A Lowland Maya Fortification. *Journal of Field Archaeology*, Vol. 8, pp. 271–288.

Rorty, Richard 1982 *Consequences of Pragmatism*. Harvester. Hassocks, Sussex, 1982.

Rorty, Richard 1989 *Contingency, Irony, and Solidarity*. Cambridge University Press, Cambridge.

Rorty, Richard 1991 *Objectivity, Relativism, and Truth. Cambridge University Press*, Cambridge.

Rorty, Richard 1992 Trotsky and the Wild Orchids. *Common Knowledge* Vol. 1 (3), 1992: 140–153.

Schreiner, Thomas 2000a Maya Use of Vegetal and Mineral Additives to Architectural Lime Products. *Program Abstracts from Archaeometry: 32nd International Symposium*, May 15–19, 2000, pp. 246. Conaculta-INAH, Universidad Nacional Autónoma de México, Mexico City.

Schreiner, Thomas 2000b. Social and Environmental Impacts of Mesoamerican Lime Burning. Abstract in *GEOS, Unión Geofísica Mexicana, A.C.: Estudios del Cuaternario*, Vol. 20, No. 3, pp. 170. Mexico.

Schreiner, Thomas 2001 Fabricación de Cal en Mesoamerica: Implicaciones para los Mayas del Preclásico en Nakbe, Peten. In *XIV Simposio de Investigaciones Arqueologicas en Guatemala*, editado por J.P. Laporte, Ana C. de Suasnavar, y Barbara Arroyo, pp. 405–418. Museo Nacional de Arqueologia y Etnologia, Ministerio de Cultura y Deportes, Instituto de Antropologia e Historia, Asociacion Tikal.

Schreiner, Thomas 2002 *Traditional Maya Lime Production: Environmental and Cultural Implications of a Native American Technology*. Ph.D. Dissertation, Department of Architecture University of California, Berkeley.

Scholes, France V., and Eleanor Adams 1991 *Documents Relating to the Mirones Expedition to the Interior of Yucatan, 1621–1624*, compiled by France V. Scholes and Eleanor Adams, translated by Robert D. Wood, and additional notes by Frank E. Comparato. Labyrinthos, Culver City, California.

Sellars, Wilfrid 1970 Are there Non-Deductive Logics? In *Essays in Honor of Carl G. Hempel: A Tribute on the Occasion of his Sixty-Fifth Birthday*, edited by Nicholas Rescher, pp. 83–103. D. Reidel Publishing Company, Dordrecht, Holland.

Shaw, Henry Wheeler 1865 *Affurisms from Josh Billings: His Sayings*, 1865.

Skaperdas, Stergios 2009 The Costs of Organized Violence: A Review of the Evidence. CESIFO Working Paper No. 2704, Category 2: Public Choice. http://econpapers.repec.org/paper/cesceswps/_5f2704.htm

Souter, Collin 2006 Apocalypto. *Efilmcritic.com*. Dec 8, 2006. http://efilmcritic.com/review.php?movie=15289&reviewer=233

Stewart, Frances, Cindy Huang, and Michael Wang 2001 "Internal Wars in Developing Countries: An Empirical Overview of Economic and Social Consequences." In *War and Underdevelopment,* Vol. 1. Oxford University Press, Oxford.

Stone, Andrea 2007 Orcs in Loincloths. *Archaeology, Online Reviews*. January 3, 2007. (http://www.archaeology.org/online/reviews/apocalypto2.html)

Villagutierre Soto-Mayor, Juan de 1701/1983 *History of the Conquest of the Province of the Itza: Subjugation and Events of the Lacandon and Other Nations of Uncivilized Indians in the Lands from the Kingdom of Guatemala to the Provinces of Yucatan in North America*, translated by Robert D. Wood, 1983. Labyrinthos, Culver City, California. p. 480.

Wahl, David Brent 2000 *A Stratigraphic Record of Environmental Change from a Maya Reservoir in the Northern Peten, Guatemala*. M.A. Thesis, Geography Dept., University of California, Berkeley. 53 pp.

Wahl, David Brent 2005 *Climate Change and Human Impacts in the Southern Maya Lowlands: A Paleoecological Perspective from the Northern Peten, Guatemala*. Ph.D. dissertation, Dept. of Geography, University of California, Berkeley; Committee: Roger Byrne, Lynn Ingram, Richard Hansen; May 2005,

Wahl, David, Thomas Schreiner, and Roger Byrne 2005 La secuencia paleo-ambiental de la Cuenca Mirador en Peten. In *XVIII Simposio de Investigaciones Arqueológicas en Guatemala, 2004*, edited by Juan Pedro Laporte, Barbara Arroyo, Hector E. Mejia, pp. 53–58. Ministerio de Cultura y Deportes, Instituto de Antropologia e Historia, Asociacion Tikal, FAMSI, Inc.

Wahl, David, Roger Byrne, Thomas Schreiner, and Richard Hansen 2006 Holocene vegetation change in the northern Peten and its implications for Maya prehistory. *Quaternary Research,* 65:380–389. University of Washington. (http://www.sciencedirect.com; http://www.elsevier.com/locate/yqres).

Wahl, David, Roger Byrne, Thomas Schreiner, and Richard Hansen 2007 Palaeolimnological Evidence of late-Holocene Settlement and Abandonment in the Mirador Basin, Peten, Guatemala. *The Holocene* 17 (6):813–820. Sage Publications. (http://hol.sagepub.com/cgi/content/abstract/17/6/813)

Wahl, David, Thomas Schreiner, Roger Byrne, and Richard Hansen 2007 A Paleoecological Record from a Maya Reservoir in the North Peten. *Latin American Antiquity* 18:212–222.

Webster, David 1980 Spatial Bounding and Settlement History at Three Walled Northern Maya Centers. *American Antiquity*, Vol. 45, No. 4, pp. 834–844.

Williams, David 2005 *A People's History of the Civil War: Struggles for the Meaning of Freedom.* The New Press, New York, London.

Winkler, Martin M. (editor) 2004 *Gladiator*: *Film and History*. Blackwell Publishing.

Winkler, Martin M. (editor) 2007 *Troy: From Homer's Iliad to Hollywood Epic*. Blackwell Publishing Ltd. http://books.google.com/books?id=nQ1PSLJAdSQC&pg=PA11&lpg=PA11&dq=Winkler++film+critic+2007&source=bl&ots=7dYx29Yn7D&sig=UC6BJ2YlBorP0py_6cnbTnkww14&hl=en&ei=pHDbTP3ZDIG-sQODyYCHCA&sa=X&oi=book_result&ct=result&resnum=3&ved=0CCMQ6AEwAg#v=onepage&q&f=false

Zimmerman, Larry J., Karen D. Vitelli, and Julie Hollowell-Zimmer (editors) 2003 *Ethical Issues in Archaeology*. AltaMira Press, Walnut Creek, California.

Chapter 9
Mythologies of Conquest

Demystifying Amerindian Warfare and European Triumphalism in the Americas

Rubén G. Mendoza and Shari R. Harder

Abstract Despite centuries of scholarship regarding Amerindian warfare, both academic and public narratives that address the European conquest of the Americas privilege the absolute and total conquest and subjugation of the American Indian. As such, the legitimate Amerindian role in the conquest of the New World empires has entered the fray, and this in large part is due to the academy's failure to consider more fully the role of Indian militias and allies, or *indios amigos*. In those contexts where Indian militias are discussed, their role is generally treated as cursory, or in the case of Mexican nationalist narratives, as an utter betrayal of Amerindian self determination. In an effort to reassert the role of the Amerindian warrior in assuring self-autonomy and assuring self-autonomy and defense against European forces throughout the Americas, this essay will address three primary themes. First, we introduce that pervasive mythology of conquest that reifies the wholesale destruction of the Amerindian past, and one defined solely in terms of its relevance to European triumphalism, and Amerindian subjugation, subordination, and cultural annihilation or extinction. Second, we address the implications of an ascendant body of new and revisionist scholarship that clearly chronicles and privileges the pervasive role of Amerindian militias and allied indigenous kingdoms in the authentic conquest of the Americas. Finally, we review a select sampling of those military engagements in which Amerindian forces won decisive military contests against European belligerents in the Americas. Ultimately, we contend that prevailing public and scholarly narratives

R.G. Mendoza, Ph.D., RPA (✉)
Institute for Archaeological Science, Technology and Visualization
Social, Behavioral, and Global Studies, California State University,
Monterey Bay Seaside, CA 93955, USA
e-mail: ruben_mendoza@csumb.edu

S.R. Harder, M.A.E
Mission Conservation Program, Social, Behavioral,
and Global Studies, California State University,
Monterey Bay, 100 Campus Center, Seaside, CA 93955, USA
e-mail: sharder@csumb.edu

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that seek to pacify the Amerindian past are in effect predominantly Eurocentric creations that continue to tout an Amerindian past borne of little more than collective martyrology over substance and historical authenticity.

> I have fought beside these Indians and I have seen their loyalty and the great service that they have done for Your Majesty…they have fought and suffered along beside us, and many a Spanish soldier owes them his life…I can say in all honesty that without them we would never have conquered this land.
>
> Francisco de Bracamonte, 1576[1]

> The point is that it is not merely a question of military science, topography, relative numerical strength, or racial declension. These may be significant particulars, but a war of survival between two ethnic groups implies a conflict of total cultures.
>
> Robert Padden, 1957[2]

Introduction

Today, Zultépec, Tlatelolco, Cantonac, Teotihuacán, and related Mesoamerican sites vie with the Peruvian sites of Huaca de la Luna, Moche, Huarmey, and the Southwest US sites of Polacca Wash, Sacred Ridge, Sleeping Ute Mountain, and Chaco in current debates regarding the nature and extent of war and social violence in the pre-Hispanic New World (Fox 1978; Ferguson and Whitehead 1991; Schaafsma 2000; Benson and Cook 2001; Chacon and Mendoza 2007a, b; Chacon and Dye 2007; Bustard 2008). Those who espouse the "myth of war" fervently question the evidence for precontact warfare, social violence, and cannibalism in the Americas (Nichols and Crown 2008; Wilcox 2009). Those who seek to advance the "myth of peace" take the aforementioned archaeological sites to constitute the vanguard of an emerging new *corpus* of incontrovertible bioarchaeological and forensic evidence for universal patterns of social violence in human societies at best, and racialized patterns of aboriginal savagery and brutality in pre-European contexts at the very worst (Turner and Turner 1995, 1999; Milner 2005; Bender 2009; Potter and Chuipka 2010). Fueling the highly contentious debates of the day are those patterns of perspectivism (borne of cultural chauvinism, nationalism, *indigenismo*, racialization, and dehumanization) that continue to polarize investigators, community scholars, and indigenous nation communities; thereby serving to undermine the potential for crafting a new interpretive framework for understanding the rich cultural and social tapestry that constitutes the peopling of the New World (Conrad and Demarest 1984; LeBlanc 1997; Restall 2003; Bender 2009). Recent studies of social violence in the Americas increasingly illustrate that the unvarnished interpretation of such patterns necessarily serves to advance culturally divergent and anthropologically nuanced perspectives, and thereby, contrasting interpretive frameworks and messages

[1] Cited from Matthew and Oudijk 2007, p. 175.

[2] Padden 1957.

regarding aboriginal resistance and self-determination in the face of conflict, struggle, aggression, and emerging state-level technologies of terror and social control in the Fourth World (Harner 1984; Yupanqui 2005; Matthew and Oudijk 2007; Mendoza 2007a, b; Restall and Asselbergs 2008; Gwynne 2010).

Archaeology and Denial

Given the stakes and stakeholders in question, how then does one negotiate the profound morass of competing epistemological constructs, and pedagogies of denial and subordination, that necessarily arise in postcolonial contexts and the interpretive milieu engendered thereof? The purpose of this essay is to review in brief the growing body of evidence for aboriginal warfare and social violence, particularly as this pertains to that modicum of effective engagement culminating in Amerindian victories against European forces in the American hemisphere. As a descendant and heir to the fortunes, and profound misfortunes, of his Mexican Indian forbearers of that region variously identified with *Aztlán*, *La Gran Chichimeca*, northern New Spain, the *Pimeria Alta/Baja*, and the US–Mexican borderlands, Mendoza readily acknowledges the long-term and persistent denigration and subordination of the Amerindian community, and thereby, his forbearers.[3] Despite new age and other recent academic efforts to pacify the Amerindian past, we contend that what applies on a universal human scale (particularly in so far as patterns of war and social violence are concerned) necessarily applies in the American hemisphere within those contexts where corollary social, economic, political, and/or environmental conditions constitute the mitigating circumstances under consideration (Fig. 9.1).

With that said, we now turn to a consideration of said conundrum from the perspective of a particularly problematic Mesoamerican archaeological site that serves to document both a momentous Amerindian victory over European forces, and at the same time, a particularly egregious example of Amerindian social violence in the American hemisphere. Our purpose here is to address how it is that one such

[3] As such, we find it ironic that Mendoza's work as an archaeologist of the precolonial Mesoamerican world and his investigations into the indigenous past of the California missions in particular pose persistent challenges borne of a veritable conundrum of contradictory and conflict-ridden interactions with both his heritage and profession. In an attempt to advance the science of archaeology, Mendoza has recurrently had to accommodate many a compromise so as to remain true to his profession, while at the same time maintaining a respectful and honorable relationship with the memory and reality of his ancestors and their descendants. With a lifetime devoted to studying the evidence for why it was that the classical civilizations of Mesoamerica collapsed, and why the polities of the postclassical era in particular sought the dark and foreboding path of internecine warfare and otherwise bellicose ideologies, Mendoza finds it increasingly difficult to accept that Mesoamerica and the Americas more generally were ever the bastions of civility and peaceable kingdoms that today some contend constitute the truth of this most remote past. Despite the evidence, Mendoza continues to find it necessary to respond to critics and detractors who continue to question his motives for addressing the question of Amerindian social violence, particularly as some of those with whom he is most concerned were in effect his ancestors.

Fig. 9.1 Muralist Diego Rivera's (b. 1886-d. 1957) depiction of Hernán Cortés at war with the Mexica Aztec. In the foreground, a Tlaxcalan Indian ally brandishes a steel sword in murals painted by Rivera in the Palacio Nacional, Mexico City. Rivera's project at the Palacio Nacional spanned the period from 1929 to 1935. Photo by Rubén G. Mendoza, 2005

victory has morphed into the makings of a nationalistic debate over the nature and extent of aboriginal resistance to the onslaught of the European invasion. We then follow with a consideration of the growing body of evidence for Amerindian victories that problematized the full realization of the European ideal for the colonial era; and by so doing, launch a reconsideration of Amerindian warfare and European triumphalism in the Americas. As such, we begin with a preliminary discussion and assessment of the site of Tecuaque, Tlaxcala, Mexico, and then move to a consideration of the largely obscure history of Amerindian victories that necessarily stymied or derailed European incursions in the Americas.

The Archaeology of Violence

> Since these "preterit-agentive" nouns have the same form as the verbs that they are historically derived from…, "tecuahqueh" may be interpreted as either (1) a verb: "they ate someone" or (2) a noun: "people-eaters".
>
> R. Joe Campbell, 2006

We begin this perusal of the archaeology of violence in the Americas with R. Joe Campbell's efforts to contextualize the linguistic identity and apparent social implications of the toponym or town name and phenomenon identified with *Tecuaque*. Also known as Zultépec, Tlaxcala, Mexico, the town was renamed (and the populace annihilated) on the orders of Hernán Cortés de Monroy y Pizarro (c. 1485 – 2 December 1547) after the now infamous mass sacrifice of Spanish commander Pánfilo de Narváez's army of porters and support personal who were ambushed and captured by Texcocan forces in 1520 (Díaz del Castillo 1963). The aftermath of the incident in question appropriately enough led to the renaming of the town after the apparent sacrifice and cannibalization of the Spanish caravan in retaliation for the murder of a Texcocan warlord. Excavated by INAH archaeologist Enrique Martínez Vargas (1993, 2003), the site has come to represent for the Mexican people a clear-cut example of indigenous resistance and victory in the face of the Spanish onslaught, and that despite the fact that the forensic evidence unequivocally demonstrates that the majority of the 550 European, mulatto, mestizo, Maya, and Caribbean men and women who supported the caravan were ritually sacrificed, dismembered, and in part cannibalized, in retaliation for the murder of Cacamatzin, Lord of Texcoco.

The recovery of the remains of a *tzompantli* skull rack replete with European, afromestizo, and other non-indigenous crania, as well as those temporo-parietal perforations so often reserved for enemy kills destined for the skull racks of Tenochtitlan, also makes clear that as early as 1520 the Mexica Aztec and their allies had no qualms about killing these enemy aliens or combatants. The ritualized killing of the 550 captives took place over the course of a 9-month period extending from June 1520 through March 1521. Where the archaeological evidence alone is concerned, some 10,000 specimens have been recovered in association with some 400 burials since studied by an interdisciplinary team of investigators during an 18-year period of investigation (Martínez 1993, 2003). Such findings nevertheless fly in the face of traditional Mexican lore and early Spanish accounts that portrayed the Spanish as invulnerable in large part due to Amerindian perceptions that the Spanish were in effect gods who could not be killed. *Tecuaque* was, as such, a revelation for the Mexica of that time, as well as for the Mexican people of today who yearn to placate that modicum of ambiguity identified with the conquest of the indigenous past (Fig. 9.2).

Where Mexican and Chicano nationalism and scholarly objectivism are concerned, the site of Zultépec (aka: Tecuaque) poses an interesting conundrum, or perhaps more appropriately, double entendre, particularly if we consider arguments from the standpoint of perspectivism that would have us believe that "many possible conceptual schemes, or perspectives….determine any possible judgment of truth or value that we may make," thereby implying "that no way of seeing the world can be taken as definitively 'true'".[4] Clearly, perspectivism, or the premise that all ideation

[4] Wikipedia contributors, "Perspectivism," *Wikipedia, The Free Encyclopedia,* http://en.wikipedia.org/w/index.php?title=Perspectivism&oldid=328935594 (accessed December 1, 2009).

Fig. 9.2 European, Afro-mestizo, and both male and female crania constituted the remains of the *tzompantli* – skull banner or skull rack – of Zultépec, Mexico. Note perforations in the temporo-parietal area of each cranium depicted. Said perforations were fashioned so as to permit the skewering of the heads upon the horizontal members of the skull rack shortly after the decapitation of each victim. Photo by Rubén G. Mendoza, 2007

or conceptual schemes or perspectives are necessarily defined in terms of contextual, or cultural and subjective, frameworks of analysis and observation, is at work in mediating the message and messenger in this instance.

Tecuaque

The site of *Tecuaque* or *Zultépec* (Sultepec) lies in western Tlaxcala and its strategic highland location provided a significant crossroads for highland trade. Ironically, the site's 1968 UNESCO World Heritage listing acknowledges that the prime importance of the site is that it effectively constitutes one of the few sites where material evidence of the earliest Amerindian and European contact has been documented both historically and archaeologically. Given this fact, nomination to the UNESCO World Heritage List in this instance was apparently predicated on the fact that the site met three of the top four "cultural" selection criteria, including that the site must "exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental

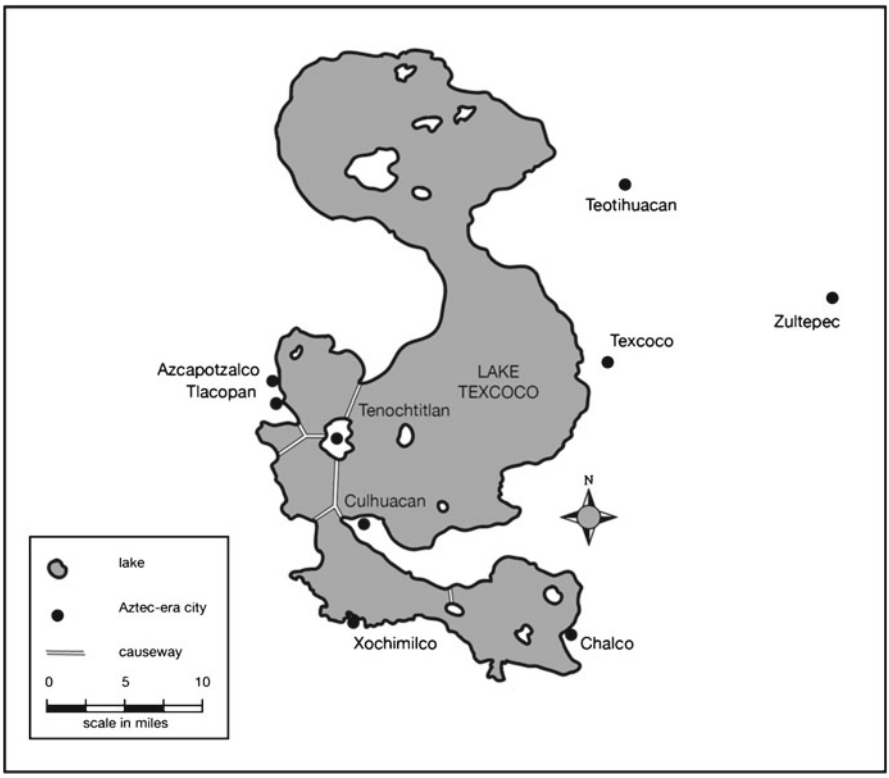

Fig. 9.3 The site of Zultépec lay just east of the shallow lakes of the Basin of Mexico, including that of Texcoco, and the island city of Mexico-Tenochtitlan, the Aztec capital. Note the system of causeways that once connected Tenochtitlan to the mainland. The cities and regions of Azcapotzalco, Xochimilco, and Chalco all constituted conquered tributaries of the Aztec Empire; and ultimately, each, in its turn, formed an alliance with Hernán Cortés in the conquest of the Aztec Triple Alliance. Map drafted by Emily H. Nisbet, 2011

arts, town-planning or landscape design" (Criteria ii); the site must "bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared" (Criteria iii); and finally, the site must constitute "an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates…significant stage(s) in human history" (Criteria iv) (Fig. 9.3).[5]

While the distinctive architectural tradition of the site of Tecuaque is clearly the focus of the UNESCO World Heritage List nomination, one other point of distinction emphasized in the nomination has much to do with the documented recovery of

[5] UNESCO, "The Criteria for Selection," UNESCO World Heritage, http://whc.unesco.org/en/criteria (accessed December 1, 2009).

European fauna from first contact contexts, as well as the "ratified" ethnic diversity identified during archaeological investigations. According to the site description from the UNESCO World Heritage List (UNESCO 2002, 2005),

> From June 1520 to March 1521, this settlement played a very important role during the contact between two races and the conquest of Tenochtitlan. During this period the members of a caravan integrated by Europeans, Africans, mulattos, Tainos and mestizos, together with their indigenous allies that were moving from the Gulf to the great Tenochtitlan were captured and sacrificed; the first domestic animals brought into the continent were also traveling with them. This event was recorded in several Spanish chronicles and in indigenous sources of the XVI century. During the exploration of the ancient settlement of Tecoaque, material evidence of the historical events recorded on such sources was found, and with the help of specialists such as physical anthropologists and archaeo-zoologists the presence of an ethnic diversity and of European fauna is ratified.

The whole of the World Heritage description remains bereft of any allusion to cannibalism, although human sacrifice is indicated. While the dated nature of the description necessarily plays a role in the paucity of details specific to the nature of the interaction, it is clear that the description was crafted to minimize or exclude specific reference to what became of the European, African, afromestizo, *Taíno*, and mestizo captives taken by Texcocan forces at the site of Tecuaque in June 1520. By contrast, recent media reports of the carnage and cannibalism, as well as the subsequent mutilation of the captives are now touted as central to the site's importance. Interestingly, despite nationalistic sentiments to the contrary, which typically arise among Mexican and Chicano nationalists and devotees of the neo-Mexica movement in California and the West (Mendoza 2001), in this instance the Mexican press has taken to portraying the annihilation of the European, afromestizo, and Amerindian contingent of ill-fated *conquistadores* and their allies as an act of self-determination and active resistance to the European invasion. International media coverage of recent findings from Tecuaque has generated a variety of responses that either affirm the theme of Amerindian resistance, or condemn the reports as illegitimate or misguided. According to Tecuaque project director and INAH archaeologist Enrique Martínez, "This is the first place that has so much evidence there was resistance to the conquest… It shows it wasn't all submission. There was a fight".[6] Such statements necessarily serve to acknowledge that the conquest of the Americas continues to be perceived in the popular media as a veritable triumph of the will, as in the will of the European over the Amerindian. Zultépec-Tecuaque, therefore, is taken as a counterpoint to the belief that the American Indian chose submission and subjugation over annihilation.

By contrast, others celebrate the violation of the Spanish invaders and their women, and extol the virtues of such a wondrous victory. In one such reaction

[6] Bremer, Catherine, "Grisly Aztec Saga Reconstructed: Archaeologists find remains that back up tale of ritual massacre," MSNBC.com, reported August 23, 2006. Cited from ppiindia Freelists.org at http://www.freelists.org/post/ppi/ppiindia-Archaeologists-find-remains-that-back-up-tale-of-ritual-massacre (accessed December 1, 2009).

posted to the *Imago* blog, the Tecuaque massacre was captured in a particularly detailed fictional narrative based on period accounts; and this in turn resulted in responses that varied considerably from celebration to condemnation. In this instance, one reaction posted on 29 December 2007 argued that "*Matemos a todos los piojosos y culturalmente inferiores para hacer de este mundo un lugar mejor*" [Translation: "We killed all of the lice-ridden and cultural inferiors to make a better world"]. Another post to the same blog on 4 September 2009 makes clear that the aforementioned diatribe remains very much alive with respect to Tecuaque, and in this latter instance takes shape in the following commentary: "*Y FUERON COMIDOS POR PARTE DE UN RITO CEREMONIAL, PARA OBTENER EL PODER PARA COMBATIR A NUESTROS ENEMIGOS, COSAS COMO USTEDES INCULTOS NUNCA ENTENDERIAN*" [Translation: "And they were eaten as part of a ceremonial ritual, to obtain the power to combat our enemies, things that you who are uncultured never understand"].[7]

According to an August 2, 2006, report by *La Jornada*, human remains recovered from the site revealed the presence of *Taínos*, Spaniards, male and female Africans and *mulatos*, *mestizos*, *tabasqueños*, *mayas*, *totonacos*, *tlaxcaltecas*, as well as 4- and 5-year-old children, and an 18–20-year-old pregnant woman and others who were similarly dispatched and subsequently dismembered and cannibalized. One particularly inflammatory white nationalist website reacted to early reports of the inherent and early cultural diversity of those captives sacrificed at Tecuaque by exclaiming that "the numbers involved and the degree of mongrelization over that short a time period don't quite add up. There's something not kosher there."[8] Other respondents to the *New Nation News* blog then proceeded to argue that because the Spanish had been conquered by the "darkies" (i.e., Moors), they were therefore all that more accustomed to coupling with Africans to produce *afromestizos*. In this latter instance the cultural diversity represented by the victims of the Tecuaque massacre thereby provides yet another essentialized perspective, and thereby, justification for a preexisting ideological framework; mainly, one true to the *New Nation News* website's "Minority and Migrant Crime" orientation. Ironically, despite such white supremacist perspectives, the message conveyed by the international media in this instance is that "the discovery proves some Aztecs did resist the conquistadors led by explorer Hernan Cortes [*sic*], even though history books say most welcomed the white-skinned horsemen in the belief they were returning Aztec gods" (*New Nation Forums*, 2009). Despite white nationalist perspectives to the contrary, Zultépec-Tecuaque presents a particularly well documented resource, not to mention a veritable conundrum of mixed messages and conflict-ridden metaphors, regarding issues such as ethnic diversity, multiculturalism, mestizaje, afromestizo origins, eurocentrism, Amerindian warfare and beliefs

[7] Blog posts, "Imago: De La Crisalidad Surge El Imago," Posts of 28 December 2007 through 4 September, 2009. http://arsimago.blogspot.com/2007/12/tecuaque.html (accessed December 1, 2009).

[8] Blog post, "New Nation News Reporters Newsroom," Post of 20 November 2006. http://www.newnation.vg/forums/showthread.php?t=94003 (accessed December 1, 2009).

Fig. 9.4 Diego Rivera's murals highlight the brutality and corruption of the Spanish conquest and its colonial legacy, clearly a central theme of that brand of Mexican nationalism touted since the drafting of the Constitution of 1917. In an effort to embrace the indigenous past, Mexican nationalism touted collective martyrology as the new Mexican ethos. In so doing, the Mexican Indian was repatriated into the national dialog as a hapless victim and martyr of European aggression. Photo by Rubén G. Mendoza, 2005

regarding the invasion, and ultimately, indigenous resistance and triumph that anticipated the full-fledged biological and cultural wars that set the stage for the collapse of New World empires (Fig. 9.4).

The importance of Zultépec-Tecuaque in the development of a nuanced analysis of the archaeology of violence in the American hemisphere remains to be seen. Nevertheless, Zultépec-Tecuaque affords a particularly compelling case study in text-based and forensic approaches to the archaeology of violence in Mesoamerica and will undoubtedly provoke the reassessment of a trove of corollary examples ranging from the bone beds of Tlatelolco to the carnage of Cantonac and beyond (Chacon and Dye 2007). Despite extant evidence for cannibalism and human sacrifice, not to mention the deployment of technologies of terror such as that of the *tzompantli* skull rack erected at Zultépec-Tecuaque, the site is nevertheless taken to constitute a prime example of aboriginal resistance and stealth at a time when the myth of European invincibility continues to bolster public perceptions of the conquest, and the Amerindian will and/or ability to resist said conquest. In the final analysis, Zultépec-Tecuaque has come to represent to some a clear-cut case of Amerindian resistance and victory in the face of the European invasion, and has thereby spurred us to undertake this review of American Indian victories over

European forces of the sixteenth century and beyond. Until scholars more fully address the countless battles that produced Amerindian victories over European forces, we will be left to the vagaries of perpetuating the myth of European tactical and technological superiority. Despite decisive indigenous victories at battles such as the Little Big Horn River, Montana, or Quigaltam, Mississippi; Cerro Mixton, Zacatecas, or Zultépec-Tecuaque and Tenochtitlan, Mexico; Cuzco, Peru; Arauco, Chile; Logroño and Sevilla de Oro, Ecuador; and Santa Fe, New Mexico, to name a few, European triumphalism continues to dominate the literature. Ironically, Amerindian military victories in each of the aforementioned regions were ultimately countermanded not by the superiority of European tactical know-how or weaponry, but rather by the catastrophic spread of European disease and the herculean military efforts of Indian conquistadors and other allied indigenous forces, conscripts, and auxiliaries, who similarly sought the subjugation and/or destruction of rival New World states and empires.

The Myth of European Invincibility

With the publication of Eric Wolf's *Europe and the People Without History*, a new world of interpretations, conceptual realignments, and legions of critical reassessments regarding indigenous communities was opened to anthropological and historical scrutiny. The revisionist reassessments in question necessarily forced a reconsideration of the role of indigenous agency in those outcomes typically defined almost wholly in terms of the European conquest of the Americas. More recently, Matthew Restall's *Seven Myths of the Spanish Conquest* has drawn into the equation a conundrum of considerations that further challenge the long-standing myth of European invincibility in those wars that culminated with the European conquest of the Americas. According to Restall (2003), seven myths dominate the conquest narrative, and these are all predominantly centered on the role and tactics of Hernán Cortés in the conquest of the Aztec Empire.

Mythic Constructs

According to Restall, the Spanish conquest of the Aztec by those forces commanded by Hernán Cortés signals the advent of eurocentric legends that tout European invincibility over the American Indian in the conquest of the New World. Central features of the legend are those that speak to the military genius of Hernán Cortés de Monroy y Pizarro and the deployment of superior European armaments and technologies in the conquest of an indigenous empire led by a superstitious and ineffectual indigenous authority. The downfall of Moctezuma and the rise of Cortés were characterized in such accounts as having been orchestrated by way of the manipulation of the credulous and superstitious emperor and his followers. As such, according to Restall (2003: xv), "Cortés became the archetypal conquistador, and he remains so today." Restall's *The Seven Myths of the Spanish Conquest* in turn reveals

Fig. 9.5 An essential element of the mythology of conquest is that which touts the preordained and fatalistic histories of the Mexican Indian. Justification for the destruction of the Indies is framed within the reformulation of the legend of Quetzalcoatl, the Plumed Serpent or Precious Twin. Diego Rivera's depiction in the Palacio Nacional portrays the deity as the bearded white god of Spanish lore. Photo by Rubén G. Mendoza, 2005

the dominant role played by both West African and indigenous allies in the conquest of the Americas. He in turn challenges the notion that the majority of the conquistadors were Spanish soldiers and that their Amerindian foes saw them as gods and/or supernaturals, when the reality was far more complex in that "the conquistadors were far more varied in their identities, occupations, and motivations" (Restall 2003: xviii). Ultimately, the conquest and colonization of the Americas are generally portrayed as having been affected rapidly and decisively, whereas, the reality would appear to indicate a protracted and incomplete process of conquest, colonization, and conversion. A number of recent treatments, including that of James Sandos (2008), make clear that the process of indigenous conversion, not to mention acculturation, was in effect far from complete well into the nineteenth century in the Spanish colonial missions of Alta California for instance (Fig. 9.5).

While those central tenets identified with the myths of the Spanish Conquest proclaim the outright conquest and complete subjugation of native societies, it is clear from the archaeology, ethnohistory, and anthropology of these same societies that they, in fact, "displayed resilience, adaptability, ongoing vitality, a heterogeneity of response to outside interference, and even a capacity to invert the impact of conquest and turn calamity into opportunity" (Restall 2003: xviii). In effect, indigenous history and native adaptation have been invested with a level of agency not

Fig. 9.6 Despite other nationalistic themes in those fresco murals rendered by Diego Rivera in the Palacio Nacional, one recurrent theme in all depictions of Spanish warfare is that of the key role of indigenous allies or Indian militias. Photo by Rubén G. Mendoza, 2005

typical of either the conquest narratives or many of those second-hand accounts and scholarly treatments crafted since.

Interestingly, while most historians continue to tout the inherent superiority of European weaponry and military formations at war with the indigenous populations of the Americas, it would appear that such narratives fail to take into account the history of European warfare. In reality, many of the key technological changes generally attributed to European "forces" in the Americas did not make their initial appearance until the latter half of the sixteenth century. In the wake of the conquest of both the Aztec and Inca empires in 1521 and 1534, respectively, "the numbers of men at arms grew dramatically in the sixteenth century… [and]…by 1710 there were 1.3 million Europeans at arms" (Restall 2003: 32). The deployment of volley fired techniques, the invention of the musket, and the fabrication of faster more formidable and efficient battleships were among those innovations that accrued in the period identified with the latter half of the sixteenth century and thereby, well after the fall of the major New World empires. Moreover, Restall (2003: 32) makes clear that the more formidable professionalized armies implied by the sixteenth century conquests of the native empires did not in fact appear until well into the seventeenth century, when "the European states, Spain included, achieved the level of centralization and institutionalization [necessary] to be able to field forces in which the majority of men were trained, salaried, permanent, veteran soldiers with uniforms and standard-issue weapons" (Restall 2003: 32) (Fig. 9.6).

Where the culture of war is concerned, we are reminded by Restall (2003: 32, 144–145) that clear distinctions existed between formal military conventions used by European forces versus those engaged by Amerindian warriors. First, it must be remembered that sixteenth century Spanish forces often consisted of little more than soldiers of fortune and mercenaries led into the theaters of war under the direction of such leaders as Hernán Cortés de Monroy y Pizarro and Francisco Pizarro y González. As such, strict military conventions utilized in European contexts were often dispensed with in favor of those tactics characterized by Spanish captain Bernardo de Vargas Machuca as necessary in order to defeat Amerindian forces. Therefore, he espoused that "linear formations, hierarchical units, and permanent garrisons be abandoned in favor of small, covert fighting units dedicated to search-and-destroy missions carried out over several years" (Restall 2003: 32). In effect, Bernardo de Vargas Machuca's book *The Armed Forces and Description of the Indies* published in 1599 touted the efficacy of asymmetrical combat tactics, and thereby guerrilla warfare (cf., Vargas Machuca 2008). Given that the Spanish and other European forces were typically outnumbered by the indigenous populations against whom they fought, guerrilla warfare more often than not served as the *modus operandi* of European tactics in the Americas. As a matter of course, indigenous populations were essentially dependent on agricultural pursuits, and were as such bound to the land in a way that the Spanish were not, particularly where urban populations were concerned. In the precontact era, Mesoamerican warfare was typically undertaken in the dry season so as to accommodate the agricultural year spanning the period between the vernal equinox and its autumnal counterpart (ca. March 21–September 21, North America).[9] Moreover, it would appear that conventional patterns of pre-Columbian warfare entailed the ongoing or active integration of enemy fighting forces vanquished in earlier wars. This latter pattern, made apparent in both contact and colonial era sources (Asselbergs 2004; Matthew and Oudijk 2007; Chimalpahin 2010), entailed the conscription of fighting forces from among vassal states conquered in earlier conflicts. This pattern was apparently fueled by the urgent need by vassal states to reconcile with their patrons, and other more formidable rivals and conquering armies. A secondary consideration stemmed from the desire of individual warriors, their captains, and whole legions from within the vassal state to seek advancement within the ranks of their patron's armies, and that despite their newfound status as vassals or conscripts. Ultimately, the preexisting pattern served the Spanish quite well in their recruitment and conscription of indigenous allies who joined them in the conquests of both Tenochtitlan and Cuzco, respectively.

[9] This is mirrored in the period after the autumnal equinox with growing seasons for the Southern Hemisphere spanning November through March in Brazil, for instance.

Indian Conquistadores

While much has been made of those traditional, read inflexible and inferior, battle conventions utilized by Amerindian forces, Restall (2003: 144) minimizes the decisive role played by such factors. Mexica prebattle ceremonies and the taking of captives for ritual execution as opposed to battlefield kills, among other conventions, are often cited as cultural mores of war that handicapped the Aztec response to the Spanish invasion. While such practices clearly presented limitations, Restall argues that disease, native disunity and intertribal conflict, and metal weaponry proved the most decisive factors in the fall of the indigenous empires of the Americas. According to Oudijk and Restall (2007: 42), historians have come to see the "Castilian experience in Spain, the Canaries, and the Caribbean in the decades, even centuries, before the invasion of Mexico" as having tempered emerging strategies employed by the Spanish in their conquest of the New World empires.

By contrast, the works of Asselbergs (2004), Matthew and Oudijk (2007), and Restall and Asselbergs (2008) clarify the decisive role played by native allies and auxiliaries in the so-called Spanish conquest of the New World. Oudijk and Restall (2007: 42) in fact argue that "the history of Spanish conquests in Mesoamerica is marked by strategies and mechanisms that imitated those used in pre-conquest Mesoamerica – an imitation stemming from and symptomizing the extensive role played by native allies in these conquests." Furthermore, one could argue that many of the earliest institutions established by the Spanish for the colonial control of both Mesoamerican and Peruvian peoples were, in fact, modeled on extant indigenous institutions. Examples cited by Oudijk and Restall (2007: 42) include multicity alliance formations such as that of the Aztec Triple Alliance, sequential conquests, military strategies centered on extant trade routes, and an incentives system based on the bestowing of lordships and the granting of lands to those partaking in such alliances (Fig. 9.7).

Where alliance formation is concerned, it should be noted that allied warriors were typically integrated into the ranks of conquering armies, but nevertheless remained semiautonomous; as had been the custom from the earliest of times. According to Oudijk and Restall (2007: 42), "each section had its own captain, its own banner, and its own internal organization and as such represented its own community or barrio." Where pre-Columbian systems of rewards and incentives are concerned, warlords often granted land titles and estates to allied war captains, as was the case in the earliest campaigns undertaken by the Mexica against other Basin rivals such as that of Azcapotzalco (Durán 1967: 82). In the aftermath of the siege on Azcapotzalco, for instance, "eight of the nobles, including *Tlacaelel*, were singled out for significant land grants reminiscent of the later Spanish colonial system of *encomiendas*, or its corollary, the labour tax of the Spanish *repartimiento* (or by extension, the Inca *mit'a*) by which Spanish noblemen were granted native workers or trustees as part of a system of reward for the *conquistadores* based on a labour tax" (Mendoza 2011: 31).[10]

[10] Mendoza (2011) remains an unpublished manuscript as of this writing, and therefore those page numbers noted refer to the unpublished typescript.

Fig. 9.7 The initial Spanish entry or *entrada* into New Mexico has been commemorated in a variety of ways, not the least of which celebrates this event as a joint venture between the Spanish and their Indian allies, or *indios amigos*. This represents but one portion of a larger public sculpture installed near the Albuquerque Museum of Art. Photo by Rubén G. Mendoza, 2006

Ultimately, it is clear from a variety of sources that precontact mechanisms of conquest, subordination, and domination were maintained through the course of the colonial era (Oudijk and Restall 2007: 57). The conscription of allied warriors served to maintain the pre-Columbian pattern of conquest interaction, and as a result, thousands of central highland Mexican Nahua, Zapoteca, and Mixteca warriors were recruited for wars in Guatemala and the Yucatan, while central Guatemalan Kaqchikel were in turn allied with the Spanish in the defeat of the K'iche'. Significant numbers of these allied armies or Indian conquistadors, in turn, colonized areas of Guatemala and established *Mexicano* towns with colonial charters, thereby leading Matthew (2007: 111–12) to conclude that "the conquest of Central America was, from the beginning, a joint Spanish-Mesoamerican venture: planned, coordinated, guided, and fought by thousands of Nahua, Zapoteca and Mixteca and a few hundred Spaniards, in the name of their home altepetl, the Mesoamerican gods who aided them, Christianity, and the Spanish Crown."

Amerindian Warfare

While Mexican nationalists hearken to the Texcocan victory over Spanish forces at Zultépec, and for the American Indian those of the Little Bighorn or the Pueblo Revolt of 1680, as exemplars of Amerindian victories over European and American forces, the documentary record makes clear that both Indian conquistadors and native militias tallied many decisive and logistically significant victories over European and American forces. Even in those contexts in which the Spanish are counted as the ultimate victors, it is clear that Indian conquistadors and conscripts, or the "forgotten allies" (cf., Chuchiak 2007: 176), tipped the balance in favor of the Europeans over the indigenous populations in each of the affected areas, and thereby made possible what David Carrasco (cf., Asselbergs 2004: xii) has deemed the "joint conquest" of the Americas. Whether addressing the siege of Cuzco, Peru, or that of Tenochtitlan, Mexico, clear indicators of sophisticated and strategically significant Amerindian strategies, tactics, and weaponry provide a picture that further serves to contest prevailing myths of Amerindian vulnerability and European invincibility.

While not intended as an exhaustive treatment, the following synopsis of Amerindian forms of resistance, sophisticated battle tactics, and victories over European and American forces will address the essential elements of those tactically and strategically significant engagements for which documentary evidence is available. We begin this discussion with two Amerindian empires whose numerical superiority and agrarian-based urban configurations ultimately proved their undoing, particularly given the intervention of hundreds of thousands of rival Indian auxiliaries who formed coalitions with extant European forces (Fig. 9.8).

The Siege of Tenochtitlan

Of those epic battles chronicled in the annals of world military history, that identified with the siege of Mexico-Tenochtitlan stands out as legendary. Though many Mexican grade school children have heard the tale of the *Noche Triste*, or Sad Night, in which Cortés took flight from Tenochtitlan in the wake of the death of the Aztec Emperor Moctezuma; seldom is the ferocity and strategy of the Aztec defense of their homeland fully elucidated. According to the accounts of that time, under the cover of darkness on June 30/July 1, 1520, Hernán Cortés and his force of Spanish *conquistadores* and Indian auxiliaries attempted to flee the city after the looting of some eight tons of gold, silver, and gems from Moctezuma's treasury. On that night, the Spanish suffered one of their greatest military defeats at the hands of the Aztec, and in so doing, Cortés saw the loss of the bulk of his army, estimated at over 600 Spanish troops and thousands of Indian allies (Robinson 2004: 53). The harrowing escape of the Spanish and their Indian auxiliaries from Tenochtitlan was only made possible by virtue of the alliance and safe haven provided by the peoples of Tlaxcala.

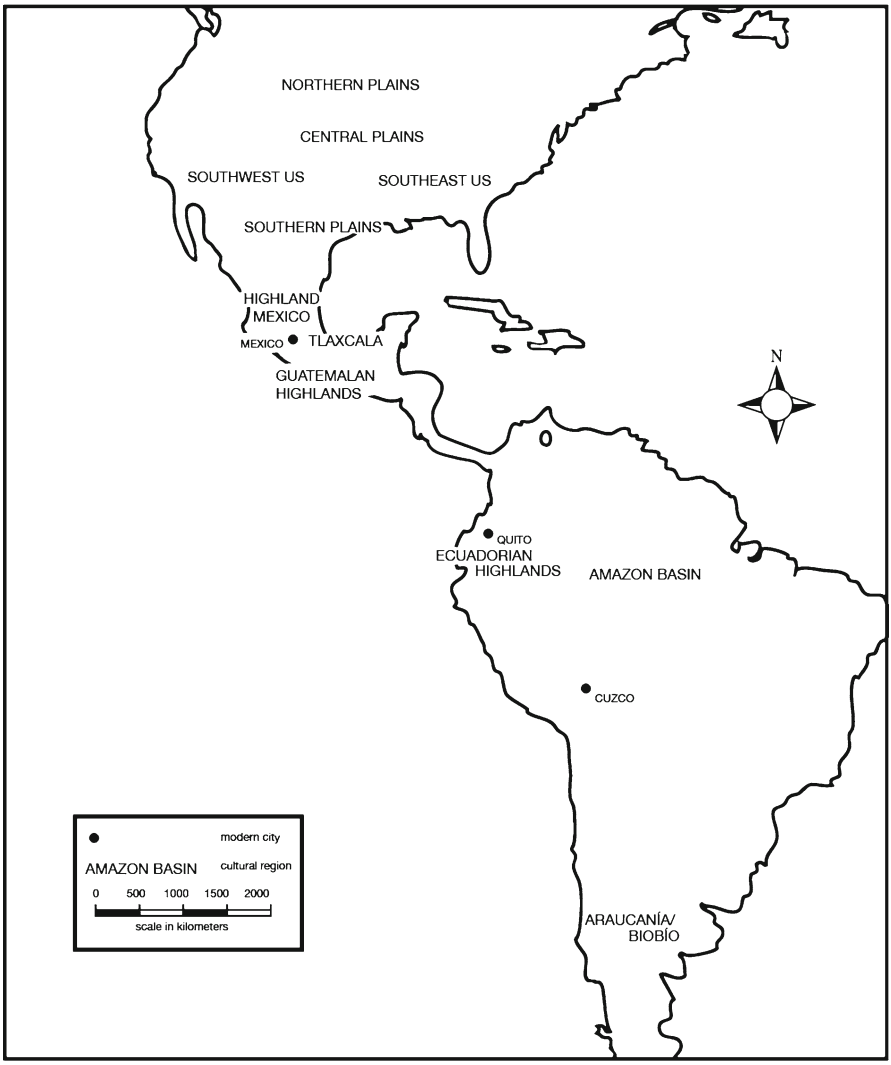

Fig. 9.8 Map of culture areas of the Americas cited with respect to tribal territories and groups, including the Seminole of the Southeast US, Comanche of the Southern Plains, Pueblos of the Southwest US, Chalca and Mexica of Highland Mexico, Tlaxcalan of Tlaxcala, Quiche Maya of the Guatemalan Highlands, the Sierra and Shuar or Jívaro of the Amazon Basin and Ecuadorian highlands, the Quechua and or Inca of the Cuzco region of the Andean Cordillera, and the Arauco or Mapuche of the Araucanía/Biobío regions of Chile and Argentina. Map drafted by Emily H. Nisbet, 2011

Were it not for the alliance had between Cortés and the Tlaxcalteca, the Spanish would have been annihilated, and Cortés rendered little more than a footnote in the Age of Exploration. Moreover, while the *Noche Triste* has long been upheld by Mexican nationalists as evidence of the heroic struggles of the Aztec people to

defend their homeland, the reality is that many more such losses awaited the Spanish in their efforts to vanquish the Aztec empire (de Fuentes 1993).

The siege of Mexico, which began in earnest on September 26, 1520, initially saw Cortés at the head of a combined Spanish and Tlaxcalan force consisting of a reinforced European contingent conjoined with 10,000 Tlaxcalan auxiliaries. Soon Cortés and a sizeable army of Indian conquistadors encircled and subjugated towns on the margins of Lake Texcoco in preparing a blockade of the mainland, and thereby readying for the assault on the Aztec capitol. These preparations were coordinated with the equivalent of a naval assault in which Spanish brigantines constructed by Tlaxcaltecan Indian auxiliaries were ported to the shores of Lake Texcoco and the prefabricated vessels reassembled for launch in the final assault. Drawing on Indian allies called forth by a network of messengers, Cortés and the original Tlaxcalan forces were soon joined by another 50,000 Tlaxcalan warriors chanting, "Castile! Castile! Tlaxcala! Tlaxcala!" (Robinson 2004: 57). As the blockade grew, the over 60,000 Tlaxcalan warriors supporting the blockade were joined by an additional 25,000 Tlaxcalans from Tacuba, 20,000 Indian auxiliaries from Coyoacán, and another 30,000 Indian auxiliaries from Itzapalapa, for a total cohort of over 135,000 Indian *conquistadores*.

After a series of setbacks occasioned by the ferocity of the Aztec defense of Mexico-Tenochtitlan, in July of 1521 Cortés renewed the offensive against the Aztec with the commanding support of 900 Spanish soldiers and some 150,000 Indian allies (Robinson 2004: 60). According to Chimalpahin's revision of Francisco López de Gómara's *La conquista de México* (Chimalpahin 2010: 321), Cortés ultimately conducted the final siege of Mexico-Tenochtitlan in the company of 200,000 Indian allies largely recruited by the Chalca enemies of the Aztec Empire.[11] Clearly, the conquest of the Aztec Empire was largely an Indian conquest affected by a force comprised almost wholly of Indian conquistadors and auxiliaries. Given the fact that the projected population of Mexico-Tenochtitlan stood at between 200,000 and 350,000 citizens residing on an expanded island of 13.5 km^2 (Smith 2005), the effective blockade and encirclement of the island city by the enemies of the empire were complete; and clearly, the enemy force confronting the defenders of Tenochtitlan, overwhelming.

Ironically, the greatest challenge facing Hernán Cortés in the final siege of Mexico-Tenochtitlan was his inability to stanch the desire of the Tlaxcalan forces to exact revenge on the Aztec by way of a war that soon evolved into a campaign of genocide undertaken by the Indian militias; more often than not the avowed mortal enemies of the Aztec. According to Robinson (2004: 60), "whatever the atrocities for which the Castilians may be blamed in the five centuries since the Conquest, their acts paled in comparison to those of their Tlaxcalan allies. Centuries of hate

[11] The Chalca constitute those peoples identified with the southern Basin community of Chalco, which at the time of the "Spanish" conquest had long been a tributary of the Aztec Empire. Soundly defeated by the Aztec under the rule of Moctezuma I, the peoples of Chalco readily allied themselves with the Spanish in order to throw off the oppressive tribute demands of the Aztec.

Fig. 9.9 Initiated in 1957, the public murals of Desiderio Hernández Xochitiotzin (b. 1922-d. 2007) portray the history of the Tlaxcalan and Spanish alliance, and do so within the halls of the Palacio de Gobierno of Tlaxcala, Tlaxcala, Mexico. This portion of the panoramic history of Tlaxcala depicts the granting of a Spanish province (by royal decree in 1545) to the Tlaxcalan people who allied themselves with Hernán Cortés in the conquest and subjugation of the Aztec Empire. Photo by Rubén G. Mendoza, 1990

and the basic viciousness of Mesoamerican warfare combined in a violence that appalled even Cortés himself." Ultimately, Hernán Cortés documented his frustration with his respective inability to prevent the wholesale slaughter of the Aztec populace by acknowledging that "[W]e had more trouble in preventing our allies from killing with such cruelty than we had in fighting the enemy. For no race, however savage, has ever practiced such fierce and unnatural cruelty as the natives of these parts" (Cortés 1971; cf., Robinson 2004: 60). In his efforts to stop the killings, Cortés "posted Spaniards in every street, so that when the people began to come out [to surrender] they might prevent our allies from killing those wretched people, whose number was uncountable" (Cortés 1971; cf., Robinson 2004: 60). Despite these precautions, Cortés nevertheless tallied the slaughter of 15,000 Aztec civilians on a single day in the closing days of the siege. For Cortés and the Spanish, suffering the excesses and tolerating the profound cultural disparities that clearly separated this marriage of convenience were a small price to pay for assuring the survival of the "European" conquest of the sophisticated and powerful Amerindian empires of the day (Fig. 9.9).

Fig. 9.10 The long-standing Peruvian use of shock weapons, such as ground stone, copper, and bronze mace heads and bola or sling weapons, proved a formidable challenge to the Spanish and their Indian allies. This cranium from the collections of the San Diego Museum of Man bears direct evidence for the lethal nature of spiked and ground stone mace heads and related weaponry. Photo by Rubén G. Mendoza, 2008

The Siege of Cuzco

Despite the fall of the Inca Empire to Francisco Pizarro y González (d. 26 June 1951) with the capture of Cuzco on November 15, 1533, it soon became apparent that the Spanish failed to fully consolidate their gains despite their control and manipulation of Emperor Manco Inca Yupanqui. Using the ploy that he would acquire a large gold statue for Pizarro, Manco Inca undertook secret meetings with those under his command (Cieza de León 1998: 447). Noting discord among the Spanish occupation forces in Cuzco, Manco Inca determined that it would be an opportune time to strike. According to Cieza de León (1998: 449), "the Indians did not retreat after Hernando Pizarro had retreated to Cuzco; instead, so many came that those participating in that siege reached two hundred thousand. In the defense there were no more than 170 Castilians and up to 1,000 natives who fought in their company, of whom many were yanaconas." The high priest Villac Umu led Manco Inca's forces in the capture of the fortress at Cuzco. With some 200,000 warriors in the vanguard, the Spanish were forced into the *plaza*, and thereby into the open, where they were encamped in tents. Inca forces soon overran the Spanish position by virtue of a rain of stone projectiles hurled into the plaza and at the Spanish with slings and bolas, as well as with hardwood javelins launched with deadly accuracy thereby forcing the Spanish to retreat into two palaces (Fig. 9.10).

In their efforts to reduce the tactical advantage held by the Spanish cavalry, the Inca deployed the use of *ayllus* or *bolas*, which consisted of a "type of rope made of sheep's tendons with three strands on each one a stone, and with these they ensnared and bound the horses and the horsemen" (Cieza de León 1998: 450). The Inca use of the sling or *huaraca* in turn proved an effective long-range weapon, capable of hurling small stones to a distance of 30 yards with a good degree of lethal accuracy (Koch 2007: 175; Mendoza 2003). Where hand to hand combat was concerned, the Inca deployed a shock weapon consisting of a spiked copper, bronze, or ground stone mace affixed to the end of a wooden club. To this array of weapons were included bows and arrows, and the double-edged hardwood *macana* (Koch 2007: 175;). The Inca similarly made use of trenches and hastily dug pits in order to impede the charge of the mounted cavalry; and to the dismay of the Spanish it soon became apparent that the Inca were keen observers of Spanish military tactics, and soon deployed these with like effectiveness. According to Koch (2007: 175), "many of the natives took to brandishing Spanish weapons taken from those they had killed and some, including Manco, even learned to ride the horses they had captured." Similar such observations among the Mapuche or Arauco of Chile, and the Comanche of North America acknowledge that native forces were clearly adept at mobilizing about the use of adopted military technologies and tactics used by the enemy.

Perhaps the most decisive dimension of the Inca assault on the Spanish positions came by way of a rain of firestones in the form of *bolas* wrapped in cotton and set aflame. According to Koch (2007: 175), "the massive army assembled by Manco launched a furious and full scale attack. Heated stones were wrapped in cotton and catapulted by slings into the city, a number of which landed on thatched roofs and, as intended, quickly ignited a brilliant burst of fire. The flames spread swiftly from one building to another and before long the entire city was engulfed in fire and smoke." In this way, the Spanish were deprived of refuge and any tactical advantage borne of cavalry and weaponry, and were thereby forced in flight to seek sanctuary in the palace of Viracocha (Koch 2007: 175). Despite the fact that the whole of the city of Cuzco burned out of control, the palace within which the Spanish sought refuge did not burn and this by virtue of the efforts of the Spaniards' Indian allies who had taken the precaution of dousing the otherwise flammable *ichu* grass-covered roofs with water. According to Koch (2007: 176), they took refuge in the palace of Viracocha, and the Temple of the Sun and that of the Virgins were spared the firestorm.

The numerical superiority of the Inca forces proved both overwhelming and frightening to the Spanish and their thousands of Indian allies. And, like the Aztec before them in the Valley of Mexico, those Spaniards captured in battle by the Inca were beheaded and "their severed and still bloody heads were thrown into the streets of the city in an effort to strike terror into the hearts of their enemy" (Koch 2007: 177). In addition to the psychological terror that ensued, the Incas used tried and true battlefield tactics to gain the advantage from the outset of the siege, and sought the high ground of the massive terraced hillside fortress of Sacsahuaman. Moreover, Inca organizational skills and tactics, and their deployment of squadrons of well-equipped and regimented warriors wielding slings, bows, clubs, javelins, and *macanas*

proved a formidable bulwark in the onslaught. Ironically, Manco Inca's siege of nearly 1 year's duration was interrupted after 5 months as the result of the necessity to release his forces to their agricultural obligations. Unlike the small and mobile contingents of Spanish whose forces required little in the way of supplies, Inca numerical superiority ultimately proved a logistical flaw in the maintenance of forces drawn from within an agrarian-based society. This latter fact would prove detrimental, and over the long term catastrophic, to the ultimate success of indigenous imperial forces in both Peru and Mesoamerica alike. With the death of Manco Inca and the fall of Cuzco to the Spanish, the colonial era was launched within the context of what would prove to be the initiation of centuries of resistance to Spanish rule by the Inca and other Andean peoples.

The Battles of La Florida

The sixteenth century accounts of Rodrigo Rangel effectively bring to life both the intensity and ferocity with which those peoples today identified with the Choctaw, Cherokee, Creek, and Seminole of Florida, and the Southeastern US complicated and redirected Spanish imperial designs on the region. In his capacity as personal secretary to Hernando de Soto, Rangel sought to recount the expeditionary and military exploits of the ill-fated conquistador and his soldiers. Any thorough reading of the *La Florida* accounts serves to clarify the ultimate costs and overall tally of battlefield losses and catastrophic setbacks sustained time and again by Hernando de Soto's expedition of 1539–1541 (Bourne 1904: 196–197).

The Spanish force, which first made landfall on May 30, 1539, was from the outset pounced upon and diminished by a seemingly unending volley of allied Amerindian war parties or battle squadrons. Through a seemingly incessant series of attacks and skirmishes, the resistance and offensive tactics unleashed on the Spanish by the peoples of *La Florida* wore heavily upon the might of the force under Hernando de Soto's command. Amerindian resistance ultimately forced the rout of the Spanish in the wake of the systematic burning and destruction of their supply stores, the blockade of their vessels, and the growing casualty counts that ultimately signaled the retrenchment of the expedition and its original designs on *La Florida*. Amerindian towns of the region were systematically, and thereby, deliberately, abandoned as but one aspect of a broader battle plan laid out in anticipation of the Spanish advance and, as noted by Rangel, "so soon as the Christians appeared in sight of land, they were decried, and all along on the coast many smokes were seen to rise, which the Indians make to warn one another" (Bourne 1904: 22). Such tactics deprived the Spanish of a central point of departure from which to launch a decisive attack on the Amerindian defenders of the region. And, so it was that they suffered the slings and arrows of countless attacks along the entirety of that route prepared by the Indians for the many ambuscades and traps into which the Spanish fell time and again.

Clearly, Rangel's accounts provide a useful point of departure for assessing the technical range and tactical sophistication with which the ancestral Choctaw, Cherokee, Creek, and Seminole executed the defense of their homeland in the face of the Spanish *entrada* of that time; and in so doing serves to elucidate the multifaceted dimensions of their campaign against the Spanish (Bourne 1904). Our review of one such engagement recounted by Rangel, and summarized below, is strictly intended to highlight some of the more ostentatious and apparent dimensions of those formations, tactics, and strategies that ultimately forced the flight, and ultimate failure, of the de Soto expedition from *La Florida*.

From the outset, Spanish tactics and technologies were rendered useless in the face of Amerindian resistance. At the battle of *Quigaltam*, for instance, Chief *Huhasene*, acting under the authority of the *Cacique* of *Quigaltam*, launched a formidable flotilla of 100 sizeable war canoes in an onslaught of water-borne skirmishes against Spanish brigantines under the command of Hernando de Soto. Each war canoe in the Amerindian flotilla bore "60–70 persons…those of the principal men having awnings, and themselves wearing white and coloured plumes, for distinction" (Bourne1904: 196). The flotilla effectively intercepted and formed a blockade of the river just beyond the village of *Guachoya* that stanched the advance of seven formidably armed brigantines bearing 322 Spanish soldiers. Despite a preemptive strike by the Spanish that culminated with the plundering and destruction of a village on the outskirts of *Quigaltam*, the armed Amerindian flotilla effectively blocked passage of the Spanish brigantines. In order to minimize the potential effect of Spanish crossbow fire, the *Cacique* of *Quigaltam* positioned himself at a distance from the brigantines intended to buffer his vantage point from Spanish projectiles, and then dispatched emissaries to meet the commander of the Spanish brigantines. Apparently, the Spanish were to suspect, in retrospect, that the emissaries dispatched only risked a meeting with the Spanish in a ruse intended to discern the "character of the vessels, and the weapons that we [the Spanish] use" (Bourne 1904: 196). Given the opportunity to board a Spanish brigantine, one of those emissaries received by Hernando de Soto and his party proceeded to commend and complement the commander, and the Spanish thereby took the overtures to indicate that the *Cacique* of *Quigaltam* would bow to Spanish authority. Despite initial appearances to the contrary, the Amerindian emissaries in question soon made clear their intentions. Upon returning to their *cacique*, the warriors of the flotilla proceeded to menace the soldiers of the Spanish force and soon thereafter, an army of canoe-borne archers unleashed a rain of projectiles on the fleet of brigantines that forced their retrenchment and retreat. Both shore-based and canoe-borne warriors inflicted their deadly volleys on the brigantines for days on end, and through the course of an incessant series of daylight and nightly attacks managed to wear down their Spanish adversaries. In one of many attacks so noted by Rangel, over 100 Spanish soldiers sustained more than 700 projectile wounds, and Hernando de Soto alone survived seven potentially lethal projectile borne injuries (cf., Bourne 1904: 196). The onslaught so dispirited and exhausted the Spanish that they soon turned to a consideration of options centered on a proposed (hasty) retreat and return to New Spain. In the final analysis, Hernando de Soto's failure to act fully and expeditiously upon such

considerations proved fatal to both his command and the very survival of his expeditionary force.

In a recent assessment, Mendoza (2011) has reviewed those tactical and strategic dimensions made apparent in the Rangel accounts of the battle of Quigaltam. Essentially, these have been acknowledged to have included the battlefield presence of (a) chiefly elites and insignia clearly key to the maintenance of the command structure of the Indian armada; (b) the deployment of tactics intended to introduce deception, disclaimers, and overtures of submission, messengers, and sentries; (c) technologies of intimidation and inspiration based on the use of war cries and/or chants, and drumming; (d) the maintenance of protective buffer zones intended to neutralize the effectiveness of projectiles launched by rivals; (e) bifurcated canoe formations; (f) coordinated water and land-based flanking maneuvers; (g) the deployment of canoe-borne encirclement of the opposing force; and (h) sustained and strategically effective projectile fire. Clearly, the *Cacique* of *Quigaltam* had at his immediate disposal vast numbers of professionally outfitted and battle-savvy warriors who wielded a sophisticated array of indigenous field tactics, including a strategy of flotilla-based water-borne warfare, coordinated land and riverine battle tactics, and both projectile and shock force weaponry. Ultimately, this constellation of both offensive and defensive tactics and strategies played a decisive role in Spanish losses at *Quigaltam*, and that despite the presumed superiority of European armor, military organization, and watercraft.

The Pueblo Revolt

The US Southwest provides a particularly compelling example of just how some historians and anthropologists, or advocates for descendant (indigenous) communities, have conspired to pacify the Amerindian past and that despite a formidable body of evidence that serves to contravene the myth of war. Nowhere is this fact more evident than with the now substantial body of scholarship concerned with the Pueblo Revolt of 1680, the decisive outcomes of which resulted in the wholesale destruction and depopulation of the early intrusive Spanish colonial settlements of seventeenth century New Mexico (Kessell 2008: 119–148). As such, the revolt is significant for what it says about the ability of the putatively acephalous (moiety or bifurcated lineage) political system of the Rio Grande Pueblos to coordinate and unite an ephemeral multipolity confederation of towns, encompassing some 17,000 people, and that for the expressed purpose of waging war on the oppressive Spanish colonial enterprise of that time in human history (Knaut 1997; Wilcox 2009).

Despite the recurrent formation of such militarized confederations of Amerindian peoples from throughout the Americas, the Pueblo Revolt is nevertheless characterized as an isolated, and thereby unusual, incident provoked by the oppressive demands of Spanish colonial administrators and religious (Wilcox 2009). At the same time, the Pueblo Revolt is upheld as one of the most successful Amerindian rebellions of all time, particularly given the effective tactical and strategic initiatives

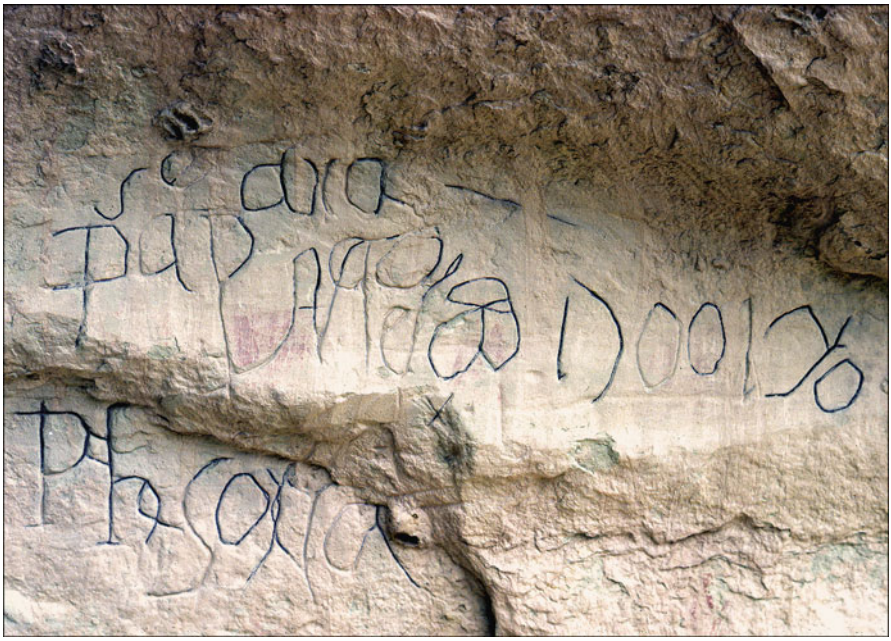

Fig. 9.11 The ancestral Pueblo site of El Morro, *A'ts'ina*, or Inscription Rock, bears centuries of intaglios and graffiti left by the many visitors to this significant crossroad of western New Mexico. The oldest known European inscription at El Morro National Monument was that left by Juan de Oñate in 1605. In this instance, the inscription serves to document the return of the Spanish to the land of the Pueblos in the wake of the Pueblo Revolt of 1680, which culminated with the effective expulsion of the Spanish that spanned the period extending through 1692. Photo by Rubén G. Mendoza, 1981

set in motion by a people often characterized by outsiders as otherwise peaceable and nonviolent. Despite years of conflict with both Athapaskan and Plains Indian raiders, as well as factional disputes within and between Pueblos known to have resulted in the fissioning of extant communities (Kessell 2008: 148); the pueblos initially sought to maintain peaceable relations with the Spanish. Both the missionaries and the colonists of the region nevertheless sought to suppress some of the most fundamental and traditional dimensions of the Pueblo lifeway, particularly those identified with the kiva societies and its corollary katchina (or ancestral spirit) cult. Ultimately, the arrest and punishment of some 47 Pueblo medicine men by the then Governor Juan Francisco Treviño prompted *Popé* (Po'Pay), one of those punished for practicing the healing arts (and thereby perpetuating native religious traditions), to act decisively in coordinating the revolt (Fig. 9.11).

In what clearly demonstrates a long-standing pattern of active, albeit largely clandestine, resistance to the demands of their Spanish overlords, the Pueblos ultimately found it necessary to coordinate a massive multi-Pueblo uprising. The incessant labor demands of the seventeenth century *encomenderos* (or Spanish landlords) of New Mexico ultimately underlay the growing resentment of the Pueblos toward

the Spanish, and this played a significant role in fomenting the rebellion that took the form of the Pueblo Revolt of August 1680. Nevertheless, a host of mitigating factors that afflicted both the Pueblos and the Spanish colonies only served to heighten tensions, and thereby precipitate the makings of the revolt (Kessell 2008: 97). Among these were a prolonged drought-induced famine, the introduction of European disease, the disruption of traditional Puebloan trade networks, an escalation of Athapaskan or Apache raids on the Puebloan, and the continued persecution of those who sought to maintain the observance of traditional Puebloan customs and beliefs (Knaut 1997; Schaafsma 2000). Not the least of those concerns noted time and again centered on the efforts of the Spanish Catholic friars to extirpate the katchina or *katsina* cult and its corollary kiva societies.

While environmental and social challenges of the mid- to late seventeenth century clearly served to exacerbate tensions between the Pueblos and the Spanish, intracommunity and inter-Pueblo factionalism saw the escalation of the growing crises on the Río Grande. Despite the extant factionalism, the revolt was launched after a series of *juntas*, or tribal council meetings, were convened by representatives of each of those communities allied for that purpose. In order to coordinate the revolt, *Popé* dispatched messengers to each of the Pueblos of northern New Mexico, and in so doing, called upon each community to revolt under the threat of death and/or the destruction of their respective communities. Messengers were dispatched with knotted deerskins in their possession so as to indicate to other Pueblo leaders the number of days, indicated by two such knots for 2 days, remaining prior to the launch of the main revolt (Knaut 1997: 10). The ultimate objective of the rebellion was the systematic and thorough annihilation of the Spanish, and given its mandate, and effectiveness, thereby proceeded with such haste that the Spanish were caught unawares, and soon overwhelmed (Knaut 1997).

In rapid succession, each Puebloan town revolted, and in effect, the Pueblos systematically dispossessed all surviving Spaniards of access to horses, weapons, and supplies. They similarly disrupted or destroyed access to crucial water sources for each Spanish settlement and town laid siege through the course of the months of August and September of 1680. Despite overwhelming force, and the attendant scale of violence visited upon the Spanish, Popé nevertheless offered Governor Antonio de Otermín a choice. Go to war and risk total annihilation, or "abandon the kingdom." Otermín's response was to register in the form of a painted red cross for war, or a white cross for surrender and retreat (Knaut 1997: 10). The Spanish survivors under Governor Otermín opted for the latter. In what proved a momentous and humiliating exodus from Santa Fe and the beleaguered Río Grande valley, the Governor's departure was met by jeers and taunts from the many Pueblos along the route. Moreover, the Spanish exodus was heralded by each Pueblo by way of smoke signals in a fashion long thought to have characterized ancestral Pueblo way stations, signal towers, and other forms of conflict-related interregional communications (Knaut 1997; Kessell 2008). Ultimately, the Pueblo Revolt effectively succeeded in stanching the Spanish colonial venture within the Kingdom of New Mexico for a period of some 12 years, and, while acts of suppression and violence

would recur for some years thereafter, in the final analysis the Pueblos won a host of concessions, not the least of which was the survival of their ancestral way of life and belief.

The War of Arauco

Perhaps one of the most compelling dramas in the history of Amerindian warfare, and resistance to colonial domination, may be found in the guise of the Mapuche peoples of the Araucanía and Biobío regions of present day Chile and Argentina (Cruz 2010). In perhaps what constitutes the longest running war ever documented in the history of human conflict, the Mapuche, and their Huilliche, Pehuenche, and Picunche cousins, staved off, and repeatedly crushed the Spanish advance for well over 350 years. Though accounts vary with respect to the casualties attributed to the war in question, Spanish losses have been placed at over 40,000 Spanish, and 60,000 Indian auxiliaries, with Mapuche losses during this same period encompassing 100,000 souls. The onset of hostilities identified with the War of Arauco has provisionally been defined in terms of the battle of Reynogüelén in 1536. The documented onset of Mapuche resistance, however, began with the founding of the Spanish town of Concepción by Pedro de Valdivia in 1550 (Padden 1974: 331). The founding of Concepción posed a direct threat to the Mapuche, and thereby galvanized the resistance.

Ultimately, the Araucanian War in turn has been defined as one in which the Spanish suffered the most catastrophic losses ever recorded in engagements with Amerindian warriors anywhere in the Americas. As a result, the Mapuche peoples maintained their independence until the modern Chilean military of the late nineteenth century effectively occupied Araucanía in the period after 1861 through 1883. In effect, the War of Arauco would set the Biobío River as the line demarcation dividing Mapuche territory from that of European encroachment. Ironically, during the Wars of Independence against Spain, the Mapuche allied themselves with the royals so as to guarantee the integrity of hard-won treaties had with the Spanish Empire prior to the onset of hostilities with the insurgents (Padden 1974).

Significantly, a century of scholarship continues to ponder the question of why it was that the Mapuche succeeded where Amerindian empires – both Mesoamerican and Peruvian – failed to halt the advance of the Spanish and other European powers. Robert Padden's (1957) "Cultural Change and Military Resistance in Araucanian Chile, 1550–1730," provides a thoroughgoing assessment of those dimensions of both Mapuche military tactics and cultural stratagems deemed central to Amerindian victory in the War of Arauco. Among those explanations proffered to date by historians attempting to account for Spanish losses, Padden (1974: 328–29) cites "numerical superiority of the Indians," the "overly long lines of supply from Peru," "chronic lack of viceregal interest," the Araucanian propensity for emulating "Spanish forms and techniques of war," and finally, "the forest because it hampered

Fig. 9.12 The Mapuche maintained a centuries-long aversion to the encroachment of imperial and colonial ventures, initially in wars fought against the Inca Empire, and for the next three and a half centuries in wars and rebellions that effectively staved off Spanish encroachment in the Araucanía/Biobío regions of South America. In this depiction, the Mapuche confront and battle the Inca, who don imperial battle regalia (here depicted on the right-hand portion of the illustration). After Felipe Guaman Poma de Ayala, circa 1615; Copy illustration by Emily H. Nisbet, 2011

the functions of the Spanish cavalry." In sum, historians appear bewildered and unable to account affectively for why it was that the Mapuche managed to fend off Spanish advances over the course of 350 years of imperial aggression. Clearly, cultural change played a significant role in Mapuche military victories, and Padden (1957, 1974) argues that many of those explanations advanced to account for the phenomenon in question are based on traditionalist constructs and a static model of Mapuche culture that fails to account for culture change, acculturation, and the role of agency in the ability of indigenous communities to respond to aggression from without. Ironically, the catastrophic consequences of Mapuche military victories play a key role in why it is that few European accounts of Mapuche traditional lifeways in the earliest periods of Amerindian and European contact survived the conflagration of the War of Arauco (Fig. 9.12).

Interestingly, many of the earliest rationalizations advanced by the Spanish to account for Mapuche victories ultimately hinge on a failure of military strategies that had in effect worked in many other areas of the Americas. To argue, as (Padden 1974: 329) has noted, that Spanish losses were the result of the numerical superiority of indigenous forces, for instance, flies in the face of battlefield tactics identified with Spanish victories in both Mesoamerica and Peru. According to (Padden 1974: 329), "at no time was it normal for Spanish forces to outnumber the enemy anywhere in the Indies." In fact, in the War of Arauco, catastrophic losses by both the

Spanish and particularly their Indian auxiliaries were sizeable – a fact that highlights the critical import of Indian conquistadors in Spanish victories there and elsewhere. Moreover, what such explanations fail to account for are the many other decisive contests for which Mapuche victories have been claimed; and these, according to Padden, indicate that the Mapuche had become the "superior strategists." Improvements in weaponry sufficient so as to "offset the Spanish advantages of gunpowder and horse," and the development of "a creed for life which made resistance both possible and meaningful," arguably played key roles in the Mapuche military response to the Spanish (Padden 1974; 329).

Initial contact with the Mapuche has been characterized as one of complacency and compliance on the part of the Mapuche, particularly as this pertains to tribute and labor demands emanating from the earliest colonial settlements of the region. The establishment of the town of Concepción, and the large-landed estates, or *encomiendas*, dramatically changed the dynamics of Spanish-Indian relations, particularly with the introduction of enforced Indian servitude. With the town of Concepción serving as the base for Spanish military control of the region and the growing frequency of Spanish expeditions and incursions into Mapuche territory, the Arauco resistance was bolstered, and a state of war emerged between the parties in question. Padden's (1974) systematic assessment of the War of Arauco, and the tactical brilliance of Mapuche leaders such as *Lataur*o, is one founded not on the basis of an essentialized perspective dependent on the role of tradition but, rather, on the Mapuche propensity for change and adaptation, and decisive military stratagems (Padden 1974: 330).

According to Padden (1974: 330), "the strength with which the Araucanians resisted Spanish domination was derived not from a constancy of their cultural forms, but from the ability to change them. It seems valid, therefore, to view the sources of the later colonial period as indication of what Araucanian culture *became* under the stress of the long Spanish war rather than as evidence of what it was before the conquest." He goes on to argue that Araucanian cultural development was channelized to accommodate only "those arts, which had a survival value," and ultimately, these were predicated on those hostile forces that threatened Mapuche culture; mainly military, political, and religious pressures from without (Padden 1974: 330–31). In sum, the Mapuche and their Araucanian brethren conjured corresponding forms to meet each new threat with a formidable response following on the designs of the Spanish and other hostiles.

Whereas the Araucanian peoples were often characterized in period accounts as constituting the equivalent of decentralized kinship groups with little to no evidence for pan-regional institutional forms; the ability of the Mapuche to call up sizable cadres of warriors in short order, and over vast regions, clearly argues for something akin to the segmentary state formations or heterarchies of Highland central Mexico and Guatemala (Carmack 1973; Fox 1978, 1987; Southall 1988; Fowler 1989; Mendoza 1992; Kowalewski et al. 2008). While (Padden 1974: 331) contends that the so-called Araucanian *allaregua* (Olaverría 1852: 20), consisting of nine individual *levos* or *reguas* – i.e., "clusters of dwellings" – very likely reflects a form

of semi-centralization arising as a consequence of direct interaction with the Spanish; it should be noted that such sociopolitical configurations have been noted from a host of other conquest interaction networks documented from throughout the Americas.

According to Southall (1988: 52), the Segmentary State is "one in which the spheres of ritual suzerainty and political sovereignty do not coincide. The former extends widely towards a flexible, changing periphery". For the latter, political sovereignty is confined to the central, core domain. Southall (1988: 52) contends that "such sociopolitical groupings typically conjure descriptions that emphasize the informal, amorphous, and or otherwise rudimentary character of the political formation generally interpreted in terms of perceived real or fictive 'kinship' groupings when considered at face value." We contend that it was precisely this ability to mobilize continuously and organically, and only as needed in order to stave off threats from beyond the group, that such political mobilizations proved so decisive in staving off the imperial advance of both Amerindian and European empires in the Americas.

Despite indications to the contrary, Padden (1974: 334–35) has identified two primary forces believed at work in the "skilled and effective" response launched by the Araucanian militias. These, he concludes, centered on what he terms the "geographical particularism" of the Araucanian homeland, and those countervailing forces spawned by the presence of the enemy force that necessitated what could be deemed the rapid mobilization of a pan-Araucanian military authority. Interestingly, the evolution of the Araucanian politico-military authority remained organic, and thereby an asymmetrical military formation not amenable to definition or usurpation. In effect, like Don Quixote wielding weapons against imaginary foes, Spanish forces found themselves fighting a phantom force readily capable of manifesting thousands of battle-hardened warriors on a moment's notice. In the end, Araucanian militias came to be associated with "*el estado*"; however, the original meaning in this instance was intended to identify the land base held by Pedro de Valdivia in the form of an *encomienda*. Within a generation, the catastrophic losses suffered by the Spanish under the Araucanian onslaught would come to imbue "*el estado*" with a sociopolitical and military connotation not originally intended (Padden 1974: 335) (Fig. 9.13).

Mimesis and the Art of War

> It is most important to understand that the motive for Araucanian observation of Spanish cultural forms was not to emulate them and thereby raise the level of their own, but to discover Spanish weaknesses and to mobilize Araucanian strength for forceful opposition.
>
> Robert Padden (1974: 332)

Fig. 9.13 Photograph of the Cacique Pincén, one of the last Mapuche leaders to resist the encroachment of neighboring state-level societies of the Araucanía/Biobío regions of South America. Argentinian postcard photo, 1902: Courtesy Wikipedia Commons, public domain: http://en.wikipedia.org/wiki/File:Argentina_Mapuche_Cacique_Pincen.jpg

Araucanian resistance to the earliest Spanish incursions into their homeland proved futile, particularly given the host of losses sustained by the Arauco at the hands of the Spanish during the span of a 4-year period ending in 1553. The Araucanian defeat and execution of Governor Valdivia in 1553, and the escalation of the War of Arauco, lend credence to Padden's (1974: 331) belief that the period during which the Mapuche essentially lay down their arms effectively constitutes a period of Araucanian maturation. Initial forays against the Spanish, as well as Mapuche servitude within the *encomienda* system, permitted the Araucanian people's time to reflect, observe, and assess the threat at hand. The Araucanian propensity for co-opting introduced cultural norms, and utilizing them against those who introduced such forms in the first place proved invaluable where military tactics, strategy, and organization were concerned.

Within little more than a generation, the Araucanian warrior adopted the horse into a growing repertoire of military tactics, and their observations of daily life in the Spanish communities of Concepción, Valdivia, Villa Rica, and Imperial, provided the essential basis for tactical decisions based on countering Spanish social and religious customs and traditions, government structures, and military organization. Indian auxiliaries, as well as Spanish "deserters" (Encina 1940: c. 2, p. 306; cf., Padden 1974: 332) and clerical renegades (González de Nájera 1889: 117–122; cf. Padden 1974: 332), in turn, provided an active source of intelligence and related information critical to the development of Araucanian offensive and defensive strategies and technologies.

The fluctuating fortunes of both the Araucanians and the Spanish during the War of Arauco took the form of an oscillating frontier of pacification, alliance formation, and conflict, which, according to Padden (1974: 331–32), promoted a pattern of continuous interaction; and thereby, information exchange between the Spanish and their Araucanian rivals. Ironically, the labor demands of the agrarian economy that ultimately permitted Francisco Pizarro y González to prevail over Manco Inca's rebellion of 1536 invariably played havoc with the Spanish once they too found it necessary to redirect men and materials to the seasonal demands of the agricultural cycle. In this instance, however, this served to restrict military action to the summer months, and as such, "during harvest time and winter both Indians and Spaniards tended to refrain from active combat, holding what had been gained and preparing for summer campaigns" Padden (1974: 331–32).

As per Padden (1974: 332) assessment of Araucanian observations of Spanish cultural forms, it is clear that the Araucanian people soon discerned Spanish vulnerabilities that they readily exploited. From the outset, the Araucanians noted the Spanish prerequisite for the pacification of tribal populations so that they might devote themselves to expanding upon critically important mining and agricultural pursuits as opposed to the escalation of military expenditures. This proved a fundamental weakness as the Spanish were limited by their numbers and by the extent of supply lines from Peru. The critical need for Indian labor in turn required "total pacification" of the affected population. However, in order to affect a total pacification of the Arauco, the Spanish would need to topple any central authority specific to the Araucanian homeland. This proved particularly problematic as the Araucanian people demonstrated no clear-cut central authority amenable to usurpation or compromise. Interestingly, similar such patterns of military mobilization characterized the Jívaro of the Amazon basin, who, according to Spanish accounts, were touted to have maintained no centralized form of government (Harner 1984).

As argued elsewhere in this treatment, these sociopolitical patterns identified with the segmentary state or lineages are well documented from state-level Mesoamerican polities that apparently exhibited no commanding central authority. Societies such as those of the Tlaxcalteca, Mixteca, and K'iche' have since been redefined in terms of their heterarchical sociopolitical structures which made it

nearly impossible for the imperial powers of the day to usurp any rival form of central authority (Fox 1987; Mendoza 1992).[12]

The invisibility of a commanding central authority ultimately prompted the Spanish, not to mention their Inca forbears, to repeatedly launch attacks on the Araucanian peoples in an effort to garner a decisive win over Araucanian sociopolitical and military infrastructure. This need on the part of the Spanish to seek a definitive battle that could change the tide of Araucanian resistance repeatedly led the Spaniards to seek battles with the Arauco. Ironically, the Arauco used this fact to strategic advantage to lure the Spanish into unwinnable battles and ambuscades. Not only did the Araucanians select the sites for military engagements with the Spanish, they did so with an eye to those areas where the terrain could be used to strategic advantage. Such areas included sites that effectively neutralized the tactical advantage of cavalry and the use of horses in battlefield contexts. According to Padden (1974: 333), "upon arrival the Spaniards found themselves outmanned and outmaneuvered and so were frequently forced to flee for their lives, leaving baggage trains in the hands of the enemy." Araucanian tactics included the deployment of snares attached to long poles used to both dismount and impale Spanish cavalry soldiers. Moreover, while there are those who would argue that the Araucanian warrior drew a tactical advantage from the adoption of Spanish weapons, the fact of the matter was that the warriors of Arauco retained their traditional arsenal, including the bow and arrow, the long lance, spears, and long clubs with weighted heads; and this in addition to the sling whose lethal effectiveness was proven time and again (Marmolejo 1862: 44–49; Olaverría 1852: 33–34; González de Nájera 1889: 95–98; cf., Padden 1974: 333).

Despite a clear strategic and tactical value to the Spanish, the introduction of the horse ultimately proved a critical vulnerability to the colonial enterprise. As a result of conflict and capture, not to mention "peacetime thievery," by 1594 Araucanian forces could well command cavalry charges consisting of several hundred mounted horsemen. Padden (1974: 333–34) nevertheless argues that the adoption of the horse by the Araucanian militias clearly served only as a source of auxiliary support. Despite their newfound equestrian-based mobility – which (coupled with their innovation and development of an "extremely light saddle") permitted Araucanian warriors to launch attacks over distances exceeding 30 miles in a single night, basic Araucanian strategies for fighting the Spanish continued to rely on foot soldiers whose aim was to first dismount and encircle Spanish cavalry in elaborately planned and executed maneuvers.

[12] For their part, the Tlaxcala, who are among the best known for the formulation of such a sociopolitical formation, repeatedly scored victories and sustained a long-term pattern of resistance, against the Mexica Aztec who were intent on vanquishing the kingdoms of Tlaxcala. So effective was the Tlaxcalan sociopolitical response in question that in one noteworthy engagement (had just prior to the arrival of the Spanish), Moctezuma suffered one of the most humiliating defeats of his tenure at the hands of the people in question. After decades of conflict with the Mexica, the Tlaxcalan peoples ultimately joined forces with the Spanish in their joint conquest of the Aztec capital of Mexico-Tenochtitlan, and that despite the near total encirclement of the region of Tlaxcala by the Aztec Empire.

Drawing on a strategy that entailed encirclement of enemy forces by way of concentric rings of warriors bearing shock weapons, Araucanian warriors were well versed at literally running down mounted horsemen on foot in an effort to wear down both the mount and its rider (Marmolejo 1862: 40–43; cf. Padden 1974: 333–334). By 1611, the Arauco had surpassed their European counterparts with a cavalry that, by virtue of its mobility and devastating effectiveness, was far superior to that of the Spanish and this to the considerable consternation of the Spanish elite, who "piqued as well at the sight of barbarous savages riding horses with an air of equality. In answer to Spanish resentment the Indians pledged never to quit their war for freedom and their horses to enter serfdom on foot" (González de Nájera 1889: 107–110; Xaraquemada 1852: 239; García Ramón 1952: 267; cf., Padden 1974: 334). It is no surprise, therefore, that "in little more than a generation the animal from which the Indians had once fled in terror had been incorporated into their culture transforming it into a factor of defiant military power, dedicated to the eradication of Spanish culture" (Padden 1974: 334).

The Jívaro Uprising of 1599

While few would presume to believe that the peoples of the Amazon basin and Ecuadorian highlands passively acquiesced to European encroachment, the documentary record makes clear the extent to which such groups as the *Jívaro*, *Macas*, and *Huamboyas* effectively countered such efforts by way of decisive military action (Harner 1984). Not only were many of these efforts decisive, particularly in the wake of a number of retaliatory strikes, the aftermath effectively reduced the presence of Spanish populations within indigenous territories identified with the aforementioned groups. So effective was the Jívaro onslaught that the period extending from 1599 through to the middle of the nineteenth century was marked by only intermittent and hostile contact with outsiders. Accordingly, virtually all military incursions and missionary activities on the part of the whites ended disastrously during the aforementioned period, and in one of the few so-called friendly exchanges had between the Jívaro and the Spanish in 1767, missionaries were offered gifts which according to Harner (1984: 25–26) "included the skulls of Spaniards, who [had] apparently been killed earlier by the Jívaro." From 1599 to 1870, only the white settlement of Macas maintained any degree of proximity to the lands of the Jívaro, and despite ongoing conflict to 1837 between the people of Macas and the Jívaro, extending through 1837, peaceful trade relations between the two emerged in the mid-nineteenth century. In this way, the interior Jívaro, despite their relative isolation, continued to obtain steel cutting tools, weapons, and ammunition *sans* direct interaction or contact with the Spaniards and other outsiders (Harner 1984: 39).

So as to contextualize the extent to which Amerindian peoples in the foregoing region stanched the encroachment of European settlers in tribal territories, we are reminded of the advance of indigenous forces on the Spanish settlements of Logroño

and Sevilla del Oro, Ecuador; and by extension, the wholesale destruction of the European populations in question. According to Harner (1984: 20), the Jívaro chieftain *Quirruba* (i.e., *Kirupasa?* or "Big Frog") determined that his people would not submit to Spanish authority as had the *Macas* and *Huamboyas*. Undertaking a clandestine operation replete with secret meetings and emissaries, a constellation of messengers, intelligence gathering, and the assignment of war captains tasked with the destruction of the aforementioned towns and ultimately, the coordinated delivery of a massive *coup de grace* by which *Quirruba* and the Jívaro launched a furious assault on the town of Logroño and its 12,000 inhabitants in 1599. At the head of 20,000 warriors, *Quirruba* orchestrated the coordinated encirclement of the town and its population, and attacked at midnight as the Spaniards slept.

Taking possession of the house of the Governor, Harner (1984: 21) recounts how it was that the Governor's party was killed, and the Governor taken captive and informed by *Quirruba* and his entourage that "it was now time for him to receive the tax of gold which he had ordered prepared." Harner (1984: 21) then recounts specifically how the so-called tax of gold was administered thereby setting the stage for the use of the sort of psychological warfare that would come to define centuries of European reticence to engage with the Jívaro:

> They stripped him completely naked, tied his hands and feet; and while some amused themselves with him, delivering a thousand castigations and jests, the others set up a large forge in the courtyard, where they melted the gold. When it was ready in the crucibles, they opened his mouth with a bone, saying that they wanted to see if for once he had enough gold. They poured it little by little, and then forced it down with another bone; and bursting his bowels with the torture, all raised a clamor and laughter.

This was orchestrated in concert with the burning and destruction of virtually every quarter of the city. The effective encirclement of Logroño was maintained through the course of the following day, and as the looting, destruction, and killing ensued, warriors were dispatched to other nearby Spanish towns so as to see through their destruction as well. Nevertheless, despite a spirited, albeit chaotic, defense of the city, the Spanish were soon overwhelmed, and despite the best efforts of royal officials, the city's defenses collapsed in chaotic disarray. In the midst of the Logroño's destruction, Spaniards fleeing the Jívaro assault on the town of Huamboya entered the town, but soon fled at learning that the Jívaro intended to annihilate the Spanish that very night (Harner 1984: 23). Emboldened, the Spanish renewed their efforts to halt the Jívaro advance on Sevilla de Oro, and despite an initial success garnered from the many volleys that brought down scores of Jívaro warriors the Jívaro regrouped and daring lances ultimately forced the Spanish to retreat to the margins of the city and its defensive trench line (Harner 1984: 23–24). Soon, however, the Jívaro breached the town's defenses, and by way of fierce hand-to-hand combat thousands were killed. Where the capital of Sevilla del Oro is concerned, fewer than a quarter of the nearly 25,000 inhabitants survived the onslaught and the majority of these were women and children (Harner 1984: 24–25).

In the final analysis, the ultimate consequence of the *coup de grace* administered the governor, not to mention the total devastation of the towns of Logroño and

Sevilla del Oro, Ecuador, surfaced in the guise of more than 30,000 Spanish dead. The collapse of the government of Macas, and the ruin and destruction of the territory of Yaguarzongo, and thereby, those identified with Jaén, Loja, and Quijos, soon ensued (Harner 1984: 25). More importantly, however, the fear, discord, and social unrest introduced into the remaining Spanish settlements of the region played a decisive role in stanching the Spanish advance. Despite the occasional encroachment of missionaries and other settlers on the margins of the Jívaro homeland, it was not until 1941 that Jívaro-white relations were once again thrown into disarray as the result of a bloody attack by the Ecuadorian military that resulted in the deaths of scores of Ecuadorians and Jívaro (Harner 1984).

Interestingly, as a result of the immediate threat in question, all affected Jívaro communities "rapidly called a truce among themselves and made secret plans to conduct a coordinated revolt at the first sign of a general attack…[and]…elaborate strategic plans and tactical assignments were agreed upon by the leading warriors of the normally feuding neighborhoods" (Harner 1984: 33). The mobilization in question has led Harner to conclude that the sociopolitical dynamics and logistical mechanics advanced for this "emergency alliance" were in effect the very same that made possible the coordinated destruction of the Spanish communities of Logroño and Sevilla del Oro in 1599. Past is prologue, and clearly in this instance, the same constellation of social and political technologies and weaponry that enabled the Jívaro to expel the Spaniards from the frontier at the end of the sixteenth century were still at work in the mid-twentieth century configuration of the Amerindian communities in question.

Conclusions

> All other narratives about war too easily fall prey to the allure and seductiveness of violence, as well as the attraction of the godlike power that comes with the license to kill with impunity.
>
> Chris Hedges, 2005: 1

Today, a new corpus of adjectives has surfaced from within period chronicles to describe the active military role played by indigenous communities and protagonists in rolling back the European advance, or in facilitating the conquest of the Indian Empires of the Americas. Whether defined as Indian *conquistadores*, Mapuche militias, Indian scouts and trackers, or Araucanian and Comanche Indian cavalry, it is increasingly clear that an emerging scholarship now acknowledges the decisive and critical role played by Amerindian resistance and warfare in the so-called European conquest of the Americas. Throughout the Americas, Indian militias, cavalries, and foot soldiers wreaked havoc on European forces intent on vanquishing the vast frontiers of those regions now rightly deemed the consequence of empire. In the wake of Francisco Vasquez de Coronado's momentous expedition into the northern frontier of 1540–1542; the Caxcanes launched a massive counterattack against the Spanish in northwestern New Spain (Rabasa 2000). The so-called

Mixtón War so decimated colonial ventures in the north and proved costly to the Viceroyalty of New Spain that some 60 years would pass before the Spanish would venture into what is today the American Southwest. In the book *Empire of the Summer Moon: Quanah Parker and the Rise and Fall of the Comanches, the Most Powerful Indian Tribe in American History*, S. C. Gwynne (2010) chronicles the decisive role played by the Comanche in redirecting the course of American history especially as this pertains to the westward movement. In effect, the Comanche succeeded in "rolling back civilization's advance…only on a much larger scale" (Gwynne 2010: 4). Ironically, despite the fact that "American" history and Amerindian resistance are generally deemed *non sequiturs*, Gwynne's (2010) insightful assessments paint an unusually nuanced history of a people largely regarded as little more than vanquished hostiles. He concludes that the Comanche "were so masterful at war and so skilled with their arrows and lances that they stopped the northern drive of colonial Spain from Mexico and halted the French expansion westward from Louisiana" (Gwynne 2010: 4). In the end, Comanche resistance slowed and ultimately rolled back the American westward movement for nearly four decades and necessitated the creation of the Texas Rangers and the development of the six-gun specifically introduced to stop the Comanche. Continuing revelations of this sort will clearly force a reconsideration of Amerindian agency and warfare in the writing of a broader and more nuanced American history in which the American Indian is more fully acknowledged as an active agent of change in the historical transformation of the colonial and postcolonial New World (Figs. 9.14 and 9.15).

Postscript

Given the emerging interpretive frameworks at hand, how then do we assess what constitutes the passive construction of Amerindian history? Rather than a portrait of a people painted as the hapless victims of European imperialism, it is clear that Amerindian resistance, rebellion, and/or alliance formation were formulated on the basis of self-interest, "negative opportunism,"[13] cultural accommodation, and/or military stratagems. Therefore, our ethical consideration of Amerindian warfare necessarily requires a reconsideration of those adjectives and descriptors that continue to essentialize and pacify the indigenous past in a paternalistic and ingenuous fashion. For instance, Ferguson and Whitehead's (1991) usage of the concept of "ethnic soldiering" – to account for indigenous mercenaries and/or auxiliaries in the employ of European armies – only serves to promote the characterization of

[13] Timothy Snyder (2010) employs the concept of "negative opportunism" to account for how it is that a people beset by competing enemies are prone to align themselves with what they perceive to be the "lesser of two evils." Clearly, when faced with the voracious tributary and sacrificial demands of the Aztec Empire, the Spanish alliance likely appeared an optimal choice.

Fig. 9.14 In his efforts to commemorate the Mexican Independence movement, which launched a decade-long struggle to oust the Spanish from Mexico, the architect Juan O'Gorman (b. 1905-d. 1982) focused attention on the central role of both Mexican Indians and Afro-mestizos in the revolt. In this portion of the O'Gorman mural, the parish priest Miguel Hidalgo y Costilla leads a sizeable Indian militia against the Spanish Empire in 1810. Photo by Rubén G. Mendoza, 1983

indigenous participation in the conquest as constituting little more than a subsidiary, and thereby subordinate (and for that matter, treacherous) role by virtue of comparison with their European counterparts. From our perspective, "ethnic soldiering" clearly falls short as a conceptual framework for acknowledging the formidable contributions of those native warriors who either repelled or allied themselves with agents of the European invasion of the Americas.

We believe, therefore, that our exploration of Amerindian warfare and European triumphalism in the Americas necessarily serves to force a reconsideration of those otherwise sophisticated indigenous military strategies, tactics, and technologies used to curtail, redirect, or crush the course of European colonial ventures in the New World. Concomitantly, we contend that that genre of revisionist scholarship that only serves to minimize and otherwise diminish the native role in the conquest of America's indigenous empires is in effect suspect by its very nature particularly given the substantive and substantial body of evidence that countermands the role of Amerindian warfare while at the same time touting the validation of European triumphalism. The ethical quandary in question is only exacerbated when the academy and, by default, the public embrace an otherwise essentialized, and thereby caricaturized, recapitulation of the American Indian as little more than the helpless prey,

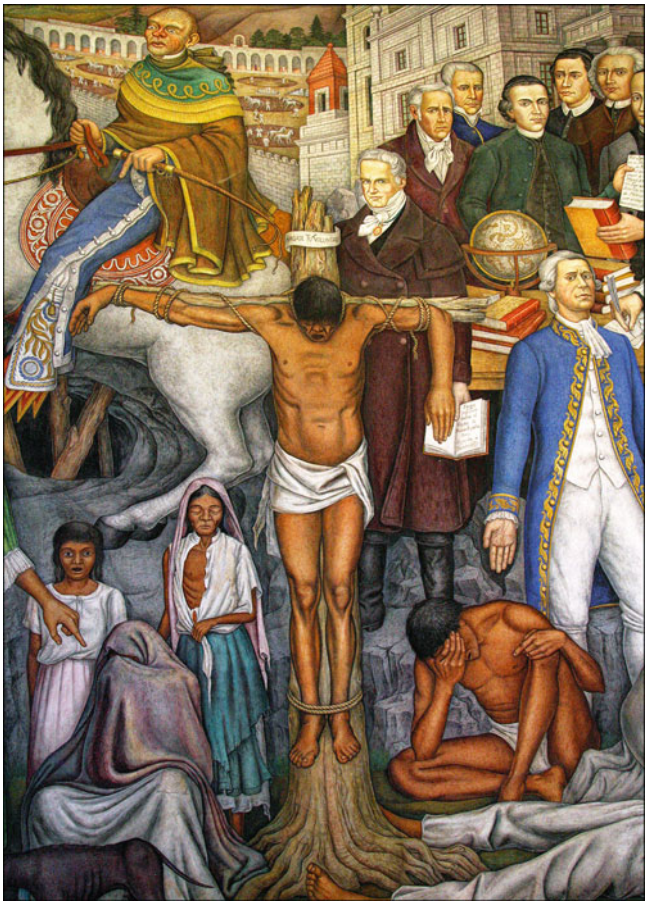

Fig. 9.15 The brutality and violence visited upon Mexican indigenous communities (through the course of the three centuries of the colonial enterprise) remain a common theme in public art and lore. Juan O'Gorman ultimately sought to depict the martyrdom of the Mexican Indian with the words "*Hagase Tu Voluntad*," or "Thy Will Be Done," inscribed over the lifeless body of the crucified Indian martyr portrayed in this mural from Chapultepec Castle. Photo by Rubén G. Mendoza, 1983

and passive victims, of European imperial aggression. We believe, therefore, that by its very nature, the pacification of the Amerindian past only serves to fuel what Timothy Snyder (2010) refers to in another very different context as the emergence and elaboration of a "collective martyrology" for the Bloodlands of Eastern Europe. After all, it is far easier to identify with the victim, than with the perpetrator and his or her collaborators. Ultimately, there exists an inherent danger in promoting a collective martyrology within and beyond Amerindian communities, particularly given the fact that therein lays the potential for the makings of a form of "martyrological imperialism" in which the real victims fall prey to the untenable and vacuous

rewriting of the past. In sum, contrary to prevailing anthropological and historical paradigms and assessments that portray Amerindian societies as static, sociopolitically vulnerable, and superstitious, we in effect find that a dynamic pattern of innovation, accommodation, and asymmetrical military formations on the part of both Indian militias and their allied European counterparts, was clearly at work in determining the course of those military contests had in this veritable and cataclysmic cultural war of the worlds.

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References

Asselbergs, Florine. *Conquered Conquistadors: The* Lienzo de Quauhquechollan*: A Nahua Vision of the Conquest of Guatemala*. Boulder: University Press of Colorado, 2004.

Bender, Cora. "Transgressive Objects in America: Mimesis and Violence in the Collection of Trophies during the Nineteenth Century Indian Wars." *Civil Wars*, Volume 11, Issue 4, December 2009, pages 502–513.

Benson, Elizabeth P., and Anita G. Cook (eds.), *Ritual Sacrifice in Ancient Peru: New Discoveries and Interpretations*. Austin: University of Texas Press, 2001.

Bourne, Edward Gaylord, Rodrigo Ranjel, Luis Hernandez de Biedma, and Gonzalo Fernández de Oviedo y Valdés, *Narratives of the Career of Hernando de Soto in the Conquest of La Florida as told by a Knight of Elvas, and in a Relation by Luys Hernández de Biedma, Factor of the Expedition*. New York: A. S. Barnes, 1904.

Bustard, Wendy. "Chaco Horrificus?" In *Social Violence in the Prehispanic American Southwest*. Edited by Deborah L. Nichols and Patricia L. Crown, pp. 70–97. Tucson: University of Arizona Press, 2008.

Campbell, R. Joe. "Tecuaque." *Nahuat-l* Listserv. Posted September 1, 2006. http://www.famsi.org/pipermail/nahuatl/2006-September/000247.html. Reviewed December 31, 2010.

Carmack, Robert M. *Quichean Civilization*. Berkeley: University of California Press, 1973.
Chacon, Richard J., and David H. Dye (eds.). *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*. New York: Springer Press, 2007.
Chacon, Richard J., and Rubén G. Mendoza (eds.). *Latin American Indigenous Warfare and Ritual Violence*. Tucson: University of Arizona Press, 2007a.
Chacon, Richard J., and Rubén G. Mendoza (eds.). *North American Indigenous Warfare and Ritual Violence*. Tucson: University of Arizona Press, 2007b.
Chimalpahin Cuauhtlehuanitzin, Domingo Francisco de San Antón Muñón. *Chimalpahin's Conquest: A Nahua Historian's Rewriting of Francisco López de Gómara's 'La conquista de México'*. Edited and translated by Susan Schroeder, Anne J. Cruz, Cristián Roa-de-la-Carrera, and David E. Tavárez. Stanford: Stanford University Press, 2010.
Chuchiak IV, John F. "Forgotten Allies: The Origins and Roles of Native Mesoamerican Auxiliaries and Indios Conquistadores in the Conquest of Yucatan, 1526–1550." In *Indian Conquistadors: Indigenous Allies in the Conquest of Mesoamerica*. Edited by Laura E. Matthew and Michael R. Oudijk, pp. 175–226. Norman: University of Oklahoma Press, 2007.
Cieza de León, Pedro de, *The Discovery and Conquest of Peru; Chronicles of the New World Encounter*, Edited and translated by Alexandra Parma Cook Noble David Cook. Durham: Duke University Press, 1998.
Conrad, Geoffrey W., and Arthur A. Demarest, *Religion and Empire: The Dynamics of Aztec and Inca Expansionism*. Cambridge: Cambridge University Press, 1984.
Cortés, Hernán. *Letters from Mexico*. Translated and edited by Anthony Pagden. New Haven, CT: Yale University Press, 1971.
Cruz, Eduardo Agustin. *The Grand Araucanian Wars (1541–1883) in the Kingdom of Chile*. Bloomington, IN: Xlibris Corporation, 2010.
de Fuentes, Patricia (ed). *The Conquistadors: First-Person Accounts of the Conquest of Mexico*. Translated and edited by Patricia de Fuentes. Norman: University of Oklahoma Press, 1993.
Díaz del Castillo, Bernal. *The Conquest of New Spain*. Translated by J. M. Cohen. Penguin Books, 1963.
Durán, Diego, *Historia de las Indias de Nueva España e islas de la tierra firma.* 2 vols. Mexico: Porrúa, 1967.
Encina, Francisco Antonio. *Historia de Chile desde la prehistoria hasta 1891*. 20 vols. Santiago: Editorial Nascimiento, 1940–52.
Ferguson, R. Brian, and Neil L. Whitehead (eds.), *War in the Tribal Zone: Expanding States and Indigenous Warfare*. Santa Fe: School of American Research Press, 1991.
Fowler, Jr., William R. *The Cultural Evolution of Ancient Nahua Civilizations: The Pipil-Nicarao of Central America*. Norman: University of Oklahoma Press, 1989.
Fox, John W., *Quiché Conquest*. Albuquerque: University of New Mexico Press, 1978.
Fox, John W., *Maya Postclassic State Formation: Segmentary Lineage Migration in Advancing Frontiers*. Cambridge: Cambridge University Press, 1987.
García Ramón, Alonso. "Alonso García Ramón to the King, 1613." In Claudio Gay, *Historia fisica y politica de Chile*, 28 vols., vol II, p. 267, 270, and 279. Paris, Santiago, 1844–71.
Gay, Claudio. *Historia fisica y politica de Chile*, 28 vols. Paris, Santiago, 1844–71.
González de Nájera, Alonso. "Desengaño y reparo de la guerra de Chile." In *Coleccion de historiadores de Chile y documentos relativos a la historia nacional*, 49 vols., Santiago, 1861–1942, vol. 16, pp. 10–14, 63–65.
Góngora Marmolejo, Alonso de. "Historia de Chile desde su descubrimiento hasta el año de 1575." In *Coleccion de historiadores de Chile y documentos relativos a la historia nacional*, 49 vols., Santiago, 1861–1942, vol. 2, pp. 33–34.
Guaman Poma de Ayala, Felipe. *The First New Chronicle and Good Government*. Translated by Roland Hamilton. Austin: University of Texas Press, 2009.
Gwynne, S. C. *Empire of the Summer Moon: Quanah Parker and the Rise and Fall of the Comanches, the Most Powerful Indian Tribe in American History.* New York, NY: Scribner, 2010.
Harner, Michael J. *The Jivaro: People of the Sacred Waterfalls*. Berkeley: University of California Press, 1984.

Hedges, Chris. "War: Realities and Myths." *Antiwar.com*. Posted June 11, 2005. Accessed on December 15, 2010. http://www.antiwar.com/orig/hedges.php?articleid=6294.

Kessell, John L. *Pueblos, Spaniards, and the Kingdom of New Mexico*. Norman: University of Oklahoma Press, 2008.

Knaut, Andrew L. *The Pueblo Revolt of 1680: Conquest and Resistance in Seventeenth-Century New Mexico*. Norman: University of Oklahoma Press, 1997.

Koch, Peter O. *The Spanish Conquest of the Inca Empire*. Jefferson, North Carolina: McFarland & Company, Inc., Publishers, 2007.

Kowalewski, Stephen A., Andrew K. Balkansky, Laura R. Stiver Walsh, Thomas J. Pluckhahn, John F. Chamblee, Verónica Pérez Rodríguez, Vernice Y. Heredia Espinoza, and Charlotte A. Smith. *Origins of the Ñuu: Archaeology in the Mixteca Alta, Mexico*. Boulder: University Press of Colorado, 2008.

LeBlanc, Steven A. Modeling Warfare in Southwestern Prehistory. *North American Archaeologist* 18 (1997), pp. 235–276.

Martínez Vargas, Enrique. "Trascendental hallazgo en Zultepec." En *Arqueología Mexicana* (1993), pp. 62–64.

Martínez Vargas, Enrique. "Zultépec-Tecoaque. Sacrificios de españoles y sus aliados durante la conquista." En *Arqueología Mexicana*, Vol. XI, Num. 63 (2003), pp. 52–55.

Matthew, Laura E. "Whose Conquest? Nahua, Zapoteca, and Mixteca Allies in the Conquest of Central America." In *Indian Conquistadors: Indigenous Allies in the Conquest of Mesoamerica*. Edited by Laura E. Matthew and Michael R. Oudijk, pp. 102–126. Norman: University of Oklahoma Press, 2007.

Matthew, Laura E., and Michael R. Oudijk (eds.). *Indian Conquistadors: Indigenous Allies in the Conquest of Mesoamerica*. Norman: University of Oklahoma Press, 2007.

Mendoza, Rubén G. *Conquest Polities of the Mesoamerican Epiclassic: Circum-Basin Regionalism, AD 550–850*. PhD Dissertation, Department of Anthropology, University of Arizona, Tucson. Ann Arbor, Michigan: University Microfilms International, 1992.

Mendoza, Rubén G. "Lost Worlds and Forsaken Tribes: The Fantasy Heritage of Indian Identity and Mexican/Chicano Nationalism on the California Central Coast." Conference paper presented before the American Anthropological Association, Washington, D.C., November, 2001.

Mendoza, Rubén G. Lords of the Medicine Bag: Medical Science and Traditional Practice in Ancient Peru and South America. In *Medicine Across Cultures: History and Practice of Medicine in Non-Western Cultures*, Edited by Helaine Selin, pp. 225–257. London: Kluwer Academic Publishers, 2003.

Mendoza, Rubén G. Aztec Militarism and Blood Sacrifice: The Archaeology and Ideology of Ritual Violence. In *Latin American Indigenous Warfare and Ritual Violence*, Edited by Richard J. Chacon and Rubén G. Mendoza, pp. 34-54. Tucson: University of Arizona Press, 2007a.

Mendoza, Rubén G., The Divine Gourd Tree: Tzompantli Skull Racks, Decapitation Rituals, and Human Trophies in Ancient Mesoamerica. In *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, Edited by Richard Chacon and David Dye, pp 400–443. New York: Springer Press, 2007b.

Mendoza, Rubén G. "The Americas." In *The Cambridge History of War, Volume 2,* Chapter 25. Edited by David A. Graff. Cambridge University Press, 2011 [In Press].

Milner, George. "Nineteenth-Century Arrow Wounds and Perceptions of Prehistoric Warfare." *American Antiquity* 70 (2005), pp. 144–156.

Nichols, Deborah L., and Patricia L. Crown (eds.), *Social Violence in the Prehispanic American Southwest*. Tucson: University of Arizona Press, 2008.

Olaverría, Miguel de. "Informe de Don Miguel de Olaverria sobre el Reyno de Chile, sus indios y sus guerras" [1594]. In *Historia física y política de Chile, según documentos adquiridos en esta república durante doze años de residencia en ella y publicada bajo los auspicious del supremo gobierno por…; documentos sobre la historia, la estadistica y la geografía* by Claudio Gay, 1846–1852, 2 vols. Paris: En casa del autor; Santiago, Chile: Museo de Historia Natural.

Oudijk, Michel R., and Matthew Restall. "Mesoamerican Conquistadors in the Sixteenth Century." In *Indian Conquistadors: Indigenous Allies in the Conquest of Mesoamerica*. Edited by Laura E. Matthew and Michael R. Oudijk, pp. 28–64. Norman: University of Oklahoma Press, 2007.

Padden, Robert Charles. "Cultural Change and Military Resistance in Araucanian Chile, 1550–1730." In *Native South Americans: Ethnology of the Least Known Continent*. Edited by Patricia J. Lyon, pp. 327–432. Boston: Little, Brown, and Company, 1974.

Potter, J. M., and J. P. Chuipka. "Perimortem mutilation of human remains in an early village in the American Southwest: A case for ethnic violence." *Journal of Anthropological Archaeology* (2010), doi:10.1016/j.jaa.2010.08.001.

Rabasa, Jose. *Writing Violence on the Northern Frontier: The Historiography of Sixteenth-Century New Mexico and Florida and the Legacy of Conquest*. Durham: Duke University Press, 2000.

Restall, Matthew. *Seven Myths of the Spanish Conquest*. New York: Oxford University Press, 2003.

Restall, Matthew, and Florine Asselbergs. *Invading Guatemala: Spanish, Nahua, and Maya Accounts of the Conquest Wars*. University Park: Pennsylvania State University Press, 2008.

Robinson, Charles M. III. The Spanish Invasion of Mexico 1519–1521. Oxford: Osprey Publishing, Limited, 2004.

Sandos, James. *Converting California: Indians and Franciscans in the Missions*. New Haven, CT: Yale University Press, 2008.

Schaafsma, Polly. *Warrior, Shield, and Star: Imagery and Ideology of Pueblo Warfare*. Santa Fe, New Mexico: Western Edge Press, 2000.

Southall, Aidan. "The Segmentary State in Africa and Asia." In *Comparative Studies in Society and History*, Vol. 30, No. 1 (Jan., 1988), pp. 52–82.

Smith, Michael E. "City Size in Late Post-Classic Mesoamerica." *Journal of Urban History* 31 (2005), pp. 403–434.

Snyder, Timothy. *Bloodlands: Europe Between Hitler and Stalin*. New York: Basic Books, 2010.

Turner, Christy G., and Jacqueline A. Turner, "Cannibalism in the Prehistoric Southwest: Occurrence, Taphonomy, Explanation, and Suggestions for Standardized World Definition." *Anthropological Science* 103 (1995), pp. 1–22.

Turner, Christy G., and Jacqueline A. Turner, *Man Corn: Cannibalism and Violence in the Prehistoric American Southwest*. Salt Lake City: University of Utah Press, 1999.

Vargas Machuca, Bernardo de (2008). *The Indian militia and description of the Indies*. Edited by Kris E. Lane. Translated by Timothy F. Johnson from the original Spanish edition, 1599. Durham, NC: Duke University Press.

Wilcox, Michael V. *The Pueblo Revolt and the Mythology of Conquest: An Indigenous Archaeology of Contact*. Berkeley: University of California Press, 2009.

Xaraquemada. "Informe de Juan de Xaraquemada," Jan 29, 1611, May 1, 1611, and Jan 28, 1612. In Claudio Gay, *Historia fisica y politica de Chile*, 28 vols., vol II, p. 239, 247, and 255–257. Paris, Santiago, 1844–71.

Yupanqui, Titu Cusi. *An Inca Account of the Conquest of Peru*. Translated by Ralph Bauer. Boulder: University Press of Colorado, 2005.

Chapter 10
Imagining Human Alteration of Ancient Landscapes in Central and South America

John W. Hoopes

Abstract This chapter explores the definition of "nature" by providing a review of the long-term alteration of natural ecosystems by humans in the context of specific examples from pre-Columbian Latin America, with special emphasis on lowland South America and Costa Rica. Archaeological evidence suggests that humans have been a keystone species in most natural habitats in the Americas since the end of the Pleistocene. This chapter argues that indigenous peoples of Latin America have played an essential role in shaping landscapes and ecosystems, both consciously and unconsciously, through the use of fire as well as a range of innovative agricultural technologies. It uses specific examples from pre-Columbian Latin America to explain how studies of archaeology, ethnohistory, and iconography have been useful in documenting the contributions of native populations to habitat alteration, how it has been experienced by these populations, and how it is interpreted by scholars.

> Not all the winds, and storms, and earthquakes, and seas, and seasons of the world have done so much to revolutionize the earth as Man, the power of an endless life, has done since the day he came forth upon it, and received dominion over it (H. Bushnell, cited on the title page of Marsh 1885).

> The work of literary scholars, anthropologists, cultural historians, and critical theorists over the past several decades has yielded abundant evidence that "nature" is not nearly so natural as it seems. Instead, it is a profoundly human construction (Cronon 1995b: 25).

> There are no virgin tropical forests today, nor were there in 1492 (Denevan 1992b: 375).

> They took all the trees and put 'em in a tree museum. Charged all the people a dollar and a half just to see 'em (Joni Mitchell, "Big Yellow Taxi," 1970).

J.W. Hoopes, Ph.D. (✉)
Department of Anthropology, The University of Kansas, 1415 Jayhawk Blvd., Fraser Hall, Room 622, Lawrence, KS 66049, USA
e-mail: hoopes@ku.edu

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Introduction

In considering issues of ethics in indigenous views of nature, among the essential differences between Western (i.e., Jewish and Christian) and non-Western perspectives are historical issues in specific constructions of "nature" as something exclusive of human agency. These constructions are not, of course, generalizable to Western science, which *does* consider humans from the biological origins of *Homo sapiens* to speculations regarding anthropogenic responsibility for a new geological era called the Anthropocene (Kolbert 2006).[1] However, as with the term "evolution" in both anthropology and biology, the uses of nature in historical and even contemporary literature are not always consistent, even within scientific communities. Nature is a concept that is constantly being revised, especially as we become more aware and more mindful of the ways that nature has been altered during the time that the genus *Homo* has been present on the planet. In this chapter, I would like to frame what I perceive as a problem in the construction of the definition and study of nature by first exploring the concept, providing a review of the long-term alteration of natural ecosystems by humans, and then considering some specific examples from pre-Columbian Latin America with special emphasis on lowland South America and Costa Rica.

Environmental historian William Cronon has noted:

> Ideas of nature never exist outside of a cultural context, and the meanings we assign to nature cannot help reflecting that context. The main reason this gets us into trouble is that nature as essence, nature as naïve reality, wants us to see nature as if it had no cultural context, as if it were everywhere and always the same (Cronon 1995a: 35).

"Ecology" comes from the Greek οἶκος (*oikos*), meaning "home" or "abode" (Clements 1905: 1; Ricklefs 1990: 3). For many ecologists, the home with which ecology is concerned refers to the habitat of plants and animals.[2] Ecology is concerned with the οἶκος of a tree, a bird, a frog, a wolf, or indeed all of these together. Humans, generously, are not excluded from this definition. However, the Greek term was almost certainly anthropocentric, referring specifically to the abode of humans (and not of nonhumans). Ironically, in the study of ecology, it is only recently that the οἶκος of humans has not been the central focus of the discipline. The οἶκος often comes across almost as one in which humans are not even welcome. For example, George Perkins Marsh (1802–1882), the ideological predecessor of modern environmentalists whose book *Man and Nature, or Physical Geography*

[1] The term "Anthopocene" was coined by Paul J. Crutzen and Eugene F. Stoermer in 2000 (http://www.mpch-mainz.mpg.de/~air/anthropocene/) as a term for the current geological epoch in order to emphasize the effects of industrialized human activity on the ecology of the Earth. They propose it began sometime in the latter part of the eighteenth century.

[2] "Literally, ecology is the study of organisms 'at home'. Usually ecology is defined as the study of the relations of organisms or groups of organisms to their environment." Odum (1971: 3) does acknowledge that "mankind is part of nature."

as Modified by Human Action (1869) concentrated on the deleterious effects on the balance of nature by the actions of humans:

> … man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords. The proportions and accomodations which insured the stability of existing arrangements are overthrown (Marsh 1885: 33).

Environmentalist literature emphasizes the importance of this home for human existence and how critical it is for us to conserve and sustain it in order to survive. However, the analogy is only carried so far within traditional ecology. What is lacking from historical consideration is that much of the οἶκος we study was constructed by humans – consciously or unconsciously – as a place in which to dwell. The original οἶκος is not a temple, but a residence. What makes a home different from a house? Evidence that someone – some *person* – has been living there, and lives there still. Many ancient, pre-Western (meaning pre-Judaic, pre-Greek, pre-Roman, and pre-Christian) traditions identified nonhuman animals as persons, representing them as supernaturals, deities, and mythological characters. This is not only found in major religions such as Hinduism, where conflated beings such as Ganesh and Hanuman are significant, but also in many non-Western indigenous traditions of the Americas, in which stories of Coyote, Bear, Wolf, Eagle, and others are common. The concept of *personhood* is, therefore, one that must be carefully considered. Native peoples of North America, for example, recognize categories of "persons with scales," "persons with wings," and even "water people," all of which contribute to radically different perceptions of the relationship between humans and nature. It is taken for granted in these non-Western traditions that nonhuman persons are actors in the shaping of environments and the construction of an οἶκος. Humans are not generally regarded as separate, special, or beings with a more important personhood than animals or other living beings. This is something that appears to be a distinctly Western concept reified in the modern study of anthropology.

One of the realities of distinct Western constructions of humans (here understood as the genus *Homo*) and "nature" is that it has resulted in – within a tradition of Western ecology – an interpretation of human presence as violation, disturbance, disorder, and pollution. This is found in assertions of negatives as well as positives. An environment in which there is no discernable evidence of human activity (which does not mean it is absent!) is described as "virgin" and "pristine." Following Marsh's line of thinking, in the instant that a foot makes an impression in the soil something has been "disturbed." A natural environment without humans, on the other hand, is somehow "clean" and "undisturbed." It has also, in relatively recent times, come to be understood as good and moral. "Pollution," on the other hand, is bad and immoral. It not only means to make something foul or unclean, but it removes purity. Since nature without the touch of human hands is pure and clean and moral, pollution can only be produced by people. A volcano can belch thousands of tons of acidic gases into the air, but few environmentalists would call this "air pollution." A red tide, despite the smell produced by decaying sea life, does not "pollute" the water while a leaking oil well certainly does. There is no question but that language both reflects and conditions the way we think about the relationships between humans and their environment. This is reflected in the semantics of ecology

and environmental studies: This is especially manifest in the use of the term "impact" to describe the evidence of any human activity, intentional or unintentional. Discussions of the "impact" of humans on the environment are common; reference to the "impact" of starfish, grizzly bears, or wolves much less so. In rethinking the role of human agents, there are significant gains to be had from shifting our language to a different terminology. I recommend adopting more accurate, less loaded terms such as "alteration"[3] and shifting discussions of human agency to models similar to those used for discussing nonhuman agency. Ethology emerged as a methodology distinct from ethnology. However, in understanding the place of humans in nature, we can undoubtedly benefit from ethologies (through the eyes of ecologists) of *Homo*. As noted by anthropologist Roy Ellen,

> … humans modify the world around them on an enormous scale, and have done so through co-evolutionary interactions for many thousands of years. Effectively, all landscapes with which humans routinely interact are therefore cultural: and our environment is every bit as much as what is made socially as what is not (Ellen in Dwyer 1996: 14)

To a certain extent, arguments for the existence of nature are like the old adage about the sound of a tree falling in a forest if there is no one there to hear it. We know that the planet was here long before humans evolved. This is a model that existed in Genesis. However, I suspect that the idea of nature as separate from humans is a relatively recent concept, and one peculiarly Western. It would almost certainly have been alien to ancient Sumerian or Egyptian thought as recently as 4,000 years ago, may not have appeared in Jewish thought until the early Iron Age, and would have been alien in pre-Christian traditions of Western Europe until the initial spread of the Roman Empire followed by Christian missionaries a few centuries later. It remains foreign to many traditional Native thinkers.

An even more recent invention is the Enlightenment concept of nature as something good, moral, and aesthetic. Taken to its extreme, man's harnessing of nature was for some Victorian thinkers the greatest moral achievement. Consider the utopian vision of Alfred Russel Wallace, Darwin's partner in the articulation of the theory of natural selection. Wallace felt that human culture was so distinct that humans were exempt from natural laws, and indeed allowed culture to almost entirely supplant nature.

> Here, then, we see the true grandeur and dignity of man. On this view of his special attributes, we may admit that even those who claim for him a position and an order, a class, or a sub-kingdom by himself, have some reason on their side. He is, indeed, a being apart, since he is not influenced by the great laws which irresistibly modify all other organic beings. Nay, more: this victory which he has gained for himself gives him a directing influence over other existences. Man has not only escaped natural selection himself, but he is actually able to take away some of that power from nature which, before, his appearance, she universally exercised. We can anticipate the time when the earth will produce only cultivated plants and domestic animals; when man's selection shall have supplanted natural selection; and when the ocean will be the only domain in which that power can be exerted, which for countless cycles of ages ruled supreme over the earth (Wallace in Lubbock 1869).

[3] I do realize, however, that language can be insidious. Given a particular political agenda, filing an "Environmental Impact Statement" might be more effective than an "Environmental Alteration Statement."

This may seem to be naïve and archaic, but it has been echoed in the more recent work of Gould (1979), who suggests that cultural evolution may be Lamarckian rather than Darwinian.[4]

The "nature" of the Holocene epoch is one from which humans cannot be removed, and the notion of Holocene environments in which humans are infrequent (and unwelcome?) visitors is as artificial as Victorian gardens – and perhaps just as elitist in conception. This begs the question of whether the Anthropocene should be considered a radical change that began with the Industrial Revolution or whether it emerged incrementally, beginning with the evolution of the genus *Homo* on the planet.

However, the main question at hand should not be one of humans as separate from nature or even humans vs. nature, but of just what role human culture will continue to play in altering the garden in which we dwell. Wallace's vision was flawed, but not necessarily with regard to the domestication of the world. His mistake was in underestimating the power of natural selection, whose effects we cannot change or predict, on culture as a part of nature.

Deep Nature/Shallow Culture

Given the original concept of οἶκος as a home for humans, it is particularly ironic that "deep ecology" does not refer to the study of those ecological systems in which humans have been present for the longest period of time, but exactly the opposite. The idea of natural areas existing as pristine before humans enter them is an ancient one in Western cosmology. (The archetypal model is the Garden of Eden, and we know what happened there!)[5] Human presence represents but an instant in geological time. However, three and a half million years of bipedal hominids is not an insignificant period, especially when one considers the significant changes the planet has experienced between the late Pliocene and the present (whether Holocene or Anthropocene). The first stone tools, which now date to about 3.5 million years ago, also represent the first recognizable permanent proto-human[6] "alteration" of their environment. That their presence left a lasting impression is minimally evidenced by the existence of the archaeological record.[7] In fact, were it not for permanent

[4] However, Gould (1996) does assert that some cultural activities such as baseball are subject to Darwinian evolution.

[5] Slater (1995) explores "Edenic narratives" in which an original, pristine "Eden" is lost through human frailty and environmental degradation. She argues that the Amazon rain forest is now an imaginary Eden for many people in the USA and Europe who have never actually been there. This may also be true for the rainforest habitats of Costa Rica, which even more than the Amazon are becoming "accessible Edens" through ecotourism.

[6] They are thought to have been made by either *Australopithecus garhi* or *A. afarensis*.

[7] Think about the experience of coming upon the remains of a campsite in an otherwise "pristine" wilderness. Does it really make a significant difference whether the trash is a few days or a few hundred thousand years old? Humans have been there and left their mark. "Nature" has been violated.

human alteration of "nature," archaeology could not exist. The spread of human populations began sometime around two million years ago, when successful cultural adaptations allowed members of the genus *Homo* to occupy several different niches in East Africa. By a million years ago, humans had spread to southern Europe, India, Indonesia, and China. By at least a quarter of a million years ago, they were present in Great Britain and Central Europe.

Although archaeology did not begin as the study of the οἶκος, but of its residents, this shifted substantially in the late twentieth century with the growth of cultural ecology. The environment was initially incidental to the study of human culture. It is now taken for granted as a fundamental object of study. Whether modern *H. sapiens* or an archaic ancestor, humans were part of the ecosystems in which they lived. They had direct effects upon trophic levels and flows of energy.

Until recently, neither ecologists nor archaeologists had been addressing the evolution of a "nature" in which humans have been firmly and undeniably an element for the past two million years. The systematic exclusion of a 40–50 kg carnivorous mammal, especially one with the special capabilities of humans, is a significant oversight. In imagining past landscapes, one cannot pretend they were not there. Archaeologists and anthropologists themselves have been largely culpable for the notion that early humans had an insignificant role in environmental change. For example, Karl Butzer wrotes: "Man–land relationships during the early Pleistocene were… one-sided, with the hominid populations but a minor ecological factor in their environment." He notes that *Homo erectus* "lacked the technology and numbers to modify the environment in any significant way" and says that "it is improbable that any appreciable, large-scale influence was executed on the natural vegetation during the course of the middle and early Pleistocene" (Butzer 1971: 455). Does this sound odd? It is hard for me to imagine an ecologist claiming that wolves, rabbits, or termites were "a minor ecological factor" or that they have no appreciable influence on their environment. What would happen if any one of these were simply removed (keystone species or not)? What Butzer means by "modification in a significant way" is undoubtedly linked to the notion of *cultural* influence and references the culture/nature dichotomy, not the concept of humans as *part* of natural systems. Humans on the landscape competed with other scavengers, foragers, and hunters. They were embedded within the ecosystem they inhabited, as much as any other species. They also contributed distinct patterns of selection and energy flow. The most tangible evidence that we have for their alteration of the environment is the transformation of chunks of fine-grained stone into handaxes, cleavers, and countless waste flakes – the archaeological record.

Even if human "alteration" of the environment was minimal for the first million years, the potential for profound effects changed rapidly shortly thereafter. The earliest evidence for human use of fire remains elusive. One of the best candidates is the site of Chesowanja, where the association of fire with ancient human tools suggests nonaccidental conflagrations at about 1.5 million years ago (Gowlett et al. 1981). Even if Chesowanja can be attributed to lightning strikes, there is still evidence for human use of fire by at least half a million years ago. At Zhoukoudian, near Beijing, stratified levels in cave deposits indicate a regular use of fire, probably for warmth and

food preparation, by 430,000 BP. Other sites from this time period with definite evidence for human use of fire include Torralba-Ambrona (Spain), Terra Amata (France), Vertesszollos (Hungary), and Westbury-sub-Mendip (England), all dating to around 400,000 BP. From Great Britain to China, from Hungary to Cape Horn, people were fanning flames. As noted by the authors of a recent text on wildland fire, "Since the mid-Pleistocene… the story of fire has been largely the story of the genus *Homo*… The earth as fire planet evolved into the earth as hearth" (Pyne et al. 1996: 604).

Kay (1995) and Kay and Simmons (2002) have pointed out that humans were a keystone species with a hugely disproportionate effect on the habitats they occupied. The genus *Homo* achieved this status with the initial control of fire. It should be obvious that indigenous peoples were a critical keystone species in the Americas. Their post-European invasion depopulation had a major effect on ecosystems throughout the hemisphere (Mann 2005: 342), while European migrations again confirmed the keystone role of *H. sapiens*.

I will treat the use of fire in more detail later in this chapter. Suffice it to say that fire was not used only for keeping warm. It was effective for driving game, but may have been even more important for initiating and maintaining successions in plant and animal communities that were advantageous to human subsistence. Needless to say, human-induced, postfire successions had a profound effect across whole ecosystems. They were probably sustained for half a million years over large portions of Africa, Asia, and Europe in both grasslands and forests as the principal method for "domesticating" the landscape.

> Fire was both the cause and effect for the fact that humans preferentially lived where burning was possible and shunned unburned regions as uninhabitable, that the nomadism of hunting and gathering societies was intimately interdependent with a cycle of growth and regrowth that was itself contingent on a cycle of burning. To a remarkable extent humans were able, through fire, to shape wholesale the environments in which they lived, to render that land accessible (Pyne et al. 1996: 611).

These techniques became less important with the advent of agriculture, whose distinct orientation may have actually reduced the usage of fire in areas where it previously had been regularly applied. Given that agricultural techniques were being used in parts of the Old World by 9,000 years ago, and were widespread from Europe to Asia by at least 6,000 years ago, it is hard to say whether we can detect the traces of hundreds of thousands of years of preagricultural, fire-managed landscapes. However, it is hard to imagine that fire did not affect the evolution of other species. With the exception of small islands (it now appears that Australia may have been occupied by 100,000 BP), large deserts, high mountain ranges, and glaciated areas, by the end of the Pleistocene in the Old World there were few landscapes where one could be sure to find "nature" without humans in it (Scarre 2009).[8]

[8] This comprehensive textbook edited by Scarre provides extensive documentation of long-term human presence around the globe, now clearly demonstrated by archaeological research.

Holocene Coevolution

Archaeologist David Rindos (1984) applied the term coevolution to the unconscious relationship between humans, plants, and animals that results in simultaneous changes among all of them, eventually resulting in domestication. Humans had occupied virtually all habitable (and many only marginally habitable) parts of the globe by the end of the Pleistocene. It is true that *H. sapiens* was a relative latecomer to the Americas. However, there is now little doubt that humans had established a pervasive presence from Alaska to Tierra del Fuego before the end of the Pleistocene. This presence occupied biomes ranging from tundra to tropical forest, from sea level to altitudes of 4,000 m. There is clear documentation for human presence in the eastern Amazon basin by 11,000 BP (Roosevelt et al. 1996). The emergence of Holocene environments in the Americas was, therefore, a coevolutionary process in which humans were present, pervasive, and participatory. While it is true that people migrated into "pristine" Pleistocene niches, humans did not "come into" Holocene environments of the Americas from the outside, bringing with them change and disturbance. Rather, Holocene ecosystems evolved with humans *already in them*, playing at least as vital a role as any other organisms. If we seek a "nature" without humans in the Americas during the past 10,000 years, we cannot find it.

Unfortunately, the illusion of vast continents devoid of humans is an accident of history. Epidemic diseases devastated Native American populations, in some cases racing well ahead of the European explorers themselves. Geographer William Denevan has estimated the total population of the New World before the arrival of Europeans at 54 million people.[9] This figure was reduced by 89% in the first century after initial contact with Europeans. It has been reported that in areas of Amazon forest that have been altered by slash-and-burn agriculture, it takes 60–80 years to recover species diversity and 140–200 years to recover lost biomass (Saldarriaga and West 1986). While this may sound like a long time, most areas of the New World had at least as long a "recovery" period before they were resettled in levels anywhere close to pre-Columbian maximums. In areas of the highest rainfall, and hence the most rapid regeneration of vegetation, the effects of human presence could be blurred and largely invisible to the untrained eye, especially to Europeans accustomed to a heavily domesticated landscape within just a few years of abandonment. By 1750, the population of the New World was still only 30% of its pre-Columbian total (Denevan 1992b: 371). The rapid decline and slow growth of human populations provided plenty of time for landscapes that had been significantly altered by human activity – and maintained as cultural landscapes for thousands of years – to *appear* as if they had never been occupied. As Rostland (1957: 409) noted, "paradoxical as it may seem, there was undoubtedly much more 'forest primeval' in 1850 than in

[9] He divides this into 3.8 million for North America, 17.2 million for Mexico, 5.6 million for Central America, 3.0 million for the Caribbean, 15.7 million for the Andes, and 8.6 million for lowland South America (Denevan 1992b).

1650." Furthermore, even in 1850, the Pacific Northwest of the USA was not covered by old growth forests. A Bureau of Land Management study suggests that in 1850 only about 40% of the forests of the Oregon Coast Range were more than 200 years old (Teensma et al. 1991). The effects of sixteenth-century depopulations and Colonial reconfigurations, not to mention pre-Columbian population shifts, can still be seen today throughout most of the New World. This is especially apparent in protected areas such as the Calakmul Biosphere Reserve in Guatemala, that was once home to dense population centers and one of the most thoroughly "domesticated" landscapes in the Americas. Studies of the remains of Maya house mounds that were undertaken as early as the 1930s revealed that most of the Department of Petén and Belize were continuously settled between more dense "ceremonial centers." Slash-and-burn agriculture had been taking place here since at least 1000 BC, and the fuel needs of lime plaster production, ceramic manufacture, and daily cooking had been constant and increasing for just as long (Hammond 2000).

One of the most dramatic examples of the "regeneration effect" is the Biltmore Estate in Asheville, North Carolina, arguably the birthplace of modern forestry (Spirn 1995). Photographs of the area taken in the late nineteenth century, before Frederick Law Olmstead's landscaping, show a heavily altered landscape of small, secondary-growth forest. Today the Pisgah National Forest is a rich, mature forest that would be an inspiration to any environmentalist, thanks to the understanding and foresight of Gifford Pinchot (the first director of the U.S. Forest Service) that "trees could be cut and the forest preserved at one and the same time" (Pinchot quoted in Cronon 1995b: 101).

Fire

Fire, the principal instrument of environmental alteration in the Pleistocene, continued to be effective through the Holocene. It served to create and maintain grasslands such as the prairies that once extended into Ohio and the western portions of Pennsylvania and New York (Pyne 1982), including a grassland of 1,000 square miles in the Shenandoah Valley (Van Lear and Waldrop 1989). Anderson (1990) notes that these eastern prairies "would mostly have disappeared if it had not been for the nearly annual burning of these grasslands by the North American Indians." That this activity had far-reaching effects on the ecology is exemplified by reports of bison as far east as Massachusetts (Williams 1989, 2006). In fact, a significant incentive to the use of fire was the fact that it increased frequencies of berries, fruit and nut trees, and populations of animals such as deer, turkeys, and grouse that preferred open or forest margin habitats.

Fire was not only used by native populations for creating and maintaining grasslands, but for altering a partly "anthropogenic" ecology of temperate forests. There is a vast literature on this topic that makes it clear fire played a critical role in preserving the health, longevity, and utility of forests – especially for humans – by periodically clearing undergrowth whose flammability can endanger the forest's

very existence if allowed to go too long without burning. Forests looked very different in the transitional period between the decline of native populations and the repopulation of depopulated areas by European settlers. Andrew White, who explored the Potomac Valley in 1633, noted that the Virginia forest "is not choked with an undergrowth of brambles and bushes, but as if layed out in a manner so open, that you might freely drive a four horse chariot in the midst of the trees" (White in Williams 2006: 28). In New England, Roger Williams recorded that the Indians set fires twice a year, writing that "this burning of the Wood to them they count a Benefit, both for destroying of vermin, and keeping downe the Weeds and thickets" (Williams in Cronon 1985: 51). This "disturbance" and "impact" of regular human activity was actually healthy for the forest as a whole, resulting in greater overall stability.

The more "densified" forests that have resulted from the cessation of regular, low-level burning are "decidedly more ecologically unstable that the ones they are replacing, i.e., more susceptible to insects, disease, drought, and catastrophic fire. When fires do occur in such forests (as they inevitably will), they will be intense, stand replacing, soil damaging fires, beyond that which would have been typical in pre-European forests" (MacCleery 1994).

The use of fire was hardly limited to dry grasslands and temperate forests. Tropical forests will also burn, as evidenced by the conflagration of five million hectares of lowland rainforest in Borneo in 1983 (Leighton and Wirawan 1986) and rainforest fires in the Amazon basin (Fearnside 1990; Saldarriaga and West 1986; Sanford et al. 1985). Tropical forests, especially in the Americas, appear to have burned almost as often as ones in temperate regions. Some of this was maintenance burning, while in other cases it was done for more extensive agricultural clearing. "Almost everywhere we go in Latin America, and Asia and Africa, we find charcoal buried in the soil. People have in one way or another cut and burned almost every place in the tropics" (Sanford in Yoon 1993: C1). Denevan (1961, 1992b) suggests that pre-Columbian fires were responsible for the eastward spread of pine forests in Nicaragua and other lowland pine forests of Central America, the Caribbean, and Mexico. "The Nicaraguan pines are fire tolerant once mature, and large numbers of seedlings survive to maturity if they can escape fire during their first three to seven years. Where settlement has been abandoned and fire ceases, mixed hardwoods gradually replace pines" (Denevan 1992b: 372). At the La Selva Biological Station in northern Costa Rica, archaeological excavations in an area of "virgin" forest yielded charcoal deposits from slash-and-burn agriculture over a period of at least a thousand years (Horn and Sanford 1992; Quintanilla 1989; Yoon 1993; McDade 1994). Charcoal with pre-Columbian dates from sediments in a high altitude lake in Costa Rica has also been interpreted as possibly resulting from human activity (Horn and Sanford 1992: 357).[10] Agricultural burning in rainforests of Costa Rica

[10] In the case of high altitude Lake Chirripó, there are no direct associations with archaeological remains. "Natural ignition by lighting is also a possibility" (Horn and Sanford 1992).

and the Amazon basin (cf. Hamburg and Sanford 1986) "may have affected species patterning and perhaps contributed to the maintenance of overall community diversity" (Horn and Sanford 1992: 357). As fire ecologist Stephen Pyne (1982: 46) noted, "the virgin forest was not encountered in the sixteenth and seventeenth centuries… it was invented in the late eighteenth and early nineteenth centuries."

Estimates of Wood Use

Although fire was arguably the most significant tool for environmental alteration, the use of wood also had significant effects. Archaeologist Kenneth Ames has estimated the wood requirements for ancient plank houses constructed in the Pacific Northwest. Using data from the excavation of one such structure near Portland, Oregon, he estimated that a single house that probably housed between 40 and 80 people would have required 50 cedar logs and the equivalent of 55,000–75,000 board feet of lumber. While small, single family homes would have required as little as 6,000 board feet, larger structures were built that required over 100,000 board feet of lumber. The estimated use-life of these larger houses was about 400 years. With regular replacement of cedar planks and small posts every 20 years, a single structure could have required over a million board feet of lumber. In 1806, Lewis and Clark estimated a population for the region of 3,000 people. When one considers that there is evidence for the use of plank houses for over 2,600 years, and adds in the amount of wood used for regular cooking, heating, dugout canoes, and manufactured implements, the amount of lumber used is truly impressive (Ames et al. 1992).[11]

Evidence from pollen studies and packrat middens suggests significant changes in Holocene vegetation, most notably a drastic reduction in the extent of pinyon and juniper forests after about AD 700. Betancourt and Van Devender (1981: 658) noted that:

> Although our present data are insufficient to establish the exact timing of woodland reduction, we postulate that marginal stands of pinyon and juniper could not withstand the relentless woodcutting needed to meet fuel demands of a growing population over the span of two centuries. Depletion of fuelwood and other local resources probably intensified the reliance on commodity imports from peripheral communities. The resulting political and economic instability may partly explain eventual migration of Chacoan peoples to the northern Rio Grande and elsewhere after 800 years BP.

This depletion of forests in the Southwest had a dramatic effect that has persisted up to the present. In other areas, forest recovery may have hidden earlier effects. Hough (1926: 54) noted that it "has happened often in many parts of the world that towns located with regard to accessible wood fuel have been forced to remove to

[11] The estimate of maximum household population has since been revised upward to 200 (Ames personal communication 2010).

another location when the wood was exhausted within carrying distance." Native Americans were not exempt. With regard to the Iroquois, "it is probable that live standing trees were systematically cut. This is probable because an Indian village used a large amount of firewood and exhaustion of the local supply meant moving the village…" and "prodigal use of firewood by the Iroquois and Delawares… suggests that they had a more substantial supply than dead and down trees and makes it likely that they would make use of all wood they could obtain nearby. Latifau's statement that the longer an Indian village was occupied, the farther the forest receded from it indicates that all trees were cut" (Day 1953: 330). Other statements can be found supporting heavy wood use by the Iroquois (Jenness 1972: 84; Waugh 1916: 53), Huron (Kinietz 1940: 42), Pomo (Kniffen 1939: 358), northern Athabaskan tribes (Morice 1895), and Plains peoples (Griffin 1977).

Examples of Landscape Alteration in South America

There are a growing number of examples throughout the hemisphere of archaeological evidence for significant alteration of the landscape over time. With increasing frequency and detail, archaeology is demonstrating that vast areas of the South American landscape had been transformed by human activity during at least the two millennia prior to the arrival of Europeans. Although alteration of highland habitats in the Andes through the use of terracing has been well documented (Morlon 2006), less well-known is the even greater transformation of swampy, low-lying regions in alluvial basins using systems called *camellones*, *albarradas*, and *waru warus* (Denevan 1970, 2006; Valdez 2006a). These include the Sinú region centered on the San Jorge River in northern Colombia (Parsons and Bowen 1966; Plazas et al. 1993; Reichel-Dolmatoff and Reichel-Dolmatoff 1974; Rojas Mora and Fernando 2006), the Cauca Valley and parts of southwest Colombia (Parsons and Bowen 1966: 339), the Guayas basin surrounding the Gulf of Guayaquil (Callavet 2006; Delgado 2006; Gondard and Lopéz 2006; Marcos 1987; Marcos Pino and Bazurco Osorio 2006; Parsons 1969) and on the coast at La Tola, Ecuador (Valdez 2006b), the Llanos de Mojos in eastern Bolivia (Denevan 1966; Erickson 2006b; Rocha 2006), the Upper Xingú region of eastern Brazil, the eastern plains of Venezuela (Gassón and Rey 2006), and coastal Surinam (Boomert 1976), Lake Titicaca in Bolivia (Kolata 1996; Smith et al. 1968), and the Casma Valley of Peru (Pozorski et al. 1983). These systems were used for cultivating a wide range of crops, including maize as well as manioc, and – in the case of Lake Titicaca – potatoes. While the identification of these systems in tributaries to the Amazon is just beginning, it seems reasonable to expect that similar systems will be documented for most of lowland South America. Such systems were also used in Guatemala and Belize (Sluyter 1994). They are conspicuous by their absence from the southeastern US, eastern Honduras, northern Nicaragua, eastern Costa Rica, and northern Panama, all of whose lowlands merit closer inspection for traces of this form of landscape alteration.

An extensive system of raised/drained fields that was utilized over a period of at least 1,500 years prior to the arrival of Europeans has been documented in the Mompós Depression of northern Colombia, where the waters of the Magdalena, Cauca, San Jorge, and César Rivers converge to create a landscape of water and rich alluvium (Parsons and Bowen 1966, Plazas et al. 1993). This was an ingenious adaptation in which human labor was used to transform shallow lakes and swamps into a managed system supporting agriculture and fishing. These were discovered in aerial photographs as forest clearing exposed structures that had become overgrown, "in much the same manner that the medieval open-field landscapes of ridges and furrows were earlier unveiled in Denmark and in the British Isles" (Parsons and Bowen 1966: 319). That is, they became exposed as modern deforestation began to approximate pre-Columbian levels. They systems were constructed in the absence of forest cover that may have returned only after they were abandoned. In 1966, when these systems were initially documented, Parsons was able to identify some 160,000 acres (6,475 ha) of these fields. They are thought to have been used principally for the cultivation of manioc, but may also have supported large crops of maize and other tubers. Parsons suggested that the impetus for the construction of these raised/drained fields may have come from the expansion of manioc cultivation since this tuber does not tolerate flooding. Capillary action would have also extended the growing season for maize in this area.

One of the fascinating aspects of these systems, most of which have been documented along the San Jorge River, is that they appear to have grown by accretion through the labor of individuals and families in relatively small-scale societies, not as the product of centrally supervised labor projects. Although the raised fields of the Mompós Depression remained in use at the time of the chiefdoms documented at the time of initial European contact, their construction appears to date to as early as AD 500, long before the time of centrally organized polities (Plazas et al. 1993). The broad, flat plains of the lower San Jorge were reclaimed for agriculture through extensive, manmade systems of drained/raised fields (*camellones*) that grew by accretion over time. The Momópos Depression, in particular, has over 500,000 ha of swampy, low-lying territory that had a high level of productivity when altered by human hands. The creation of a combination of canal systems and drained/raised fields mitigated the effects of seasonal flooding by draining excess water across a wider area while at the same time taking advantage of the deposition of new alluvium to enrich the soils. This was assisted by labor-intensive activity, redepositing sediments from smaller canals on top of extensive systems of linear hillocks. The typical forms of these drained/raised fields were that of a trunk channel (*caño*) from which smaller canals were excavated at roughly 10-m intervals. This could measure as much as 20–40 km in length, the longest of which were found along the course of the San Jorge river. The camellones could be as much as 1 m above the water level, with artificial platforms constructed for dwellings within the system that could measure up to 5 m in height (Plazas et al. 1993). What remains to be demonstrated is that the extensive raised/drained field systems of the San Jorge drainage were the

result of long-term, centralized planning. Although their general appearance is one of significant organization, such systems may have been initiated by small-scale societies and only later integrated into a larger whole. It is not clear how much of the system was ever used simultaneously nor how long the system as a whole took to evolve.

Clark Erickson and William Balée have documented extensive landscape alteration in the Llanos de Mojos region of Amazonian Bolivia (Erickson 2006a, b; Erickson and Balée 2006). In addition to extensive drained/raised fields similar to those of northern Colombia, there were areas of broad canals used specifically for pisciculture (Erickson 2000). Archaeological features include massive occupation mounds that were surrounded by large ditch-and-embankment structures topped with palisades. Erickson describes features in the Baures region as "ring ditch sites, occupations sites, causeways and canals, artificial ponds, fish weirs, and raised fields" spread over an area estimated at 12,000 km² (Erickson 2010: 623). The ring ditch sites are the most impressive structures, representing ancient villages that were enclosed by continuous, circular ditches outlined with ridges of excavated earth that measured 100–300 m in diameter with ditches up to 4.5 m deep and 10 m wide. They have some similarity to the ancient earthworks described for the eastern United States. Erickson notes, "Although circles, ellipses, and irregular shapes are most common, we identified octagonal, hexagonal, square, rectangular, 'D' and 'U' shapes, as well as clusters of ring ditches and concentric ring ditches" (Erickson 2010: 623). Some of these are connected by canals for canoes or raised causeways, indicating substantial connections between communities. To date, 37 complete and 20 partial ring ditches have been mapped in the Baures region (Erickson 2010: 625). These massive structures appear to have been constructed primarily for defensive purposes. Topped with palisades of either logs or growing trees, they could have denied entry to attackers and provided shelter for defending warriors. However, some of these structures were built in a way that could have been easily crossed, calling defensive purposes into question (Erickson 2010: 627). Construction of the ring ditch sites would have required large-scale alteration of the forest, including the clearing of trees both for ditch construction and for the large villages and agricultural fields nearby.

The Amazonian dark earth soils, also known as *terra prieta*, may represent the most dramatic example of human transformation of the landscape (Glaser and Woods 2004; Lehmann 2003; Woods 2008). Vast areas of anthropogenic soils have been documented throughout the Amazon basin. These soils were not simply the unconscious by-product of human activity, but were actively created and managed by the introduction of charcoal to tropical forest soils so that the soil chemistry was transformed to promote the growth of a complex combination of microorganisms. Like yeast in a batch of bread dough, these converted the charcoal into usable organic compounds that enriched soil fertility. The lush vegetation of large portions of the Amazon basin may be the result of two processes: The creation of these dark earth soils and their subsequent depopulation in the wake of European conquest and expansion. The sharp decline in human populations on these rich soils permitted the

regrowth of substantial areas of rainforest plant species, resulting in a vigorous reforestation of areas that had been populated and farmed for thousands of years.

Heckenberger and his colleagues (2008) have documented extensive settlements in the Upper Xingu region of the Brazilian Amazon that made use of these dark earth soils. These represented a complex hierarchical settlement pattern, with small-scale "urban" polities linked to each other within a larger sociopolitical system. The existence of "plaza towns" with estimated populations of over 5,000 individuals covering areas of over 30 ha was made possible by substantial anthropogenic alteration of both soils and drainage patterns through semi-intensive land use. These patterns were shared over large tracts of the Amazonian lowlands, with territorial polities comprised of networked settlements sharing basic belief systems and technological strategies – including the creation of dark earth soils – within areas of around 250 km². Heckenberger and his colleagues (2008) describe these systems as "garden cities" with gradients of forest resources that were sustained between settlements. As with Erickson's settlements, the plaza towns of the Upper Xingu were delimited by ditch-and-embankment structures topped with palisades, some of which extended as much as 2 km in length. They were connected by formal roads, some of which were up to 50 m wide. Intersettlement roads could extend 3–5 km in length and formed just a part of extensive travel networks that included canals for canoes, bridges, and raised causeways. This extensive infrastructure represents a significant presence and alteration of areas of the Amazon that had heretofore been considered relatively devoid of human populations, even to the point of being considered almost "pristine." In Heckenberger's terms, indigenous peoples were the "original architects" of the Upper Xingu landscape, changing it substantially from what its pre-Holocene, pre-*H. sapiens* state had been. The time scale for these changes is one that began at least as early as AD 500 and may be substantially older. It is a landscape that was transformed specifically due to human presence and sustained conscious and unconscious alteration over a period of millennia.

Imagining Ancient Central America

Denevan (1992b: 369) has commented on the misperception of pre-Columbian landscapes in the Americas: "The myth persists that in 1492 the Americas were a sparsely populated wilderness, 'a world of barely perceptible human disturbance.' There is substantial evidence, however, that the Native American landscape of the early sixteenth century was a humanized landscape almost everywhere." This evidence includes comments by eyewitnesses such as Bartolomé de Las Casas, who noted that, "All that has been discovered up to [1549] is full of people, like a hive of bees, so that it seems as though God has placed all, or the greater part of the entire human race in these countries" (cited in MacNutt 1909: 314). The large and densely populated areas of Mexico and Peru are well known. Somewhat less attention has been paid to more dispersed populations that were undoubtedly known to Las Casas.

Garcilaso de la Vega, describing Hernan de Soto's expedition through northern Florida in 1539, wrote that they, "marched on through some great fields of corn, beans, and squash and other vegetables which had been sown on both sides of the road and were spread out as far as the eye could see across two leagues of plain" (Garcialso de la Vega 1980 cited in Doolittle 1992: 393).

Costa Rica provides an interesting case study for examining human/landscape coevolution from the beginning of the Holocene to the sixteenth century. The first evidence for human presence dates to the Paleoindian period, around 10,000 BP, and evidence for continuous occupation from at least 1000 BC to the present has been recorded in the major archaeological areas of the country. A master registry of archaeological sites in Costa Rica provides some insights into the magnitude of pre-Columbian occupation and its potential ecological influence (Vazquez et al. 1995). As of 1992, the National Museum had recorded a total of 2,008 archaeological sites, the vast majority of which represent small, sedentary, pottery-producing villages. Most represent information from regional or local surveys. However, the authors of the 1995 compilation estimate that around 60% of Costa Rican territory remains archaeologically unexplored.[12] The number is now closer to 5,000.

Some of the earliest accounts of Costa Rica suggest extensive modification of the landscape. A "domesticated" landscape provides the best explanation for the apparent ease with which early explorers were able to traverse what is today still difficult terrain. One of the first of these was Gil González Dávila, who in 1522 made the first significant inland exploration of Costa Rica. Forced to make a landing at the Burica Peninsula, near the current Pacific border between Costa Rica and Panama, he led a contingent of 500 men and supplies northward along the Pacific coast of Costa Rica to an area near what is now Managua, Nicaragua. His presumed route would have taken him through the famous rain forests of the Golfo Dulce, but he reported no significant problems of passage. In 1541, Diego Guitiérrez made the first major expedition into the central heartland of the country, traveling up the Río Suerre (most likely the Pacuare/Reventazón) and crossing the mountains into the Central Valley via a route that took them near the Turrialba volcano. His expedition was ambushed and Gutiérrez was killed, but the survivors were able to flee overland from the Central Valley to the mouth of the Río San Juan (Benzoni 1970). A direct route would have taken them across what is now the densely forested Braulio Carillo National Park and in the general direction of the La Selva Biological Station, where a successful escape is difficult to imagine if the area were anything at all like it is today – much of the park is covered by dense tropical forest. Either roads, a more open landscape, or both would have been necessary for their rapid movement across the landscape.

[12] They also note that the information that has been recorded on most of these sites is quite poor.

The first Spanish settlements of the Central Valley of Costa Rica did not occur until 1560, after sufficient time had passed for populations to have been swept by epidemic diseases and for many of the areas previously under cultivation to "recover." It has been estimated that the peak pre-Columbian population of Costa Rica was 400,000 (Denevan 1992a: 291), reduced to 80,000 by 1563 (MacLeod 1973: Fig. 32). However, later expeditions such as Juan Vázquez de Coronado's 1563–1564 trip from Cartago to the Térraba Valley, across the Talamanca range to the Valle de la Estrella, and then back to the Central Valley, not to mention Perafán de Rivera's reverse version of the same journey (with his wife and children) in 1570–1572, were probably facilitated by travel through territories that remained populated and had not yet regenerated tropical forest.

Paleoindian and Archaic Periods

The earliest evidence for human presence in Costa Rica is found at several sites with characteristic fluted points of the type that have been associated with mammoth and mastodon kills in both North and South America. Although there are several sites that have yielded fossilized mastodon remains, none have yet been found with clear evidence for human predation. The best-documented sites are located in the Reventazón Valley, near the town of Turrialba, which incidentally appears to have been the most densely populated part of the country in latter half of the sixteenth century. A Paleoindian point has also been found in the Arenal Valley of northwestern Costa Rica, not far from the private rainforest reserve at Monteverde, where archaeological evidence also documents a virtually continuous human occupation for about 10,000 years. Human presence at this early date is also found in western Guanacaste, where C.V. Hartman collected a Paleoindian point (without knowing what it was) around the turn of the century. Hartman's archaeological work in the area was not far from what is now the Santa Rosa National Park, the site of Daniel Janzen's famous environmental restoration project. Most recently, a "fishtail"-style Paleoindian point was collected in the valley of the Sarapiquí River in northern Costa Rica (León 2007), in the same region as the La Selva biological research station (a center for research on tropical forests). It seems clear that humans were present within many ecosystems of Costa Rica from the beginning of the Holocene.

The best hints about what may have been happening in Costa Rica at this time come from western and central Panama. Central Panama, in particular, has provided some of the most intriguing evidence for early human alteration of the tropical landscape. Piperno et al. (1991a, b) interpret the presence of charcoal and grass microfossils together with taxa characteristic of secondary forests and disturbance[13] in lake cores to indicate intentional use of fire for landscape modification as early as 8000 BC.

[13] Such as *Heliconia*, *Cecropia*, *Byrsonima*, *Trema*, and *Acalypha*.

Cooke and Ranere (1992: 256) suggest that, "Paleoindians were probably maintaining clearings around [Lake La Yeguada], which, being one of the few large bodies of freshwater in Panama, would have concentrated prey species." Piperno has also suggested that the earliest domestication of plants took place prior to maize cultivation and was linked to an anthropogenically induced proliferation of successional plants in disturbed areas (Piperno 1989, 1991).

The Paleoindian period and the succeeding Archaic period in Costa Rica are still largely unknown. This is in part due to the fact that populations were relatively small and sites ephemeral, but can also be attributed to the difficulty of locating sites beneath deposits of volcanic tephra and in dense tropical vegetation. Chipped stone projectile points from the Archaic period, dating to between 8000 and 2000 BC, have been found in the Turrialba Valley, the Arenal Valley, and near Monteverde in the Cordillera de Guanacaste. Inferences about human alteration of the environment at this time must remain speculative. However, there is no doubt that people were part of the ecosystem. It seems likely that they would have gravitated towards patchy, open habitats characterized by palm and fruit trees that attracted game, such as may have been created by periodic volcanic eruptions. Some of these open areas may have been maintained through use of fire.

The Invention of Pottery

By at least 2000 BC, the residents of Costa Rican landscapes were manufacturing sophisticated pottery, living in wattle-and-daub houses, and cultivating maize (Hoopes 1995). All of these activities, simple as they are, have significant implications for habitat alteration. Pottery making, for example, is highly fuel intensive, especially at low technological levels. Open-air firings generally require the most fuel because they conserve and concentrate the least amount of heat. Costa Rican populations were relative latecomers to this technology. The earliest evidence for New World pottery comes from the central Amazon, with dates around 7000 BC (Roosevelt 1995; Roosevelt et al. 1991). It is present in northern Colombia by 4000 BC (Oyuela 1995), coastal Ecuador by 3500 BC (Damp and Vargas 1995), and central Panama by 3000 BC (Cooke 1995). Even if fire was not being used to induce succession, the production and use of pottery is good indirect evidence that fire was altering the landscape. Each household probably had a large number of pots that would need to be replaced as they were broken. While the firing of a pot required a significant investment of fuel, even more was utilized during its employment as a cooking vessel. Even if population densities remained low, the regular production and use of large quantities of pottery in Costa Rica over the course of 3,500 years undoubtedly contributed to forest reduction.

Human alteration of tropical forests included both conscious and unconscious behaviors. One of the most dramatic effects was the introduction of new species of plants whose consumption was facilitated by pottery. These included early domesticates such as maize, manioc, beans, and squash, but probably extended to species

in undomesticated or semidomesticated varieties. Among the latter were a variety of tree crops such as palms, most notably pejibaye (*Bactris gasipaes*) and the American oil palm (*Elaies oleifera*), as well as papaya and cacao. Human alteration of tropical forests also included selective use of wild plants and animals for food. Some species were favored, which may have resulted in either increases or decreases in frequency. The former occurred when humans acted as seed dispersers, propagators, or undertook husbandry to nurture and encourage growth. The latter occurred when use did not encourage regrowth or replacement. Tropical biologists have documented peculiar distributions of *Iriartea* palm in forests at La Selva, Costa Rica. It was absent in areas that would have been readily accessible to pre-Columbian populations, but persisted in areas that would have been inaccessible, suggesting selective cutting for the extraction of palm heart (Clark et al. 1995). Management was not always wise, even by native populations. Anthropologist Michael Alvard (1993: 355) notes:

> Native peoples have often been portrayed as natural conservationists, living in "harmony" with their environment. [He argues] that this perspective is a result of an imprecise definition of conservation that emphasizes effects rather than actual behavior… Results indicate that hunters do not show any restraint from harvesting species identified as vulnerable to over-hunting and local extinction.[14]

It is likely that ancient populations were responsible for reconfiguring local habitats, and that such reconfiguration over long periods of time resulted in patterned natural selection and microevolution.

Early Village Expansion, 500 BC–500 AD

The period between 500 BC and 500 AD is one of widespread agricultural expansion throughout Costa Rica. In the northwest, villages with black-on-red and red-on-buff pottery are found throughout Guanacaste, from the Pacific coast up into the Cordillera de Tilaran. There was a significant increase in the population of the Arenal Valley, with most of the identified village sites having evidence for occupation during this period. This period it was the one in which maize agriculture appears to have become the dominant form of subsistence. Villages with houses of both circular and rectangular foundations were found throughout the Caribbean lowlands and Central Valley. In the southern Pacific region of Costa Rica, there is evidence for the emergence of ranked societies and individual leadership, probably based on the cultivation and redistribution of agricultural products (Hoopes 1996).

The expansion of both villages and agricultural fields resulted in significant alteration of tropical forests throughout Costa Rica at this time. Ceremonial jade axes became popular status items and have been identified as emblematic of the tools of forest clearing and agricultural expansion. No village dating to this period has been explored in such a way as to reveal its spatial extent. However, treefall is a constant

[14] See Chacon, Chap. 13 in this volume for similar findings.

hazard in mature tropical rainforest. For this reason, villages would have required clearings even larger than the areas taken up by the houses and communal areas. House construction and maintenance placed additional demands on timber resources, but these are likely to have been small compared to fuel usage. Shallow soils erode quickly when denuded of vegetation and subjected to regular traffic. Secondary effects of deforestation and erosion would have included higher temperatures and velocities of water runoff, altering the ecology of nearby drainages.

One of the most significant effects of agriculture was the introduction of new species of plants, including maize, beans, cacao, and pejibaye. Swidden agriculture would also have resulted in environmental alterations. Just how prevalent slash-and-burn agriculture was remains untested. However, some of the most revealing evidence for its usage comes from test excavations at the La Selva Biological Station in northern Costa Rica. Here, research by Ifigenia Quintanilla and Robert Sanford indicated that areas that had been identified as "mature, intact" rainforest of the type described as "virgin" (Hartshorn 1983) were actually growing on top of charcoal-bearing strata. Archaeological excavations revealed habitation features, ceramic fragments, and other artifactual associations that strongly suggested agricultural burning in the period between 500 BC and 300 AD and again around 900 AD (Horn and Sanford 1992: 356; Quintanilla 1989).[15] It is around this time that we find a rapid and widespread expansion of agricultural communities. The greatest expansion appears to have begun around AD 300 and lasted until AD 800. In central and eastern Guanacaste, this period represents a time of numerous, widespread agricultural villages, all of which were producing prodigious amounts of high-quality pottery. In the heavily surveyed Arenal and Cañas-Liberia regions, settlement was almost continuous (Guerrero and Solís 1997).

Hunting placed regular and patterned demands on animal populations. At present, there is little evidence for the specific food resources of the earliest villages in Costa Rica. From 2000 BC until around AD 500 there is little useful information about either the relative or absolute quantities of different species taken. However, after AD 500 archaeological sites in coastal Guanacaste and the Golfito area indicate the hunting of large mammals such as deer and tapir as well as smaller species such as agouti, currasow, and opossum (Gutiérrez 1993; Hoopes 1994). Olga Linares has noted how alteration of the landscape through agriculture would have changed hunting resources. She uses the term "garden hunting" to describe how fallow fields would have attracted deer and other forest margin species and how groves of fruit trees would have encouraged the growth of populations of favored small mammals, such as agoutis (Linares 1977). Models for small mammal ecology that ignore the coevolutionary potential of symbiotic relationships with pre-Columbian agriculturalists are bound to be incomplete (Stahl 1996).

[15] The associated radiocarbon dates were slightly earlier than estimates for the pottery styles. The three earliest dates, when calibrated, yield curve intercepts at 2,465 and 2,359 BP (515 and 409 BC). The fourth, and most recent date, had calibrated intercepts of 1,050, 1,048, and 997 BP.

Further Population Expansion, 500–1000 AD

The period between 500 and 1000 AD was one of further population growth, with the emergence of a number of nucleated centers. Among these was Guayabo de Turrialba, the largest known settlement in the Reventazón Valley. The principal technological introduction of this period was the working of gold and gold/copper alloys (*guanin* or *tumbaga*). While cold hammering of gold would have had no significant impact on fuel use, casting was a fuel intensive process. In the Térraba Valley, which appears to have been the principal goldworking region according to the supposed proveniences of thousands of gold artifacts, wood consumption would have increased as metallurgy – which has even greater fuel needs – augmented the previous requirements of ceramic workshops.

Among the most impressive aspects of the pre-Columbian landscape of Costa Rica at this time was the existence of extensive systems of roads and footpaths. In the Arenal region near Tilaran, footpaths over 1,000 years old are still visible in aerial photographs due to the deep ruts they left in the earth. Excavations of cross-sections of these features have provided broken pottery, demonstrating their relationships with nearby villages (McKee et al. 1994; Sever et al. 2003; Sheets and Sever 1991).

The Pre-Columbian Climax, 1000–1500 AD

The 500 years prior to European contact (Columbus touched the Costa Rican shore in 1502) were characterized by peak population densities in Guanacaste, the Central Valley, the Reventazón Valley, and the Térraba-Coto Brus Valley. Large sites such as Guayabo de Turrialba and Las Mercedes grew to their maximum sizes, declining sometime before Spanish colonization of the region (the existence of these and other large sites was not reported until the mid-nineteenth century). In Guanacaste, the standardization and wide distribution of similarly decorated ceramics suggests the existence of villages that specialized in the production of specific pottery types. These are likely to have placed high demands upon surrounding sources of fuelwood, possibly shifting in location as fuel sources became depleted.

As populations grew, more of the country was crossed by paths and constructed roadways. These have been documented at Las Mercedes, where Vázquez and Chapdelaine (2008) recorded wide roads paved with cobbles, and at Guayabo, where one paved walkway measuring about 8 m wide enters the site from the southeast and extends for about 150 m and another *calzada* leads away from the site in a north-northeasterly direction for a distance of around 7 km (Vázquez et al. 2001). Research by Vázquez and Salgado (Salgado et al. n.d.) indicates that similar roads may have existed throughout the Central Valley and the Caribbean lowlands, especially in the vicinity of the sites of Las Mercedes and Nuevo Corinto, but clear documentation for long-distance extensions remains elusive. As has been true for modern roads through the rainforest, ancient footpaths in Costa Rica also opened additional

areas to hunting, forest clearing, and agriculture. By traversing areas of forest, they improved access to species that would have been otherwise difficult to find. The development of extensive footpaths and roads undoubtedly resulted in as significant an alteration of pre-Columbian landscapes for ancient populations as modern roads have for contemporary populations.[16] Study and documentation of just how extensive these paths may have been throughout Costa Rica and Central America as a whole is just beginning.

Population and Depopulation

The earliest populations were highly mobile, with heavy reliance upon "wild" resources. They may therefore have had effects over wide geographic territories. Later populations, although still taking advantage of these resources, were more sedentary and more dense. They would have had high levels of local alteration, including reduction of populations of food animals, artificial diversity of cultivated plants, and changes in soil loss and redeposition. However, the likelihood of significant mobility across the landscape suggests that the effects of humans were pervasive.

Caution is required in making inferences about Costa Rican populations prior to European contact on the basis of observations made a generation or two after initial contact. It is likely that, as with the Southeastern U.S. (Mann 2005), significant epidemics analogous to the plagues that swept western Europe in the fourteenth century may have preceded even the earliest inland expeditions to Costa Rica. The difference was that they arrived several decades earlier. Smallpox has been documented as early as 1511 in eastern Panama, and epidemics began to ravage the Maya of the Yucatan Peninsula by at least 1515 or 1516. The *Annals of the Cakchiquels* describes a major epidemic that occurred in 1519, five years before the first *entrada* by Pedro de Alvarado in 1524 (Goetz et al. 1950: 115–116). There is debate over whether this was smallpox, measles, influenza, or another infectious disease. However, there are no doubts as to its high mortality rate and significant level of social disruption (Goetz et al. 1950: 115–116). The epidemic spread among several groups in the Maya highlands in 1520 and 1521. McLeod refers to epidemics as the "shock troops of the conquest," and estimates that they killed a third of the population of the Guatemalan highlands both through their direct effects and the vulnerability of people who survived the disease to subsequent infections (MacLeod 1973: 67). In addition to the possibility of epidemics from the north, there is evidence that Panama's native population was decimated by disease in the first decades of the sixteenth century. It was this dramatic decline in the Panamanian population that provided the impetus for the development of a slave trade in Nicaragua, which by 1535 was reported by one royal official to have experienced the loss of one third of the native population (Francisco Sánchez cited by Newsom 1982: 271).

[16] The extensive Chacoan road system of the Southwestern USA undoubtedly contributed to landscape alteration and eventual resource depletion in western New Mexico.

We know that Costa Rica's indigenous inhabitants participated in trade contacts with both the Maya and the Panamanians for centuries prior to the arrival of the Spanish. There is evidence that there were regular contacts with peoples of the Antilles (Hofman et al. 2010; Rodríguez 2007, 2010; Seigel 2010),[17] so is not unreasonable to assume that European diseases had reached settlements in Costa Rica either from the east, the south, or the north prior to Gil González' expedition in 1522. If smallpox and measles had not reached the Pacific coast by this time, one or both may have been carried by individuals in this expedition.

For those familiar with the geography of Pacific Costa Rica, the González expedition seems like a herculean effort. The countryside over which it passed includes several areas that even today remain sparsely settled and difficult to traverse without roads. While pre-Columbian road systems would have facilitated his journey north along the coast, these remain undocumented. Even with roads and footpaths – which would have required regular clearing – it is hard to believe that Gil González and his men did not cross a landscape that was vastly different from that encountered even by the *entradas* of the 1560s in terms of the size of the population and the relative ease of passage via well-utilized trails and inhabited areas.

Indigenous populations of Costa Rica that had been able to survive the first waves of epidemics experienced a second wave of infections in the 1530s–1550s. Measles is reported as pandemic in Central America between 1532 and 1534.[18] A letter to the Spanish king written in Nicaragua attributes the death of 6,000 Indians in Nicaragua to measles (*sarampión*), while a royal treasurer in León, Nicaragua wrote to the king in June 1533 that there was a shortage of natives to pan for gold due to "many sicknesses which have struck them, especially one recently of *sarampión*"[19] When Diego González' expedition for the interior of Costa Rica departed from Nicaragua in 1543, they were leaving an area already ravaged by disease. Between 1545 and 1548, another major epidemic swept Mexico and Guatemala. The *Isagoge Histórica*[20] reports that in 1545 and again in 1576 many of the most populous and famous towns were "totally destroyed" by sickness and pestilence.[21] One *encomendero* reports that during the 1545 outbreak three out of four Indians perished from disease.[22] Although documents from Guatemala suggest the epidemic was not as serious in Guatemala,

[17] Santos-Granero (2009) has shown that the Calusa of the Southeastern USA were also in contact with peoples of the Gulf of Mexico and Caribbean, suggesting even wider spreads of pathogens in advance of Spanish exploration.

[18] This is noted by MacLeod (1973: 98), although some (Figueroa 1983: 48) point out that it was not recognized as a separate disease until the eighteenth century.

[19] "… muchas enfermedades que les a dado especialmente una que nuevamente les a dado de sarampión" (AGI, Guatemala 50, cited in Lovell 1992).

[20] Anonymous 1935: 290 cited in Lovell (1992).

[21] "… las enfermedades y pestes se extienden muchísimos pueblos de los mas numerosos y famosos se han destruido totalmente" *Isagoge Histórica* (Anonymous 1935:290) cited in Lovell (1992).

[22] "envió Dios tal enfermedad sobre ellos que quatro partes de indios se avia se llevó las tres" (AGI, Justicia 299 cited in Lovell 1992).

it was undoubtedly present and disastrous (Lovell 1992: 72). In 1558, just two years prior to Cavallón's departure for Costa Rica, it was reported that the kingdom of Guatemala was "almost destroyed" by a disease for which there was no cure.[23] Several authors suggest that it was an outbreak of measles, although it may have been a combination of illnesses (Lovell 1992: 75). The conquest of the central highlands of Costa Rica was accompanied by epidemic disease. In 1560, as Cavallón and Estraga Rávago were departing from Granada, Nicaragua, the *audiencia* in Guatemala reported to Philip II that "everyone is sick and ridden with pestilence" and that "a very great number of Indians have died."[24] The epidemic in Nicaragua, exacerbated by a drought, continued until at least 1563.

The effects of disease introduce a significant level of complexity into the interpretation of indigenous societies and their environments in Costa Rica on the eve of the Spanish Conquest. Our best ethnohistoric information on the native inhabitants of central Costa Rica comes from the reports of Cavallón, Coronado, and their contemporaries, all of which date after 1560 – perhaps fifty or more years after the introduction of European diseases. Population estimates based on these documents are likely to be in error. By this time, most of the generation living at the time of Columbus' arrival in 1502 had died. Fifty years in an environment such as Costa Rica's is plenty of time for abandoned villages, agricultural fields, and trails to revert to secondary forest. The regeneration of the Central American landscape was undoubtedly rapid and thorough. During the exploration of the Caribbean coast of Panama in 1502–1503, Ferdinand Columbus described a well-populated land with houses, planted fields, and few trees. By 1681, Lionel Wafer found the same area to be unpopulated and covered with forest (Denevan 1992b: 378). In the event of a profound decline in population due to epidemic disease, the landscapes seen by Cavallón and Coronado in the 1560s may have only distantly resembled those of the pre-Columbian period. The populations they encountered may even have been quite different from those encountered by Diego Guiérrez' fated expedition into the interior in the 1540s, which may explain why indigenous resistance against these later *entradas* was not as fierce.

Regeneration

It is common, when discussing the modern deforestation of Costa Rica, to show a succession of maps from the 1950s to the present indicating the rapidly shrinking areas of forested land. However, given the radically different nature of the pre-Columbian landscape, one wonders just how much of the forests of the mid-twentieth

[23] "… fue señaladisima la sangre de narices que hubo el año 1558, en que murieron sin que nadie pudiese hallar remedio, muchisimas gentes… casi destruyó el reino" (Francisco Vázquez cited in Lovell 1992).

[24] "… toda está enferma y con pestilencia… se han muerto muy gran cantidad de indios" (AGI, Guatemala 9 cited in Lovell 1992:73).

century – or today – are more than 500 years old. Given the enormous amount of ecological education that occurs in Costa Rica, in part due to the successful programs organized by the Organization for Tropical Studies, it is critical for individuals who approach contemporary forested environments in Central America to be more aware of what archaeology tells us about the presence of humans in these ecosystems for the past 12,000 years or more. As archaeological excavations at La Selva have revealed, it is very easy to mistake some 500 years of forest succession as the survival of a "forest primeval." Humans had a pervasive influence on Central American landscapes. Even small groups, if placed on a given landscape for thousands of years, effect lasting changes. To what extent did refugia play a role in the evolution of human-depleted tropical rainforests? What might the "domesticated" forests of the pre-Columbian landscape have really been like?

Conclusion: Towards a Deeper Environmental History

As an archaeologist, it is striking to me how much of the environmental history of the Earth in the two million years or so since the appearance of the genus *Homo* lies outside the consciousness of colleagues who are not familiar with what archaeology has taught us. For example, the existence of extensive raised/drained fields in Colombia, Ecuador, and the Bolivian Amazon has been known since at least the 1960s, but has yet to have a significant impact on consideration of lowland South American – especially Amazonian – ecology. The presence of humans as a keystone species from the end of the Pleistocene should be a key factor in any models of Amazonian ecology, including studies of biodiversity. It is well known that humans affect biodiversity, but attention has focused more on the negative than the positive effects. In the Amazon, for example, humans play a major role in the dispersion of useful species (Balée 1994). Even if the only way that hunting and gathering populations could affect local habitats were through the use of fire, familiarity with its usage should be sufficient to demonstrate that human alteration of the environment has been profound and regular for a substantial part of the past. Two million years is plenty of time for humans to have become firmly embedded in many different ecosystems, not as agents of "disturbance" or "destruction" but in a context of the coevolution of organism and habitat that occurs with any living species. The problems with understanding this, however, are only partly the fault of nonarchaeologists. Archaeologists have been notoriously poor at recognizing the importance of their data for questions outside of a narrow field of interest in past human cultures. Just as ecology has tended to focus on the evolution of the natural world, archaeology has focused on the evolution of human culture. The separation between the two is artificial and must be remedied through more direct interdisciplinary collaborations. Ecologists and environmental historians should learn more archaeology, but archaeologists should also learn how to address a much wider audience.

Human alteration of the ecology of the Americas did not begin with the arrival of European settlers. Nor is the story of twelve millennia of human occupation one of

"low impact" with few lasting effects. In fact, it is likely that alteration of the landscape in the indigenous past was at least as significant as it has been in the European present. As Denevan asks (and answers), "Is it possible that the thousands of years of human activity before Columbus created more change in the visible landscape than has occurred subsequently with European settlement and resource exploitation? The answer is yes for most regions for the next 250 years or so, and for some regions right up to the present time" (Denevan 1992b: 381). Archaeology has the potential to reveal many of the details of these past changes that place human culture within nature.

The archaeological record makes it clear that, for at least the past 12,000 years, humans have been a "force of nature" in the Americas. Imagining a Holocene landscape without them may be an inspiring myth, but it has no basis in reality. As archaeological resources disappear, in some places more rapidly than "wilderness" areas, the fact of human presence will become even more readily ignored. The long-range view is critical for keeping things in perspective. Just as the landscapes of the eighteenth century appeared to be more "pristine" than those of the sixteenth century, alteration of environments by *H. sapiens* in the twenty-first century has the illusion of appearing to be "new." However, what is new is not the fact of pervasive human presence and alteration, nor even (however it is measured) the quality of the alteration, but the kinds of alterations that are taking place. A great deal of environmentalist rhetoric draws its strength from the notion that the American landscape, largely "virgin" at the time of its initial colonization by Europeans, has been "damaged" by the industrial revolution. Popular myths that indigenous populations had minimal effects on their environment are bound to become more convincing as the traces of those populations and their effects – the archaeological record – are gradually effaced by continued alteration in the form of construction, farming, and other human activities.

The reconstitution of habitats from refugia occurred widely during two phases of the environmental history of the Americas, once at the beginning of the Holocene and again after the massive depopulation event of the sixteenth century. It is conceivable that such a reconstitution could happen again, especially if there is a widespread response to concerns about global warming, depletion of biodiversity, and the adverse effects of the poor planning that accompany uninformed economic development. However, archaeological sites, unlike plant and animal species, cannot be regenerated. I hope increased appreciation of the significance of archaeological remains for accurate studies of ecology and environmental history results in more effective conservation of these irreplaceable resources. Unfortunately, critiques of the notion of "virgin" environments as myth run the risk of being taken the wrong way. Noting that Indians used fire to "clean up" landscapes does not justify the use of heavy equipment to clear-cut of old growth forests without consideration of the effects of that activity on the ecosystem as a whole.

The myth of the American wilderness is a powerful element in our own history and cultural identity. From it, we have developed an aesthetic appreciation for "wild" places. As an aesthetic, it is subjective. The Holocene (and now Anthropocene?) landscapes of Central and South America *are ones that evolved*

with humans already in them. There is overwhelming evidence that biodiversity conservation is a wise strategy, if only to insure that the forces of natural selection can always act upon a high level of genetic variation. However, the myth that we are conserving forests so that we can restore past environments that had no humans in them ultimately rings hollow. In the twenty-first century, a forest without humans is no different from Joni Mitchell's "tree museum" – as artificial as any garden. As noted by ecologist Deborah Clark, "It's time to overcome this lack of comprehension of humans as part of the ecosystem" (Clark in Yoon 1993: C10).

References

Alvard, Michael S. 1993 Testing the "Ecologically Noble Savage" Hypothesis: Interspecific Prey Choice by Piro hunters of Amazonian Peru. *Human Ecology* 21(4):355–387.

Ames, Kenneth M., Doria F. Raetz, Stephen C. Hamilton, and Christine McAfee. 1992 Household Archaeology of a Southern Northwest Coast Plank House *Journal of Field Archaeology*, 19(3):275–290.

Anderson, Roger C. 1990 The Historic Role of Fire in the North American Grassland. In *Fire in North American Tallgrass Prairies*, edited by Scott L. Collins and Linda L. Wallace, pp. 8–18. University of Oklahoma Press, Norman.

Anonymous. 1935 *Isagoge histórica apologética de las Indias Occidentales y especial de la Provincia de San Vicente Ferrer de Chiapa y Guatemala de la Orden de Predicadores. Manuscrito encontrado en el Convento de Santo Domingo de Guatemala, debido a la pluma de un religioso de dicha orden, cuyo nombre se ignora. Colección de documentos antiguos del Ayutamiento de Guatemala*. Guatemala City.

Balée, William L. 1994 *Footprints of the Forest: Ka'apor Ethnobotany: The Historical Ecology of Plant Utilization by an Amazonian People*. Columbia University Press, New York.

Benzoni, Girolamo. 1970 *History of the New World, by Girolamo Benzoni. Shewing his Travels in America, from A.D. 1541 to 1556, with Some Particulars of the Island of Canary. Now First Translated, and Edited by W. H. Smyth* Works issued by the Hakluyt Society, 1st Series, No. 21. B. Franklin, New York.

Betancourt, Julio L. and Thomas R. Van Devender. 1981 Holocene Vegetation in Chaco Canyon, New Mexico. *Science* 214:656–658.

Boomert, Arie. 1976 Pre-Columbian Raised Fields in Coastal Surinam. In *Proceedings of the Sixth International Congress for the Study of Pre-Columbian Cultures of the Lesser Antilles*, pp. 134–144, Point a Pitre, Guadeloupe.

Butzer, Karl W. 1971 *Environment and Archeology: An Environmental Approach to Prehistory*. Aldine-Atherton, New York.

Callavet, Chantal. 2006 Historia y agricultura autóctona en los Andes ecuatorianos: El complejo campos elevados, en ecosistemas diversos (Siglos XV-XVII). In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 111–126. Editorial Abya-Yala, Quito.

Clark, Deborah A., David B. Clark, Rosa Sandoval M., and Marco V. Castro C. 1995 Edaphic and Human Effcts on Landscape-Scale Distributions of Tropical Rain Forest Palms. *Ecology* 76(8): 2581–2594.

Clements, Frederic E. 1905 *Research Methods in Ecology*. University Publications. Co., Lincoln, Nebraska.

Cooke, Richard. 1995 Monagrillo, Panama's First Pottery: Summary of Research, with New Interpretations. In *The Emergence of Pottery: Technology and Innovation in Ancient Societies*,

edited by William Barnett and John W. Hoopes, pp. 169–184. Smithsonian Institution Press, Washington.

Cooke, Richard G. and Anthony J. Ranere. 1992 The Origin of Wealth and Hierarchy in the Central Region of Panama (12,000-2,000 BP), with Observations on its Relevance to the History and Phylogeny of Chibchan-Speaking Polities in Panama and Elsewhere. In *Wealth and Hierarchy in the Intermediate Area: A Symposium at Dumbarton Oaks, 10th and 11th October 1987*, edited by Frederick W. Lange, pp. 243–316. Dumbarton Oaks, Washington, D.C.

Cronon, William. 1985 *Changes in the Land: Indians, Colonists, and the Ecology of New England*. Hill and Wang, New York.

Cronon, William. 1995a Introduction: In Search of Nature. In *Uncommon Ground: Toward Reinventing Nature*, pp. 23–68. W.W. Norton & Company, New York.

Cronon, William. 1995b *Uncommon Ground: Toward Reinventing Nature*. W.W. Norton & Co., New York.

Damp, Jonathan E. and L. Patricia Vargas. 1995 The Many Contexts of Early Valdivia Ceramics. In *The Emergence of Pottery : Technology and Innovation in Ancient Societies*, edited by William Barnett and John W. Hoopes, pp. 157–168. Smithsonian Institution Press, Washington.

Day, Gordon M. 1953 The Indian as an Ecological Factor in the Northeastern Forest. *Ecology* 34:329–346.

Delgado, Florencio. 2006 Organización de la producción de los camellones de la baja Cuenca del Guayas durante la ocupación de los Chonos. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 159–168. Editorial Abya-Yala, Quito.

Denevan, William M. 1961 *The Upland Pine Forests of Nicaragua: A Study in Cultural Plant Geography*. University of California Publications in Geography, Vol. 12, No. 4. University of California Press, Berkeley.

Denevan, William M. 1966 *The Aboriginal Cultural Geography of the Llanos de Mojos of Bolivia*. Ibero-Americana, 48. University of California Press, Berkeley.

Denevan, William M. 1970 Aboriginal Drained Field Cultivation in the Americas. *Science* 169:647–654.

Denevan, William M. 1992a *The Native Population of the Americas in 1492*. 2nd ed. University of Wisconsin Press, Madison.

Denevan, William M. 1992b The Pristine Myth: The Landscape of the Americas in 1492. *Annals of the Association of American Geographers* 82(3):369–385.

Denevan, William M. 2006 Una perspectiva histórica sobre el descubrimiento de campos elevados (camellones) prehispánicos en Sud América. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 17–24. Editorial Abya-Yala, Quito.

Doolittle, William E. 1992 Agriculture in North America on the Eve of Contact: A Reassessment. *Annals of the Association of American Geographers* 82:386–401.

Dwyer, Peter D. 1996 The Invention of Nature. In *Redefining Nature: Ecology, Culture and Domestication*, edited by R. F. Ellen and K. Fukui, pp. 157–186. Berg, Oxford, UK.

Erickson, Clark. 2000 An Artificial Landscape-Scale Fishery in the Bolivian Amazon. *Nature* 408: 190–193.

Erickson, Clark. 2006a The Domesticated Landscapes of the Bolivian Amazon. In *Time and Complexity in Historical Ecology: Studies in the Neotropical Lowlands*, edited by W. L. Balée and C. L. Erickson, pp. 235–278. Columbia University Press, New York.

Erickson, Clark. 2006b El valor actual de los camellones de cultivo precolombinos: Experiencias del Perú y Bolivia. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 315–340. Editorial Abya-Yala, Quito.

Erickson, Clark. 2010 The Transformation of Environment into Landscape: The Historical Ecology of Monumental Earthwork Construction in the Bolivian Amazon. *Diversity* 2:618–652.

Erickson, Clark and William L. Balée. 2006 The Historical Ecology of a Complex Landscape in Bolivia. In *Time and Complexity in Historical Ecology: Studies in the Neotropical Lowlands*, edited by W. L. Balée and C. L. Erickson, pp. 187–234. Columbia University Press, New York.

Fearnside, Philip M. 1990 Fire in the Tropical Rain Forest of the Amazon Basin. In *Fire in the Tropical Biota: Ecosystem Processes and Global Challenges*, edited by J. G. Goldhammer, pp. 106–116. Springer-Verlag, Berlin.

Figueroa Marroquín, Horacio 1983 *Enfermedades de los conquistadores*. Editorial Universitaria de Guatemala, Guatemala City.

Garcilaso de la Vega, El Inca. 1980 [1605] *The Florida of the Inca: A History of the Adelantado Hernando de Soto*. Trans. and ed. by John Grier Varner and Jeanette Johnson Varner. University of Texas Press, Austin.

Gassón, Rafael and Juan Carlos Rey. 2006 Cacicazgos cíclicos e intensificación agricola en los Llanos Occidentales de Venezuela. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 141–158. Editorial Abya-Yala, Quito.

Glaser, Bruno and William I. Woods. 2004 *Amazonian Dark Earths: Explorations in Space and Time*. Springer, Berlin and New York.

Goetz, Delia, Sylvanus G. Morley and Adrian Recinos. 1950 *Popol Vuh: The Sacred Book of the Ancient Quiché Maya*. University of Oklahoma Press, Norman.

Gondard, Pierre and Fredy Lopéz. 2006 Albarradas y camellones: Drenaje, riego y heladas en Cayambe. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 241–250. Editorial Abya-Yala, Quito.

Gould, Stephen J. 1979 Another Look at Lamarck. *New Scientist* 4: 38–40.

Gould, Stephen J. 1996 *Full House: The Spread of Excellence from Plato to Darwin*. Harmony Books, New York.

Gowlett, John A. J., J. W. K. Harris, D. Walton and B. A. Wood. 1981 Early Archaeological Sites, Hominid Remains and Traces of Fire from Chesowanja, Kenya. *Nature* 294(5837):125–129.

Griffin, David E. 1977 Timber Procurement and Village Location in the Middle Missouri Subarea. *Plains Anthropologist* 22(78, Pt. 2):177–185.

Guerrero M., Juan Vicente and Luía F. Solís D. 1997 *Los pueblos antiguos del la zona Cañas-Liberia del año 300 al 1500 después de Cristo*. Museo Nacional de Costa Rica, San José.

Gutiérrez G., Maritza. 1993 El aprovechamiento de la fauna en el sitio arqueológico Nacascolo, Guanacaste. Licenciate thesis in Sociology and Anthropology, Universidad de Costa Rica, San Pedro.

Hammond, Norman. 2000 The Maya Lowlands: Pioneer Farmers to Merchant Princes. In *The Cambridge History of the Native Peoples of the Americas, Vol. II: Mesoamerica*, edited by Richard E.W. Adams and Murdo J. Macleod pp. 197–249. Cambridge University Press, New York. pp. 197–249.

Hartshorn, Gary. 1983 Plants: Introduction. In *Costa Rican Natural History*, edited by Daniel Janzen, pp. 118–157. University of Chicago Press, Chicago.

Heckenberger, Michael J., J. C. Russell, C. Fausto, J. R. Toney, M. J. Schmidt, E. Pereira, B. Franchetto and A. Kuikuro. 2008 Pre-Columbian Urbanism, Anthropogenic Landscapes, and the Future of the Amazon. *Science* 321(5893):1214–1217.

Hofman, Corinne, Alistair Bright, and Reniel Rodríguez R. 2010 Crossing the Caribbean Sea: Towards a Holistic View of Pre-Colonial Mobility and Exchange. *Journal of Caribbean Archaeology*, Special Publication # 3, pp. 1–18.

Hoopes, John W. 1994 Contributions of Non-Agricultural Subsistence Strategies to the Formation of Complex Society in Coastal Zones of Southern Costa Rica. Paper Presented at the 59th Annual Meeting of the Society of American Archaeology, Anaheim, CA, April 20–24.

Hoopes, John W. 1995 Interaction in Hunting and Gathering Societies as a Context for the Emergence of Pottery in the Central American Isthmus. In *The Emergence of Pottery:*

Innovation and Technology in Ancient Societies, edited by William K. Barnett and John W. Hoopes, pp. 185–198. Smithsonian Institution Press, Washington, D.C.

Hoopes, John W. 1996 Settlement, Subsistence, and the Origins of Social Complexity in Greater Chiriquí: A Reappraisal of the Aguas Buenas Tradition. In *Paths Through Central American Prehistory: Essays in Honor of Wolfgang Haberland*, edited by Frederick W. Lange, pp. 15–48. University Press of Colorado, Niwot.

Horn, Sally P. and L. Robert Sanford. 1992 Holocene Fires in Costa Rica. *Biotrópica* 24(3):354–361.

Hough, Walter. 1926 *Fire as an Agent in Human Culture*. U.S. National Museum, Bulletin 139. Smithsonian Institution, Washington, D.C.

Jenness, Diamond. 1972 *The Indians of Canada*. 6th ed. National Museum of Canada, Anthropological Series 15, Bulletin 65, Ottawa.

Kay, Charles E. 1995 Ecosystems Then and Now: A Historical-Ecological Approach to Ecosystem Management. In *Proceedings of the Fourth Prairie Conservation and Endangered Species Workshop*, edited by W. D. Wilms and J. F. Domaar, pp. 79–87. Provincial Museum of Alberta, Edmonton, Alberta.

Kay, Charles E. and Randy T. Simmons. 2002 *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature*. University of Utah Press, Salt Lake City.

Kinietz, William Vernon. 1940 *The Indians of the Western Great Lakes, 1615–1760*. University of Michigan Occasional Contributions 10, Ann Arbor.

Kniffen, Fred B. 1939 *Pomo Geography*. University of California Publications in American Archaeology and Ethnology 36(6), Berkeley.

Kolata, Alan L. 1996 *Tiwanaku and Its Hinterland: Archaeology and Paleoecology of an Andean Civilization*. Smithsonian Institution Press, Washington.

Kolbert, Elizabeth. 2006 *Field Notes from a Catastrophe: Man, Nature, and Climate Change*. Bloomsbury Publishing, New York.

Lehmann, Johannes. 2003 *Amazonian Dark Earths: Origins, Properties, Management*. Kluwer Academic Publishers, Boston.

Leighton, Mark and N. Wirawan. 1986 Catastrophic Drought and Fire in Borneo Tropical Rain Forest Associated with the 1982–83 El Niño Southern Oscillation Event. In *Tropical Forests and the World Atmosphere*, edited by G. T. Prance, pp. 75–102. vol. 101, American Academy for the Advancement of Science, Washington, D.C.

Linares, Olga F. 1977 *Ecology and the Arts in Ancient Panama: On the Development of Social Rank and Symbolism in the Central Provinces*. Studies in Pre-Columbian Art and Archaeology 17. Dumbarton Oaks Trustees for Harvard University, Washington.

León Coto, Magdalena. 2007 Reporte de una punta de lanza paleoamericana "cola de pez" en La Vírgen de Sarapiquí, Costa Rica. *Vínculos* 30(1–2):147–154.

Lovell, William G. 1992 *Conquest and Survival in Colonial Guatemala: A Historical Geography of the Cuchumatán Highlands, 1500–1821*. Revised edition. McGill-Queen's University Press, Montreal.

Lubbock, John. 1869 *Pre-historic Times*. 2nd ed. Williams and Norgate, London.

MacCleery, Doug. 1994 Understanding the Role that Humans Have Played in Shaping America's Forest and Grassland Landscapes: Is There a Landscape Architect in the House? Electronic document, http://www.fs.fed.us/eco/eco-watch/ew940210.htm, accessed June 10, 2011.

MacLeod, Murdo J. 1973 *Spanish Central America: A Socioeconomic History, 1520–1720*. University of California Press, Berkeley,.

MacNutt, Francis A. 1909 *Bartholomew de las Casas: His Life, His Apostolate, and His Writings*. Putnam's, New York.

Mann, Charles C. 2005 *1491: New Revelations of the Americas Before Columbus*. A. Knopf, New York.

Marcos, Jorge G. 1987 Los campos elevados de la Cuenca del Guayas, Ecuador: El Proyecto Peñon del Río. In *Pre-Hispanic Ridged Fields in the Andean Region*, edited by W. M. Denevan, K. Mathewson and G. Knapp, pp. 217–224. BAR International Series 359, Oxford.

Marcos Pino, Jorge Gabriel and Martín. Bazurco Osorio. 2006 Albarradas y camellones en la región costera del antiguo Ecuador. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 93–110. Editorial Abya-Yala, Quito.

Marsh, George P. 1885 *The Earth as Modified by Human Action: A Last Revision of "Man and Nature"*. Charles Scribner's Sons, New York.

McDade, Lucinda A. (editor). 1994 *La Selva: Ecology and Natural History of a Neotropical Rain Forest*. University of Chicago Press, Chicago.

McKee, Brian. R., Thomas L. Sever and Payson D. Sheets. 1994 Prehistoric Footpaths in Costa Rica: Remote Sensing and Field Verification. In *Archaeology, Volcanism, and Remote Sensing in the Arenal Region, Costa Rica*, edited by Payson D. Sheets and Brian McKee, pp. 142–157. University of Texas Press, Austin.

Morice, Adrien G. 1895 *Notes Archaeological, Industrial and Sociological, on the Western Dénés*. Transactions of The Canadian Institute, 1892–1893 4:1. The Copp, Clark Company, Limited, Toronto.

Morlon, Pierre. 2006 Los camellones alrededor del Lago Titicaca: ¿Modificación radical de los peores terrenos o aprovechamiento de uno de los medios más favorables? In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 251–272. Editorial Abya-Yala, Quito.

Newsom, Linda. 1982 The Depopulation of Nicaragua. *Journal of Latin American Studies* 14(2):253–286.

Odum, Eugene P. 1971 *Fundamentals of Ecology*. 3d ed. Saunders, Philadelphia,.

Oyuela Caycedo, Augusto. 1995 Rocks Versus Clay: The Evolution of Pottery Technology in the Case of San Jacinto 1, Colombia. In *The Emergence of Pottery: Technology and Innovation in Ancient Societies*, edited by William Barnett and John W. Hoopes, pp. 133–144. Smithsonian Institution Press, Washington.

Parsons, Jeffrey J. 1969 Ridged Fields in the Río Guayas Valley, Ecuador. *American Antiquity* 34:76–80.

Parsons, Jeffrey J. and William A. Bowen. 1966 Ancient Ridged Fields of the San Jorge River Floodplain. *Geographical Review* 56:317–343.

Piperno, Dolores R. 1989 Non-Affluent Foragers: Resource Availability, Seasonal Shortages, and the Emergence of Agriculture in Panamanian Tropical Forests. In *Foraging and Farming: The Evolution of Plant Exploitation*, edited by David R. Harris and Gordon C. Hillman, pp. 538–554. One World Archaeology, vol. 13. Unwin-Hyman, Boston.

Piperno, Dolores R. 1991 The Status of Phytolith Analysis in the American Tropics. *Journal of World Prehistory* 5:155–191.

Piperno, Dorlores R., Mark B. Bush and Paul A. Colinvaux. 1991a Paleoecological Perspectives on Human Adaptation in Central Panama I: The Pleistocene. *Geoarchaeology* 6:201–226.

Piperno, Dorlores R., Mark B. Bush and Paul A. Colinvaux. 1991b Paleoecological Perspectives on Human Adaptation in Central Panama II: The Holocene. *Geoarchaeology* 6:227–250.

Plazas, Clemencia, Ana. María. Falchetti de Sáenz, J. Sáenz and S. Archila. 1993 *La Sociedad hidráulica Zenú: Estudio arqueológico de 2.000 años de historia en las llanuras del Caribe colombiano*. Colección bibliográfica. Banco de la República Museo del Oro, Bogotá.

Pozorski, Thomas, Sheila Pozorski, Carol J. Mackey and A. M. U. Klymyshyn. 1983 Pre-Hispanic Ridged Fields of the Casma Valley, Peru. *Geographical Review* 73:407–416.

Pyne, Stephen J. 1982 *Fire in America: A Cultural History of Wildland and Rural Fire*. Princeton University Press, Princeton, N.J.

Pyne, Stephen J., Patricia L. Andrews and Richard D. Laven. 1996 *Introduction to Wildland Fire*. 2nd ed. Wiley, New York.

Quintanilla, Ifigenia. 1989 Ocupación precolombina de la Estación Biológica La Selva, Puerto Viejo de Sarapiquí. Unpublished MS. on file, Depto. de Antropología e Historia, Museo Nacional de Costa Rica, San José y Organización para Estudios Tropicales, Estación La Selva, Sarapiquí.

Reichel-Dolmatoff, Gerardo and Alicia Reichel-Dolmatoff. 1974 Un sistema de agricultura prehistórica de los Llanos Orientales. *Revista Colombiana de Antropología* 17:189–200.

Ricklefs, Robert E. 1990 *Ecology*. 3rd ed. W.H. Freeman, New York.

Rindos, David. 1984 *The Origins of Agriculture: An Evolutionary Perspective*. Academic Press, New York.

Rocha, Reynaldo. 2006 El sistema agrícola prehispánico de camellones en la Amazonia boliviana. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 295–314. Editorial Abya-Yala, Quito.

Rodríguez Ramos, Reniel. 2007 Puerto Rican Precolonial History Etched in Stone. Doctoral dissertation, Department of Anthropology, University of Florida, Gainesville.

Rodríguez Ramos, Reniel. 2010 What is the Caribbean? An Archaeological Perspective. *Journal of Caribbean Archaeology*, Special Publication #3, pp. 19–51.

Rojas Mora, Sneider and Montejo G. Fernando. 2006 Manejo del espacio y aprovechamiento de recursos en la depresión momposina, Bajo Río San Jorge. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 81–92. Editorial Abya-Yala, Quito.

Roosevelt, Anna C. 1995 Early Pottery in the Amazon: Twenty Years of Scholarly Obscurity. In *The Emergence of Pottery: Technology and Innovation in Ancient Societies*, edited by W. Barnett and J. W. Hoopes, pp. 115–132. Smithsonian Institution Press, Washington.

Roosevelt, Anna C., R. A. Houseley, M. I. d. Silveira, S. Maranca and R. Johnson. 1991 Eighth Millennium Pottery from a Prehistoric Shell Midden in the Brazilian Amazon. *Science* 254:1621–1624.

Roosevelt, Anna C., C. Lima da Costa, C. Lopes Machado, M. Michab, N. Mercier, H. Valladas, J. Feathers, M. Barnett, M. Imazio da Silveira, A. Henderson, J. Silva, B. Chernoff, D. S. Reese, J. A. Holman, N. Toth and K. Schick. 1996 Paleoindian Cave Dwellers in the Amazon: The Peopling of the Americas. *Science* 272:373–384.

Rostland, Erhard. 1957 The Myth of Natural Prairie Belt in Alabama: An Interpretation of Historical Records. *Records of the Annual Association of American Geographers* 47:392–411.

Saldarriaga, Juan G. and Darrell C. West. 1986 Holocene Fires in the Northern Amazon Basin. *Quaternary Research* 26(358–366).

Salgado González, Silvia, Ricardo Vázquez Leiva and Ricardo Arce Mesén. n.d. Caminos y sitios monumentales: Conocimiento ambiental y de alta ingeniería en las sociedades precolombinas del territorio de Costa Rica. Base de datos en archivos de los investigadores. Unpublished manscript on file, Depto. de Antropología e Historia Museo Nacional de Costa Rica.

Sanford, L. Richard L., Jr., Juan Saldarriaga, K. E. Clark, C. Uhl and R. Herrera. 1985 Amazon Rain-Forest Fires. *Science* 227:53–55.

Santos-Granero, Fernando. 2009 *Vital Enemies: Slavery, Predation, and the American Political Economy of Life*. University of Texas Press, Austin.

Scarre, Christopher. 2009 *The Human Past: World Prehistory and the Development of Human Societies*, 2nd ed. Thames & Hudson, New York.

Seigel, Peter. 2010 Crossing the Caribbean Sea and Tracking Intellectual History: A Discussion. *Journal of Caribbean Archaeology*, Special Publication #3, 156–170.

Sever, Thomas L., Payson D. Sheets and D. Irwin. 2003 Satellite and Airborne Remote Sensing Analysis for the Detection of Ancient Footpaths in Costa Rica. *Vínculos* 28(1–2):9–18.

Sheets, Payson D. and Thomas L. Sever. 1991 Prehistoric Footpaths in Costa Rica: Transportation and Communication in a Tropical Rainforest. In *Ancient Road Networks and Settlement Hierarchies in the New World*, edited by C. D. Trombold, pp. 53–65. Cambridge University Press, Cambridge.

Slater, Candace. 1995 Amazonia as Edenic Narrative. In *Uncommon Ground: Toward Reinventing Nature*, edited by W. Cronon, pp. 114–131. W.W. Norton & Company, New York.

Sluyter, Andrew. 1994 Intensive Wetland Agriculture in Mesoamerica: Space, Time, and Form. *Annals of the Association of American Geographers* 84:557–584.

Smith, Clifford T., William M. Denevan and Patrick Hamilton. 1968 Ancient Ridged Fields in the Region of Lake Titicaca. *Geographical Journal* 134:353–367.

Spirn, Anne W. 1995 Constructing Nature: The Legacy of Frederick Law Olmstead. In *Uncommon Ground: Toward Reinventing Nature*, edited by W. Cronon, pp. 91–113. W.W. Norton & Company, New York.

Stahl, Peter. 1996 The Recovery and Interpretation of Microvertebate Bone Assemblages from Archaeological Contexts. *Journal of Archaeological Method and Theory* 3(1): 31–75.

Teensma, Peter D., John T. Rienstra and Mark A. Yeiter. 1991 *Preliminary Reconstruction and Analysis of Change in Forest Stand Age Classes of the Oregon Coast Range from 1850 to 1940*. Technical Note OR-9, USDI/Bureau of Land Management, Portland.

Valdez, Francisco. 2006a *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*. Editorial Abya-Yala, Quito.

Valdez, Francisco. 2006b Drenajes, camellones y organización social: Usos del espacio y poder en La Tola, Esmeraldas. In *Agricultura ancestral camellones y albarradas: contexto social, usos y retos del pasado y del presente: coloquio agricultura prehispánica sistemas basados en el drenaje y en la elevación de los suelos cultivados*, edited by F. Valdez, pp. 189–226. Editorial Abya-Yala, Quito.

Van Lear, David H. and Thomas A. Waldrop. 1989 *History, Uses and Effects of Fire in the Appalachians*. Southeastern Forest Experiment Station, General Technical Report SE-54, USDA-Forest Service, Washington, D.C.

Vazquez L., Ricardo, Mirna Rojas G., Ana Chacón C. and Tatiana Hidalgo O. 1995 Evaluación estadística sobre el estado de la arqueología en Costa Rica (1881–1992). *Vínculos* 20(1–2):35–52.

Vázquez L., Ricardo, Harry Massey and J. Cesar Sánchez. 2001 Guayabo y su relación con el Valle de Turrialba en el periódo VI (1000–450 a.p.): prospección de las calzadas Caragra y Alto Varas. In *Arqueología del Área de Influencia del Proyecto Hidroeléctrico Angostura, Valle de Turrialba*, pp. 315–333. Convenio ICE – MNCR, San José, Costa Rica.

Vázquez L., Ricardo and Claude Chapdelaine. 2008 Arquitectura, caminos empedrados y cronología del sector principal del sitio Las Mercedes 1, Caribe Central de Costa Rica. *Vínculos* 31(1–2):27–78.

Waugh, F. W. 1916 *Iroquois Foods and Food Preparation*. Canada Department of Mines Memoir 86, Anthropological Series 12, Ottawa, Ontario.

Williams, Michael. 1989 *Americans and Their Forests: An Historical Geography*. Cambridge University Press, New York.

Williams, Michael. 2006 *Deforesting the Earth: From Prehistory to Global Crisis*. University of Chicago Press, Chicago.

Woods, William I. 2008 *Amazonian Dark Earths: Wim Sombroek's Vision*. Springer Dordrecht, New York, NY.

Yoon, Carol K. 1993 Rain Forests Seen as Shaped by Human Hand. *New York Times*, 27 July: C1, C10, New York.

Chapter 11
Overstating, Downplaying, and Denying Indigenous Conquest Warfare in Pre-Hispanic Empires of the Andes

Dennis E. Ogburn

Abstract This chapter explores some of the issues that surround overstating, downplaying, or denying the occurrence of conquest warfare in the pre-Hispanic Andes. This form of conflict had great impact on the societies involved, and it is well known that Andean groups engaged in conquest warfare, particularly during the expansion of the Inca Empire. Reports of Inca conquest warfare were problematic from the beginning, with early written accounts enveloped in the debate about the legitimacy of Spanish imperialism in the Americas. In particular, the Spanish colonial administration benefited from overstating the scope and level of violence of Inca conquest warfare, utilizing such reports to help justify Spanish conquest and rule over the Andes. In terms of current archaeological reporting of pre-Hispanic conflict, various factors may cause researchers to downplay, if not ignore or deny the occurrence of conquest warfare. These include the difficulty of detecting the occurrence of warfare archaeologically, popular theoretical trends in the field, anti-war political sentiments, and the tendency of archaeologists to be partisans of the past inhabitants of the regions they study. But downplaying or ignoring the occurrence of conquest warfare can be problematic for two reasons. First, this may have a negative impact in terms of the objective to interpret accurately the archaeological record. Second, downplaying, ignoring, or denying conquest warfare can pose an ethical dilemma by conflicting with indigenous narratives of the past that link group identity to participation in past battles against or in league with the Incas.

> "Pachacuti was very cruel to the defeated in these victories. Because of these cruelties, he had the people so scared that those who could not resist him through force surrendered and obeyed him out of fear of being eaten by the beasts or burned or cruelly tortured. So it was with those of Cuntisuyu, who, on seeing the cruelties and power of Inca Yupanqui, humbled themselves and gave obedience. It is to be noted that although some provinces say that they gave themselves to him and obeyed him of their own free will, it was [really] because of the above-mentioned causes and reasons and because he would threaten to destroy them if they did not come to serve and obey him." (Sarmiento de Gamboa 2007 [1572]:130).

D.E. Ogburn, Ph.D. (✉)
Department of Anthropology, University of North Carolina at Charlotte, Charlotte, NC 28223, USA
e-mail: dogburn@uncc.edu

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As this quote from the Spaniard Pedro Sarmiento de Gamboa illustrates, we know without doubt that native groups of the Andes engaged in warfare in late pre-Hispanic times. But when moving beyond the evidence provided by historical descriptions produced in the Spanish Colonial era into the archaeological investigation of the past, the occurrence and nature of warfare have been much debated. For the late pre-Inca era (ca. 1100–1430 AD), a time often mentioned in historical documents, it is widely thought by archaeologists that armed conflict between neighboring groups was widespread. Our basic picture of that period is one of societies organized into chiefdoms or small-scale states that were frequently attacking neighboring groups, often for taking land or women (Julien 2007), and also forming political alliances with other groups for defense or to mount attacks. But going farther back in time, the evidence of violent interaction has been open to a variety of interpretations, ranging from warfare caused by resource stress (e.g., Carneiro 1970) to contained ritual battles between elites (e.g., Bourget 2001; Castillo 2000). Evidence of conflict has often been construed as "ritual warfare," which tends to characterize the violence as inconsequential compared to "real warfare" (Arkush and Stanish 2005), thus downplaying its significance in terms of significant social and political changes. While the nature of any specific case of Andean warfare may be open to debate, it is clear that warfare varied significantly over space and time and that it will take significant effort in terms of fieldwork and theoretical exploration to clarify the entire picture.

Rather than addressing all forms of conflict in the Andes, I focus here on conquest warfare, in which one group, through armed conflict, defeats and establishes some level of political hegemony over another. I see this as the most transformative form of warfare, often leading to major changes in the social, political, economic, and cultural realms, and also having the potential to be the most destructive form of conflict, often leading to thousands of casualties. Because of the major consequences of conquest warfare, presenting archaeological interpretations that argue for or against its occurrence can have ramifications among modern peoples who are invested in the historical narratives pertaining to their ancestors, especially when those interpretations run counter to the preferred narratives.

Although conquest warfare had a significant impact on the members of past societies, its manifestation in the archaeological record can be problematic. We know beyond doubt that conquest warfare was carried out by the Incas, who established rule over much of the Andes through force of arms. But the extent and impact of conquest warfare during the Inca expansion and earlier times are subject to much debate, and frequently downplayed or denied in favor of other explanations. I argue that this downplaying of conquest warfare can have ethical ramifications relating to modern indigenous group identities, and how archaeologists tend to approach the topic is problematic in terms of the practice of archaeology. To address these issues, I explore the factors that may influence how archaeologists conceive of conquest warfare in the Andes, and discuss how native conceptions of identity in highland Ecuador illustrate these ethical concerns.

Reporting Conquest Warfare in the Andes: History and Issues

Much of the reporting of indigenous conquest warfare had malicious beginnings in the Andes when the Spanish government, soon after displacing Inca rule in the sixteenth century, began producing, commissioning, and utilizing reports of indigenous history that recounted Inca conquest warfare and imperial expansion. These various reports and chronicles, along with those created independent of the Spanish administration, were produced in the context of the ongoing fundamental debate in Spain that questioned whether conquest of and rule over native peoples in the Americas were justified on various religious, political, and moral grounds. The principal figure opposed to the conquests was Bartolomé de las Casas, who produced a history that depicted the Incas as just rulers who were a civilizing influence for Andean natives. Those on the pro-imperial side maintained the position that among other things, the natives were uncivilized and practiced idolatry, human sacrifice, and cannibalism, and that the Incas were cruel tyrants who had unjustly usurped local leaders through violent conquest. Because the Spanish crown decreed in 1556 that the Royal Council had to give permission before any book dealing with the Americas could be published (Covey 2006:176), the pro-imperial government had the ability to promote works consistent with their agenda and to stifle any writings that portrayed the Incas in a good light.

Most notably, when Francisco de Toledo was appointed Viceroy of Peru in 1568, part of his mandate was refuting the anti-imperialist writings of Las Casas (Covey 2006:179). As part of this project, Toledo commissioned Pedro Sarmiento de Gamboa (2007 [1572]) to produce a history of the Incas and their empire. Laudably, Sarmiento went to great lengths to produce an accurate history of the Inca Empire by interviewing the Inca nobility of Cuzco and having the final document approved by them in public. But in a triumph of hypocrisy, his account was structured to justify Spanish conquest and rule by arguing that Inca dominion over the people of the Andes was illegitimate because the Incas had established their power by displacing local rulers through conquest warfare. Sarmiento, while pursuing accuracy in basic details, was able to skew his history to portray the Incas as violent usurpers by emphasizing acts of warfare and violence, and spiced it with choice characterizations of the emperors as cruel tyrants. By today's standards, Sarmiento's reporting of Inca warfare was highly unethical; yet rather than fabricating stories, he made his case through selective reporting and pointed commentary, similar to the highly partisan tactics evident in some American television news network reporting and commentary.

But as Spanish control over the Andes solidified and the pace of imperial expansion in the New World slowed, some efforts were made to counter the negative portrayals of Sarmiento and others that benefitted from overstating the occurrence of indigenous warfare. Most significantly, the half-Spanish/half-Inca Garcilaso de la Vega (1966 [1609]) published his own account of Inca history in the early seventeenth century with the agenda of showing that the Incas were highly civilized, legitimate rulers, who were justified in taking control over the people of the Andes. Ironically, despite his indigenous ties, Garcilaso's pro-Inca account is now considered

to be much less historically accurate than that of Sarmiento de Gamboa, essentially a romanticized portrait of the Inca Empire that has nonetheless resonated through the centuries. His account stands out from those of others in claiming that many provinces were incorporated into the Inca Empire voluntarily. He claimed that many groups submitted peacefully because they were made aware of the benefits of Inca rule or because they were in awe of some of the major creations of the Incas, such as the bridge they created over the Apurimac River (Garcilaso de la Vega 1966 [1609]:151). This stands in direct contrast to Sarmiento's claim (Sarmiento de Gamboa 2007 [1572]:130; see opening quote) that many groups surrendered in fear of punishment. Garcilaso was clearly downplaying conquest warfare to make his case.

Unlike Garcilaso, the few other indigenous accounts of Inca history did not downplay conquest warfare, and their descriptions of the occurrence and nature of both Inca and pre-Inca warfare were consistent with those of the major Spanish chroniclers. A primary example is the account of the indigenous chronicler Felipe Guaman Poma de Ayala (1936 [1615]), who did not downplay Inca militarism, even though, similar to Garcilaso, his aim was to portray Inca rule in a good light. However, his account did not gain much if any notice, as it was part of a petition to the Spanish crown to argue against the mistreatment of Andean natives and was not published during the colonial period.

In modern times, we are seeing still different attitudes toward pre-Hispanic conquest warfare, in part because it has become so far removed in the past and because solidifying control over recently conquered indigenous populations is no longer an issue. Perhaps more importantly, attitudes are shifting because indigenous people have been actively working to establish better positions for themselves politically, socially, and economically, at both local and national levels. Expression of indigenous identities has been an essential part of that transformation, and how different groups conceive of their past relationship to the Incas and their participation in Inca expansion influences how they view pre-Hispanic warfare. Not surprisingly, native groups have divergent views, and these may or may not agree with portrayals of warfare that archaeologists may generate.

Thus, compared to accounts from the Spanish Colonial period, contemporary archaeologists reporting their views and findings on pre-Hispanic conquest warfare are much less in danger of having their narratives of the past serve as a political tool against indigenous groups. But there are still potential negative ramifications. As discussed by Arkush (Chap. 12), playing up indigenous warfare can have negative repercussions in terms of reinforcing public conceptions of indigenous Andeans as inherently violent. Here, I focus on how we also face potential conflicts with indigenous groups' own narratives of their current selves, and how that can pose an ethical dilemma. Specifically, this conflicts with elements of the 2009 Code of Ethics of the American Anthropological Association, which states in Sect. A.1. that "Anthropological researchers have primary ethical obligations to the people, species, and materials they study and to the people with whom they work," and in Sect. A.2. that "Anthropological researchers must ensure that they do not harm the safety, dignity, or privacy of the people with whom they work, conduct research, or perform

other professional activities, or who might reasonably be thought to be affected by their research." The primary issue here lies in not harming the "dignity" of the people with whom we work or other groups who may be affected by our research findings. In archaeology, this can be very challenging because archaeological interpretations of the past that conflict with native narratives of the past can be controversial or construed as offensive, thus harming the dignity of these groups or factions thereof.

These stakes can be quite high when the issue is something as provocative as warfare. As argued below, because of the diversity of indigenous groups and their expressed relationships with the past, it is often impossible to follow the edict of "not harming the dignity of the people with whom we work" when discussing pre-Hispanic conquest warfare. Not only do different local groups have different views on past warfare and conquests, but people within groups can also have different views; any given interpretation of conquest warfare could thus simultaneously please or offend different parties. This issue also has ramifications on larger scales, as narratives of the past can constitute critical elements of national identities. Thus, interpretations of past conquest warfare can have significance even for those who do not consider themselves closely related to pre-Hispanic populations by way of indigenous identity.

A last issue that arises with presenting interpretations of conquest warfare in the Andes is there are several sources of bias that affect whether we "see" and, therefore, report warfare in the past, and may lead to conquest warfare being downplayed or underrepresented. The fundamental question we need to address is whether we are attempting to arrive at the best possible explanation of the past based on current data, or allowing our biases to influence or totally skew our interpretations. In short, this poses something of an ethical issue of scholarship, even if it is not explicitly addressed in the ethical codes of our major professional organizations such as the American Anthropological Association or the Society for American Archaeology.

Factors Affecting Archaeological Claims of Warfare

Interest among archaeologists in studying warfare has increased notably since the mid-1990s (Gilchrist 2003:1). But as with most past events, past warfare is not directly observable. So archaeologists do not explicitly report warfare, rather we claim or argue to have found evidence for its occurrence based on our interpretation of the available data. Yet the way in which archaeologists conceive of and write about conquest warfare in the Andes is not a straightforward matter of reporting on direct, unequivocal archaeological evidence. Instead, interpretations of the archaeological evidence are contingent on various factors that can result in downplaying or denying the occurrence of warfare. Here, I outline four factors that seem to have the most influence on the issue, which comprise both methodological and theoretical issues as well as personal and political biases.

1. The overarching methodological issue we face is that warfare is very difficult to detect archaeologically, especially in terms of prehistoric archaeology. Thus, interpretations of warfare are very likely to be highly underrepresented in relation to

its actual occurrence in the past (see Vencl 1984 for a detailed treatment of the problem). We have a number of indicators of warfare, but these are primarily indirect in nature. We can easily recognize weapons, fortified sites, and violent injuries to humans, but their presence does not necessarily indicate that warfare actually occurred. Items recognized as weapons could have been used for hunting, ceremonies, or even agriculture, while fortifications only directly indicate a *concern* for violence or attack. Skeletal trauma could result from accidents or interpersonal violence, instead of participation in battle. In rare cases, the evidence unequivocally points to warfare, as with group burials of adult males with traumatic injuries. But battlefields, perhaps the best direct indicator of actual warfare, are practically missing from the archaeological record of prehistoric societies (Vencl 1984:123) as their rather ephemeral nature makes them difficult to detect. Battles with premodern weapons such as spears, bows and arrows, and maces were short-term events that did not result in deep archaeological deposits. Moreover, battlefields were frequently scavenged for discarded weaponry and other goods, and bodies of casualties frequently removed for burial. Conquest warfare, which can involve engagements in settings beyond forts and battlefields, likewise leaves few easily detectable traces (Smith and Montiel 2001:249).

In the Andes, this problem is pronounced. Our main source of data is the rich artistic record of violence and warfare as depicted on ceramics and other media. Yet these depictions are open to disparate interpretations, as they could represent limited confrontations, mythical encounters, or other events or practices apart from frequent military encounters. In contrast, direct evidence of warfare is limited. I am not aware of any archaeologically identified pre-Hispanic battlefields, although both iconography and historical descriptions indicate that warfare often took place in open-air settings (Topic and Topic 1987:48). To address the methodological problems, various archaeologists have discussed the criteria for identifying warfare and military sites in the Andes (e.g., Arkush and Stanish 2005; Hyslop 1990; Topic and Topic 1987). Probably the most cautious approach is that of Topic and Topic (1987), who identified the primary indicators of defensive sites to include walls with parapets, slingstones, moats outside defensive walls, and defensive locations. Again, these are indirect indicators, signifying preparation for war rather than its actual occurrence.

To make a case for an actual battle would require excavation data where the materials and their contexts present a clear picture of engagement in violence, not just preparation. For example, fortifications with scatters of slingstones *outside* the defensive walls combined with the burning of internal structures would form a convincing case. But such evidence of warfare is rare, and even some of the basic indicators of preparation for warfare can be hard to detect. Most telling, at the time they wrote their chapter, Topic and Topic (1987) were not aware of any slingstones that had been encountered in the Andean highlands. While slingstones have been found in archaeological contexts in the highlands since 1987 (e.g., Lau 2010), the lack of such finds up to that point in time is highly remarkable given that historical accounts note slings to have been among the primary weapons used during the numerous battles between the Incas and other native groups, and they were also in use in earlier times.

2. Prominent theoretical trends in archaeology have tended to downplay or exclude warfare (Vandkilde 2003). Processual archaeology favored models of gradual societal changes tied to environmental changes, and only occasionally incorporated the idea of armed conflict, as with the use of Carneiro's (1970) circumscription theory, which combined warfare with environmental stress. Although current theoretical trends often acknowledge or foreground the ideas of conflict and internal societal stresses, especially in neo-Marxist thought, archaeologists still tend to create models of social and political change that eschew warfare and coercion. The influences of various strands of social theory have given prominence to the actions of the everyday people and bottom-up accounts of sociopolitical organization and transformations. Because it is a large-scale process, warfare does not fit well into the narratives constructed via popular theoretical frameworks such as practice theory. Conquest warfare with its emphasis on warrior leaders and resultant dominance through coercion is a very top–down phenomenon that does not mesh well with the bottom–up analyses that seek to emphasize the role of the commoner. It also leads to interpretations that suggest major societal changes wrought at the hands of individual, elite warriors, a "Great Man" explanation not in accord with either processual or postprocessual theoretical tenets. Furthermore, the Foucauldian approach to power relations as negotiated relationships, while allowing for a useful and nuanced approach to sociopolitical organization, also lends itself to downplaying the impact of conquest warfare by highlighting the independence and agency of the conquered while de-emphasizing the highly asymmetrical balance of power that favors the conquerors.
3. As has been emphasized over the last three decades, archaeological interpretations are clearly influenced by the political and social contexts of the production of archaeological knowledge (e.g., Leone 1982; Leone et al. 1987). Moreover, it is necessary to examine and recognize those biases. In this case, I believe it is safe to assume that the great majority of archaeologists are antiwar and antiviolence in their own in beliefs and politics. These pacifist leanings may lead to reluctance to assign warfare as a factor in past (Vandkilde 2003), especially when the evidence is equivocal, as many may not desire to project violence into the past when the case is not concrete. At the present, this sentiment may have been heightened by the recent military involvement of the USA in Iraq, a politically polarizing war that was opposed by many archaeologists. However, this is not to say that archaeologists who make cases for past warfare and conquest are considered to be pro-war in their political leanings; it can be quite the opposite. Furthermore, it has been argued that archaeologists have long embraced a notion of "the peaceful savage," which dissuaded interpretation and study of ancient warfare (Keeley 1996). It is difficult to contradict such deeply embedded notions about indigenous peoples of the past without significant and unequivocal archaeological evidence.
4. In a more social and personal vein, archaeologists can be subject to what could be called provincial partisanship or regional boosterism, or as Isbell and McEwan construe it, "prehistoric ethnocentrism" (Isbell and McEwan 1991:5). In a primarily unspoken or unrecognized manner, we tend to be boosters for the regions we study. We have a tendency to project what we conceive of as admirable

characteristics onto the past peoples we study, and we want "our people" to be important, strong, independent, or active, rather than insignificant, subjugated, weak, or passive. Foreign archaeologists who work long term in a specific region in the Andes also develop relationships with the local people, and we may wish to transfer goodwill to the past inhabitants of the area as well. Likewise, we may not wish to promote negative portrayals of the ancestors of the local people, which can be politically unwise. National archaeologists may also tend to be supportive of their study regions, and their sentiments may be especially amplified if they work in their home territory. In all, this can potentially lead to a bias toward favorable interpretations regarding past warfare and conquest. This can be manifested in narratives wherein the people in an archaeologist's region of study may have offered strong resistance to conquest or have negotiated a quasi-autonomous relationship with the expansionist state rather than having been fully subjugated and integrated into the empire. Conversely, this bias may lead to favoring scenarios wherein the past people of the archaeologist's study region were empire builders, who themselves invaded, conquered, and controlled other regions.

Together, these factors create conditions that can result in the same sets of data being used to create contrasting interpretations of the occurrence of warfare. In general, these factors may be leading to the significant underreporting of conquest warfare in the Andes, and the downplaying of its importance and occurrence in pre-Hispanic times. This clearly runs counter to the goal of arriving at the best possible interpretation of the past according to the available evidence. As a field, we can address the methodological issues through more fieldwork and more rigorous attention to understanding the archaeological signature of warfare. We can also address theoretical issues by more actively engaging in theoretical debates wherein we insist that the concept of warfare is not excluded from the discourse. But the other issues will have to be addressed on a more personal level, with archaeologists confronting how their own personal beliefs and partisanship may color their interpretations regarding conquest warfare.

Claims of Inca Conquest Warfare and Indigenous Group Identities

Above, I discussed how overstating conquest warfare was a significant political tool in the Spanish Colonial enterprise of exploiting Andean native peoples. In this section, I will focus on how downplaying or denial of conquest warfare in the Andes can be problematic, particularly in relation to how indigenous people frame their collective identities through their connection to the past.

Before delving into this section, I want to emphasize that I am not citing or discussing specific archaeological examples because I think that the archaeologists are clearly wrong in their interpretations (although I may disagree with them in some cases), or that their biases are leading to egregious misinterpretations of the past.

Neither am I suggesting that anyone has been unethical in his or her research. Instead, I have chosen these examples because they are the most familiar to me, and I think they provide useful illustrations of the issues surrounding archaeological narratives of conquest warfare.

Also, given the points I made above, I need to disclose my own biases regarding warfare and my research area. My primary research focus is the Inca Empire, and I see the Inca state as a powerful polity that went to great lengths to establish and maintain control over the peoples of the Andes (e.g., Ogburn 2004a, b, 2007a), and I believe that conquest warfare played a central role in Inca expansion and suppression of rebellions. Much of my fieldwork has taken place in the Saraguro region of the southern highlands of Ecuador, where the local indigenous people consider themselves descendants of people moved into the region by the Incas from other parts of the empire. I also consider the earlier expansions of both Wari and Tiwanaku to have come about in part through conquest warfare, though to a much greater extent for Wari. Politically, I am definitely not a fan of warfare, but I believe that warfare and imperialism are often the best explanations of the available archaeological data for certain time periods in the Andes. Like many contemporary archaeologists in the USA, my theoretical approach is what I would prefer to think of as holistic (though perhaps "optimistically holistic" would be more appropriate). My early theoretical grounding lies in processual archaeology, which has been subsequently complemented by elements of newer approaches that have developed in the last few decades. I am often skeptical of wholesale applications of social theories in a trendy manner. But I do find useful certain concepts such as agency and internal conflict, and appreciate the focus on the potential for internal social factors to drive cultural and sociopolitical changes.

As noted above, conquest warfare is well known from historical accounts of the Inca Empire, and there is no reason to doubt that the Incas used armed conquest to subjugate many parts of the Andes. It is also widely recognized that the Incas used both warfare and diplomacy – a negotiated subjugation backed by the threat of war – in the process of incorporating provinces into their empire. Because the method of incorporation into the empire had a major influence on the nature of the Inca occupation of a province, understanding whether warfare or diplomacy occurred is a very significant issue in the examination of Inca imperial expansion.

However, the archaeological investigation of the role of warfare in Inca expansion is hampered both by the difficulty in detecting warfare and by the lack of detail and extent of coverage of historical accounts. Projects investigating Inca militarism are rare, and tend to be focused either on the borders of the empire or on regions that were conquered late in the sequence of Inca expansion (e.g., Alconini 2002; Almeida Reyes 1999; Connell et al. 2003; Lippi and Gudiño 2006), areas often characterized as "peripheral." Studies of military sites closer to the heart of the empire, such as Inkawasi in the Cañete Valley of Peru (Hyslop 1985), are even less common.

Overall, in the vast majority of the Inca realm, archaeological research has revealed very little direct evidence of Inca warfare. There are remains of weapons and fortified sites attributed to the Incas, but no open-air battlefields. Instead, studies of Inca provincial expansion have primarily revealed remains of administrative sites, roads,

storehouses, and other imperial infrastructure. For assessing the military component of the Inca incursion into different regions, archaeologists primarily rely on the historical record, which is very spotty. Typically, the major Spanish chronicles (e.g., Betanzos 1987 [1551]; Cabello Balboa 1945 [1586]; Cieza de León1985 [1553]; Sarmiento de Gamboa 2007 [1572]) mention major battles of Inca expansion, but they do not document all of the provinces, and seldom include many details in the cases that are mentioned. Also, many of the regions mentioned were large and not necessarily politically unified, so it is unclear whether the warfare described in such accounts involved all groups living in a region, or just a selection; the potential variation in participation is usually glossed over. At times, more specific documentation is available, as from the Relaciones Geográficas de Indias, which often include brief references to the Inca subjugation of different valleys or political units. But even in those cases, it may be questionable whether the historical events are accurately represented, and at times they may even contradict other accounts.

Thus when considering any specific region of the former Inca realm, the historical and archaeological records give us very little solid evidence about the occurrence of conquest warfare. In many cases, field survey has succeeded in identifying fortified sites dating to times just before the Inca occupation. Yet while it is clear that these sites could have been utilized in defense against the Incas, it is difficult to ascertain whether the local people actually engaged in resistance or instead arrived at a negotiated settlement. In the end, in lieu of having detailed historical documents or an exceptional archaeological record, archaeologists discussing the possibility of Inca conquest warfare in their region of study are left with the choice of relying on vague historical accounts or arguing that the presence of fortifications likely indicated armed resistance. The most prudent option is to avoid unsupported conclusions about the occurrence of warfare, which leads to analyses that may acknowledge conquest in a general sense, but do not directly consider the impact of warfare and resistance in determining the Inca strategies of control and long-term incorporation into the empire (e.g., Schreiber 1987; Wernke 2006). In a review of recent regional studies of Inca imperialism in the provinces (Stanish 2001), there was little mention of the issue of conquest warfare vs. negotiated incorporation, except in the case of the Chincha Valley, where Sandweiss (1992) argued that the province was incorporated through negotiation. In other regions discussed, the analyses referred to the administration of regions "after Inca conquest," with no distinction as to whether "conquest" implies military defeat or whether it is being used in a more benign and general sense to indicate "incorporation."

With so many archaeologists taking a cautionary approach, we risk creating an understanding of Inca imperial expansion in which the role of conquest warfare is sidelined. We are put in a bind where the difficulty of detecting the occurrence of warfare leads to it being downplayed in our archaeological narratives. Instead of considering the level of local resistance in explaining variations in Inca imperial administrative strategies, priority is given to the level of existing political organization in the annexed provinces and the needs of the empire at the supra-regional level (in terms of resources, transportation routes, geography of the administrative system, etc.). This stands in direct contrast to the fact that historical accounts indicate that the

level of resistance to the Inca incursion played a very significant role in what strategies the Incas followed. In regions that had to be conquered through warfare, the Incas frequently forced a large proportion of the population to resettle in other parts of the empire, violently removed existing leaders to be replaced with direct Inca rule, or subjected the local population to heavy or undesirable labor tribute burdens. In contrast, groups that submitted peacefully were often given privileged positions within the empire along with special, less onerous labor tribute assignments. In essence, downplaying warfare as a factor can inhibit our explanatory objectives.

Beyond the considerations of archaeological explanations, conceptions of involvement in conquest warfare can play a role in the realm of contemporary indigenous group identity. This may in part be due to the fact that the occurrence of pre-Hispanic warfare no longer plays a significant role in justifying the mistreatment of indigenous people in the Andes, at least not in highland Ecuador, with which I am most familiar (as noted above, reports of past violence could still factor into negative conceptions of modern Andeans, as discussed in Chap. 12). Oral traditions regarding military actions with or against the Incas can factor into a group's sense of the past, their shared ideas regarding who they are and where they come from. Tales of warfare from the pre-Hispanic era can fulfill a desire for past notable accomplishments, which are lacking in group histories due to hundreds of years of domination by outside groups. As in our own contemporary culture, tales of valiance in warfare and strong resistance to an enemy (no matter the eventual outcome) can serve to create an idea of a noble shared past, a source of group pride.

Thus Andean indigenous groups, whose identities are in part defined by the idea of a shared past, are invested in their versions of the past and the roles their ancestors are thought to have played in Inca wars of conquest. Fierce resistance to the Incas or active or privileged roles fighting in concert with the Incas are the sorts of heroic themes favored in indigenous constructions of the past. Likewise, the state of affairs after incorporation into the Inca Empire can play a role in these narratives; it is preferable to have been granted favors by the Incas, given a privileged role in the empire, have local leaders left in charge, and have maintained a level of independence from Inca rule. It is not flattering to believe that one's ancestors were swiftly conquered by an invading Inca army, to have been punished severely after conquest with the imposition of heavy labor tribute burdens, and to have their leaders executed and replaced by heavy-handed direct rule by the Incas. Of course, these are the very scenarios that are common in the Inca narratives recorded by the Spanish chronicles; to some extent, the Inca accounts may have been exaggerated, but it is unlikely that many provinces came out favorably in their encounters with the invading Incas.

It is challenging to assess the validity of the indigenous oral traditions upon which these narratives are based, or of the tales the Incas related regarding their conquests and their consolidation of control over the provinces, which have made their way into general history books. The Incas, of course, were invested in promoting their own view of their past strengths and accomplishments, and were likely to have exaggerated the ease of conquest, the scope of punishments, etc., in at least some cases. Likewise, current oral traditions among different ethnic groups may favor more flattering versions of the past that are not necessarily in line with the

actual course of events. Even in the Spanish Colonial era, local groups had incentives to promulgate a view of their past that was favorable to them in some way. For example, claims that a group was a fierce enemy of the Incas helped support claims of that group's loyalty to the Spanish Crown. Local leaders who wanted to gain or reinforce their status under Spanish domination would have bolstered their claims to authority by insisting they and their ancestors remained firmly in charge during the period of Inca rule, rather than having been displaced or subject to the political leadership of an Inca governor or the leader of some other ethnic group. Furthermore, because a group's tribute obligations to the Spanish conquerors were often based on the form and quantity of tribute that group had given to the Incas, there was also great incentive to downplay heavy tribute burdens. A notable illustration of this strategy was the claim by the people of Andamarca Lucanas that their only labor tribute to the Incas was service as royal litter bearers (Monzón 1881 [1586]:204); they were granted this rather light burden because the Incas bestowed upon them a privileged status and also because they were known to be very steady runners (Guaman Poma 1936 [1615]:333). However, the archaeological evidence contradicts such claims, indicating that they must also have contributed labor to producing items to fill the local imperial storehouses (Schreiber 1987).

Thus, archaeologists involved in investigating the period of Inca expansion are often faced with weighing archaeological evidence against competing narratives of the past. Ideally, archaeologists should arrive at the most accurate interpretation of the past afforded by the available evidence (assuming they do not hold theoretical positions that rebuff the idea that there can be an accurate interpretation of the past). But how the different narratives are weighted when interpreting the archaeological data can affect how reconstructions of the past are created. The social context of working among indigenous groups and investigating their pasts can certainly be a factor; a tendency to favor local views of the past rather than promote a less flattering course of events could well affect an archaeologist's interpretation.

The Pambamarca region of the northern highlands of Ecuador (Fig. 11.1) provides a good example of the interplay of these issues. According to Spanish chronicles (e.g., Cabello Balboa 1945 [1586]; Cobo 1979 [1653]), Pambamarca was the setting for one of the most epic battles of Inca imperial expansion. As the Inca emperor Huayna Capac strove to expand Inca territory to the north of Quito, his army encountered fierce resistance by the local Cayambe people, who were apparently allied with groups who had fled their homelands as the Incas advanced. The Incas failed in their initial campaign of conquest, and dug in for a protracted struggle that lasted for years. Both the Incas and the Cayambes were stationed in fortified sites and would periodically engage in battle; at one point, the Incas were even driven from their positions. The Incas finally gained the upper hand over the Cayambes through an elaborate ruse and pursued them north to the shore of Lake Yahuarcocha. There, the Incas are said to have slaughtered thousands of Cayambe soldiers, whose blood turned the water of the lake red.

The basic outline of this story is not in dispute. The events happened late in the history of the Inca Empire, so memories of the confrontation were still fresh when

Fig. 11.1 Location of Pambamarca and Saraguro within Ecuador

the Spaniards arrived, and we are fortunate to have more detailed accounts of this encounter than for most regions. More to the point, memory of this epic military confrontation continues in the oral traditions of the local indigenous people, and it plays a major role in defining who they are. As an illustration of the importance of this aspect of their past, the website of the Consejo de Coordinación Pueblo Kayambi (http://www.kayambi.org) begins the section on Cayambe history with "La referencia histórica más destacada del pueblo Kayambi se remonta a las luchas de resistencia frente a la expansión del imperio Inca" ("The most famous historical reference to the Cayambe people traces their fight against Inca imperial expansion"). As the website of a political organization aimed at representing the Cayambe people, this is a very public representation of how they see themselves.

Because of the detailed historical accounts and the good preservation of the pre-Columbian forts around Pambamarca, the region has also been the focus of several archaeological investigations in the twentieth century (Fresco et al. 1990; Oberem et al. 1969; Plaza Schuller 1976), and most recently has become the focus of the ongoing Pambamarca Archaeological Project directed by Samuel Connell, Chad Gifford, and Ana Gonzalez. This project stands out in the Andes for actually being able to address the occurrence of warfare through direct archaeological evidence. This research is also in the remarkable position of addressing the historical events that are so central to Cayambe identity, and for the most part, the data serve to reinforce those accounts.

However, on a different scale, the broader archaeological narratives can serve to undermine the conception of Cayambe identity that is based on their epic struggle against the Incas. As discussed above, archaeological studies of Inca expansion that overlook the role of warfare combine to present a picture where the significance of warfare is downplayed in comparison to what is known from historical accounts. Perhaps more significant, those studies prioritize the time of Inca domination as the subject of archaeological investigation and downplay or dismiss the importance of the time of confrontation and the circumstances of incorporation into the empire, the events that are central to Cayambe identity.

The conception of valiant Cayambe resistance can likewise be undermined by another intellectual trend in research on Inca expansion, where the Incas are held as overextended, weak, or on the verge of collapse during the last few decades of their empire. While it is clear that the last few years of the empire were unstable due to the struggle for succession between the half-brothers Atahuallpa and Huascar, scholars have also portrayed the preceding reign of Huayna Capac as a time when the empire had reached the point that it was no longer sustainable, even on the verge of collapse (e.g., Conrad and Demarest 1984; Patterson 1991; Toland 1987). Some of those interpretations have cast the Inca state as overextended beyond the point of effective governance or as having reached a point where additional conquests were becoming nearly impossible to achieve. Others view the internal demands of the empire as having become economically unsustainable by that time, or posit that internal contradictions of the imperial system sowed the seeds of its own destruction. In other words, the prolonged struggle for conquest over the Cayambes was just a symptom of a weakened state destined for collapse. Such a view implies that

the long resistance in Pambamarca was due less to the strength of the Cayambes than to the weakness of the Incas. This picture – whether accurate or not – flies in the face of the Cayambe conception of their own past. The stronger the Incas and their military might are held to be, the greater the feat of Cayambe resistance, but to hold that their foe was weak is to lessen the Cayambe achievement.

A similar argument can be made in terms of the indigenous identity expressed by the Saraguros of the southern highlands of Ecuador. In contrast to the Cayambes, the Saraguros see themselves as closely related to the Incas (Ogburn 2007b, 2008). According to their oral traditions, they were moved into the area after the Incas had conquered the local Cañaris, who were forced to resettle in other parts of the empire. It is thought that at least some of the people brought into the area came from Cuzco, with the implication that they were Incas or closely related to the Incas, and it is also thought that some of them served as warriors in the Inca army. The Saraguros express this affiliation in a number of ways, such as giving their children Inca names like Atahuallpa, naming schools in their communities after famous Incas, and reviving the Inca solstice ceremony of Inti Raymi. Saraguro identity clearly draws on the strength and history of the Inca Empire as the most powerful indigenous culture in the New World. Thus, they do not highlight their resistance to the Incas, as do the Cayambes. Yet the narratives of the past of both groups rely on the picture of Inca strength, and particularly their success in warfare. So, as for the Cayambes, archaeological narratives that portray a weak Inca state or downplay conquest warfare are at odds with Saraguro conceptions of indigenous identity.

Along another line, Cayambe identity is tied to resistance against the Incas not just in the valiance of their struggle against the mightiest force in the pre-Columbian world, but also in the duration of that struggle. It is frequently stated that the struggle lasted 17 or 20 years, figures which show up in conversations, publications, and web sites (such as that of the Consejo de Coordinación Pueblo Kayambi mentioned above). This is not just an indigenous narrative, but appears in archaeological (Connell and Gifford 2006) and historical research (González Suárez 1890–1903) as well. Holding out for two decades against the Incas at the height of their empire would have been unparalleled in terms of the rapid expansion of the empire, showing a level of skill and bravery in warfare that distinguished the Cayambes and their allies from all others in the Andes.

However, close examination of the historical sources indicates that the resistance probably lasted for only about 8–9 years. Most accounts of the struggle only refer to its protracted nature without specifying the duration, although Bernabe Cobo (1979 [1653]) noted that it lasted about a decade. The figures for 17 or 20 years actually originate in a pair of legal documents from the Spanish Colonial era, wherein the cacique of the Cayambes, Jerónimo Puento, was petitioning the government to grant him favors because of his service to their cause (Espinoza Soriano 1980). As part of his case, he played up the role of his grandfather, Maxacoto Puento, in leading the resistance to Inca conquest; this served as evidence for a long family history of hostility to the Incas and loyalty to the Spaniards. Within his testimony, Puento stated at one point that the battles lasted 17 years, and at another point he claimed that it was about 20 years. Numerous witnesses were called upon to verify

these and other statements of Puento's testimony, but no one fully endorsed his claim of the duration of the resistance. Instead, they either claimed that they had no direct knowledge of the struggle or just agreed in some general way with the stated account. The only man who did claim specific knowledge of the events was Miguel Freile Mejía. As a priest assigned to the town of Cayambe, he had spent much time in the Pambamarca area, and he stated that the war lasted 8 or 9 years. Given that Jerónimo Puento had a clear motivation to exaggerate claims that illustrated his status and that of his lineage, and that no other witness explicitly backed his statement, the claim of 17–20 years of struggle were likely inflated. In contrast, the figures given by Mejía, who was serving as a supporting witness rather than a claimant, are likely to be more reliable, especially given that he had extensive first-hand knowledge of the area and its people. Moreover, Mejía's timeline is consistent with that of Cobo (1979 [1653]), who would have gotten his figures from independent sources, likely in the Cuzco area.

Thus, it appears that the Cayambes actually held out against the Incas for about 8 or 9 years, instead of 17 or 20 years. Despite lasting only half as long as widely claimed, this was still an amazing accomplishment and unprecedented in the history of Inca expansion. However, to promote an opposing narrative that diminishes the Cayambe achievement by half is not likely to be popular. The idea of 17 or 20 years of resistance has become embedded in local history because it was presented by the "Father of Ecuadorean History," Federico González Suárez, in his seminal work, *Historia General de la República del Ecuador* (González Suárez 1890–1903). He and other historians had access to and utilized the petitions of Jerónimo Puento (Espinoza Soriano 1980), and appear to have relied on Puento's direct testimony rather than critically assessing his agenda and the supporting testimony of the witnesses.

Thus, Puento's claim about the duration of Cayambe resistance has become reified over time despite being highly unlikely. Because I have collaborated with the Pambamarca Archaeological Project (Ogburn et al. 2009), I have research interests that directly relate to this military encounter between the Incas and the Cayambes, and its duration. So I am personally faced with a dilemma. My inclination as a scholar is to promote what I see as the more historically accurate figure of 8–9 years, which is how I describe the encounter in academic contexts. But I am reluctant to press the matter in other settings when it clearly contradicts the narrative of the past that plays such a central role in Cayambe identity. In interacting with people in the Pambamarca region, I do not insist on my point of view if the topic comes up in conversation. But at some point, it will have to be confronted if I collaborate further with the project and continue to publish research on the region: the people of the area will certainly have an interest in and access to the scholarship being produced in some form or another, as they should. I cannot say how people of the community will react; they may be strongly opposed or simply ignore my point. Most likely, reactions will be mixed. But if the reaction is strongly negative, would this mean my portrayal of a reduced span of warfare against the Incas had harmed the dignity of the Cayambe people? How do I follow the AAA code of ethics to ensure that I do not harm the dignity of this group without knowing how people will react? Should

I avoid using in my publications what I consider the most accurate portrayal of the past because of the chance that it might not go over well with some people? That does not seem to be the best option, and at any rate, I have already published one article (Ogburn et al. 2009) that characterizes the struggle as lasting less than a decade. We will have to see how it plays out in the future.

Conclusions

Archaeologists working in the Andes are without a doubt faced with significant challenges when dealing with indigenous conquest warfare. We have an overall narrative of the pre-Inca Andean past that undoubtedly underrepresents warfare because the archaeological record provides evidence of preparation for warfare, but seldom yields direct evidence that it occurred. Even for the Inca imperial expansion, ethnohistorical records may be contradictory or lacking in detail, which can cause us to avoid direct discussion of military conquest. Our theoretical leanings and regional partisanship can lead us to interpretations that downplay or deny conquests. From the standpoint of the archaeological imperative of explaining the past, we need be aware of and address these issues. Furthermore, we need to be aware that just as overstating native violence in the past could have a negative impact on indigenous groups, downplaying, ignoring, or denying conquest warfare can also be problematic by conflicting with indigenous narratives of their own pasts. Thus, it is imperative that we address the archaeology of conquest warfare with substantial attention to methodology and theory while being cognizant of our own political and personal biases and the role reports of conquest warfare play in indigenous constructions of identity. No matter the difficulties or dilemmas, we should not avoid reporting cases of pre-Columbian conquest warfare in the Andes, as it is an important component of understanding both the past and the present. Instead, we should tackle them with our eyes open to both the possibilities and the ramifications.

References

Alconini, Sonia 2002 Prehistoric Inka Frontier Structure and Dynamics in the Bolivian Chaco. Unpublished Ph.D. dissertation, Dept of Anthropology, University of Pittsburgh, Pittsburgh.

Almeida Reyes, Eduardo 1999 *Estudios arqueológicos en el Pucara de Rumicucho*. Banco Central del Ecuador, Quito.

Arkush, Elizabeth, and Charles Stanish 2005 Interpreting Conflict in the Ancient Andes: Implications for the Archaeology of Warfare. *Current Anthropology* 46(1):3–28.

Betanzos, Juan de 1987 [1551] *Suma y narración de los Incas*. Transcription, notes and prologue by Maria del Carmen Martín Rubio. Ediciones Atlas, Madrid.

Bourget, Steve 2001 Rituals of Sacrifice: Its Practice at Huaca de La Luna and Its Representation in Moche Iconography. In *Moche Art and Archaeology in Ancient Peru*, edited by J. Pillsbury, pp. 89–110. National Gallery of Art, Yale University Press, New Haven, CT.

Cabello Balboa, Miguel 1945 [1586] *Obras, Vol.1*. Editorial Ecuatoriana, Quito.

Carneiro, R. L. 1970 A Theory of the Origin of the State. *Science* 169:733–738.
Castillo, L. J. 2000 *La ceremonia del sacrificio: batallas y muerte en el arte mochica*. Museo Arqueológico, Rafael Larco Herrera, Lima.
Cieza de León, Pedro de 1985 [1553] *La crónica del Perú segunda parte (El señorío de los Incas)* [1553]. Pontificia Universidad Católica del Perú Fondo Editorial, Lima.
Cobo, Bernabé 1979 [1653] *History of the Inca Empire*. Translated by R. Hamilton. University of Texas Press, Austin.
Connell, Samuel V., Chad Gifford, Ana L. Gonzalez, and Maureen Carpenter 2003 Hard Times in Ecuador: Inka Troubles at Pambamarca. *Antiquity*: Project Gallery 77(295) (http://www.antiquity.ac.uk/projgall/connell295/#author).
Connell, Samuel V., and Chad Gifford 2006 Indigenous Marketing of the Pambamarca Fortress Complex, Pichincha, Ecuador. Paper presented at the 105th Annual Meeting of the American Anthropological Association, San Jose, CA.
Conrad, Geoffrey W., and Arthur A. Demarest 1984 *Religion and Empire: The Dynamics of Aztec and Inca Expansionism*. Cambridge University Press, Cambridge.
Covey, Alan 2006 Chronology, Succession, and Sovereignty: The Politics of Inka Historiography and Its Modern Interpretation. *Comparative Studies in Society and History* 48(1):166–199.
Espinoza Soriano, Waldemar 1980 El curaca de los Cayambes y su sometimiento al Imperio Español. Siglos XV y XVI. *Bulletin de l'Institut Francais d'Etudes Andines* IX, 89–119.
Fresco, A., M. Coloma, and G. Espindola 1990 Proyecto arqueológico "El Quito de los Incas" octava parte: informe excavaciones Pucara Quitoloma. Report on file with the Banco Central del Ecuador, Quito.
Garcilaso de la Vega, el Inca 1966 [1609] *Royal Commentaries of the Incas and General History of Peru*. Translated by H.V. Livermore. University of Texas Press, Austin.
Gilchrist, Roberta 2003 Introduction: Towards a Social Archaeology of Warfare. *World Archaeology* 35(1):1–6.
González Suárez, Federico 1890–1903 *Historia general de la República del Ecuador*. Imprenta del Clero, Quito.
Guaman Poma de Ayala, Felipe 1936 [1615] *Nueva corónica y buen gobierno*. Université de Paris, Travaux et Memoires de l'Institut d'Ethnologie XXIII. L'Institut d'Ethnologie, Paris.
Hyslop, John 1985 *Inkawasi – The New Cuzco*. BAR International Series 234. British Archaeological Reports, Oxford.
Hyslop, John 1990 *Inka Settlement Planning*. University of Texas Press, Austin.
Isbell, William H. and Gordon F. McEwan 1991 A History of Huari Studies and Introduction to Current Interpretations. In *Huari Political Organization: Prehistoric Monumental Architecture and State Government*, edited by W. Isbell and G. McEwan, pp. 1–17. Dumbarton Oaks, Washington, D.C.
Julien, Catherine 2007 War and Peace in the Inca Heartland. In *War and Peace in the Ancient World*, edited by Kurt A. Rafflaub, pp. 329–347. Blackwell, Malden, MA.
Keeley, L.H. 1996 *War Before Civilization: The Myth of the Peaceful Savage*. Oxford University Press, Oxford.
Lau, George F. 2010 Fortifications as Warfare Culture: The Hilltop Centre of Yayno (Ancash, Peru), AD 400–800. *Cambridge Archaeological Journal* 20(3):419–448.
Lippi, Ronald, and Alejandra Gudiño 2006 Yumbos, Palmitopamba and Complex Society on the Western Andean Slope of Northern Ecuador. Paper presented at the 71st Annual Meeting of the Society for American Archaeology, San Juan, Puerto Rico.
Leone, Mark P. 1982 Some Opinions about Recovering Mind. *American Antiquity* 47(4):742–760.
Leone, Mark P., Parker B. Potter, Jr., and Paul A. Shackel 1987 Toward a Critical Archaeology. *Current Anthropology* 28(3):283–292.
Menzel, Dorothy 1959 The Inca Occupation of the South Coast of Peru. *Southwest Journal of Anthropology* 15(2):125–142.
Monzón, Luis de 1881 [1586] Descripción de la tierra del repartimiento de los Rucanas Antamarcas de la corona real, jurisdición de la ciudad de Guamanga. In *Relaciones geográficas de Indias*, Tomo I, edited by M. Jiménez de la Espada, pp. 197–215. Ministerio de Fomento, Madrid.

Oberem, Udo, W. Wurster, R. Hartmann and J. Wentscher 1969 La fortaleza de montaña de Quitoloma en la sierra septentrional del Ecuador. *Boletín de la Academia Nacional de Historia* 114:196–205.

Ogburn, Dennis 2004a Evidence for Long-Distance Transport of Andesite Building Blocks in the Inca Empire. *Latin American Antiquity* 15(4):419–439.

Ogburn, Dennis 2004b Dynamic Display, Propaganda, and the Reinforcement of Provincial Power in the Inca Empire. In *Foundations of Power in the Prehispanic Andes,* edited by Kevin Vaughn, Dennis Ogburn, and Christina Conlee, pp. 225–239. Archaeological Papers of the AAA, Vol. 14. American Anthropological Association, Washington, D.C.

Ogburn, Dennis 2007a Human Trophies in the Late Prehispanic Andes: Striving for Status and Maintaining Power among the Incas and Other Societies. In *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, edited by Richard J. Chacon and David H. Dye, pp. 505–522. Springer Press, New York.

Ogburn, Dennis 2007b Incas Past and Present: Archaeology and the Indigenous Saraguros of Southern Ecuador. *Stanford Journal of Archaeology* 5:134–163.

Ogburn, Dennis 2008 Becoming Saraguro: Ethnogenesis in the Context of Inca and Spanish Colonialism. *Ethnohistory* 55(2):287–319.

Ogburn, Dennis, Samuel Connell, and Chad Gifford 2009 Provisioning of the Inka Army in Wartime: Obsidian Procurement in Pambamarca, Ecuador. *Journal of Archaeological Science* 36(3):740–751.

Patterson, Thomas C. 1991 *The Inca Empire: The Formation and Disintegration of a Pre-capitalist State*. Berg, New York.

Plaza Schuller, Fernando 1976 *La incursión inca en el septentrión andino ecuatoriano: antecedentes arqueológicos de la convulsiva situación de contacto cultural: primer informe preliminar*. Instituto Otavaleño de Antropología, Otavalo, Ecuador.

Sandweiss, Dan H. 1992 *The Archaeology of Chincha Fishermen: Specialization and Status in Inka Peru*. Carnegie Museum of Natural History Bulletin 29. Carnegie Institute, Pittsburgh.

Sarmiento de Gamboa, Pedro 2007 [1572] *The History of the Incas*. Translated by B. Bauer and V. Smith. University of Texas Press, Austin.

Schreiber, Katharina J. 1987 Conquest and Consolidation: A Comparison of the Wari and Inka Occupations of a Highland Peruvian Valley. *American Antiquity* 52:266–284.

Smith, Michael E. and Lisa Montiel 2001 The Archaeological Study of Empires and Imperialism in Pre-Hispanic Central Mexico. *Journal of Anthropological Archaeology* 20:245–284.

Stanish, Charles 2001 Regional Research on the Inca. *Journal of Archaeological Research* 9(3):213–241.

Toland, Judith D. 1987 Discrepancies and Dissolution: Breakdown of the Early Inca State. In *Early State Dynamics*, edited by Henri J.M. Claessen and Pieter van de Velde, pp. 138–153. EJ Brill, Leiden, Holland.

Topic, John R. and Theresa L. Topic 1987 The Archaeological Investigation of Andean Militarism: Some Cautionary Observations. In *The Origins and Development of the Andean State*, edited by Jonathan Haas, Shelia Pozorski, and Thomas Pozorski, pp. 47–55. Cambridge Universtiy Press, Cambridge.

Vandkilde, Helle 2003 Commemorative Tales: Archaeological Responses to Modern Myth, Politics, and War. *World Archaeology* 35(1):126–144.

Vencl, S. 1984 War and Warfare in Archaeology. *Journal of Anthropological Archaeology* 3:116–132.

Wernke, Steven A. 2006 The Politics of Community and Inka Statecraft in the Colca Valley, Peru. *Latin American Antiquity* 17(7):177–208.

Chapter 12
Violence, Indigeneity, and Archaeological Interpretation in the Central Andes

Elizabeth Arkush

Abstract Potential archaeological evidence of violence is usually somewhat ambiguous: it can be interpreted in different ways. I argue that our archaeological interpretations are strongly conditioned by – among other factors – the history of representations of indigeneity. In the central Andes, we must contend with unsavory stereotypes of indigenous Andeans as backward, "tough," and liable to irrational violence. These old but newly reconfigured stereotypes are drawn on for political purposes by both *criollo* urbanites and Quechua- and Aymara-speaking Andeans themselves. Opposed to them are positive but problematic images of indigenous Andeans steeped in ritual and existing in harmony with society and nature, images with a pedigree in early twentieth-century romantic nativism and in mid-century structuralist anthropology. These stereotypes too are strategically consumed and perpetrated by the crafters of nationalist narratives, the tourism and *artesania* industries, and self-identified indigenous Andeans. In the oversimplified terms of public imagination, spiritual Andeans are opposed to violent Andeans. This problematic dyad politicizes archaeological interpretation while impoverishing the space of its possibilities, constraining archaeologists to choose between interpretations of the past that seem either distastefully savage or falsely idyllic.

Before archaeologists begin to make decisions about reporting indigenous violence, they must first make interpretations about whether violence occurred, of what kind, with what implicit repercussions for our image of the past perpetrators and victims. What affects these decisions, when the evidence is ambiguous (as it often is), and leaves open more than one avenue of interpretation? Other, less scientific things are at play, on conscious and unconscious levels: our mingled repugnance and fascination at violence, our loyalty to the people we study, our personal politics, and the

E. Arkush, Ph.D. (✉)
Department of Anthropology, University of Pittsburgh, 3302 Posvar Hall, Pittsburgh, PA 15260, USA
e-mail: arkush@pitt.edu

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particular intellectual moment we inhabit. That includes not only our moment in the history of archaeological thought, but also the history of representations of indigeneity. In this paper, I wish to stress this last factor. In the Andes, archaeologists must contend with unsavory representations of indigenous Andeans as backward, "tough," and liable to irrational violence. These old but newly reconfigured images are drawn on for political purposes by both *criollo* urbanites and "indigenous Andeans" themselves. They are counterbalanced by more positive but problematic characterizations that emphasize spirituality, reciprocity, and harmony with nature. These images too are strategically consumed and perpetrated by the crafters of nationalist narratives, the tourism and *artesania* industries, and self-identified indigenous Andeans. Both kinds of essentialist vision imply a static continuity from pre-contact practices to present-day Andeans. From a purely academic perspective, their flaws are obvious, but their mere existence in the public imaginary creates a politically charged and falsely polarized space for archaeological interpretation, forcing us to choose between interpretations of the past that seem either distastefully savage or falsely idyllic.

As an example, my field research has centered on *pukaras*, walled hilltop settlements in the Titicaca Basin of southern Peru (Arkush 2008, 2011). Various lines of evidence indicate to me that *pukaras* were forts, and that they were a response to real and pervasive warfare. The design of the sites is clearly defensive; they incorporate multiple walls and have bigger and more walls on the sides that are easiest to approach. Walls often have a parapet. In some cases, piles of river cobbles are present near the walls, presumably for use as slingstones. Less direct evidence also suggests the sites are the result of warfare. Rather than a few isolated pukaras, there is a clear regional pattern of very prevalent fortification in a relatively short time frame of about 1300–1450 AD (Arkush 2008). It is in fact a macro-regional pattern, for there are high rates of defensive settlement and fortification from many parts of the central and southern Andes at about the same time (Arkush 2006; Covey 2008). Strong pressures must have driven people to inhabit these hilltops. They are troublesome to ascend, cold, windy, far from fields, and often, far from water sources (modern houses tend to be located at sheltered hill bases, where springs are common, fields are productive, and roads are not too far away). That these inconvenient, isolated spots were used so intensively during the age of pukaras suggests the threat of attack was grave. Finally, in an early colonial dictionary of Aymara, the indigenous language most widely spoken in the Titicaca Basin, the word *pukara* is associated with war and refuge from threat (Bertonio 1986 [1612]).

That is one way of viewing pukaras. But quite different perspectives are possible. At almost every talk I have given on pukaras, I have been asked whether we can say beyond the shadow of a doubt that they represent evidence for warfare. Could they instead have been symbolic statements of power and solidarity by their builders? If they were defensive in intent, did war actually happen, or just the threat of it? And in all honesty, I lack the sort of smoking-gun evidence that would clinch the case. There is no case of a Titicaca Basin pukara that was clearly attacked or sacked – not at this point (for almost no excavation has taken place). Walls at some sites are in such poor condition they appear to have been intentionally destroyed, but alternative explanations are certainly possible. There has been very little excavation of human remains

for the period, so the presence or absence of skeletal trauma does not resolve the question (though see de la Vega et al. 2005; Juengst and Chávez 2011). Some of the walls are rather unimpressive, and they often do not encircle the whole hilltop, showing that the builders decided it was not worth the effort to make an impregnable barrier. I am reduced to cross-cultural analogy, arguing that across cultures, relatively decentralized societies such as this one that fortify their settlements engage in war frequently, about once a year or more (Solometo 2006). This kind of argument is unconvincing to archaeologists who believe that the unique characteristics of the Andean area make comparisons to other world regions not very applicable or useful.

From their perspective, a militaristic interpretation of pukaras ignores the specifics of Andean cultural practices. They might argue that pukaras had little or nothing to do with warfare (e.g., Valkenier 1995). Mountains were worshipped in many parts of the Andes at contact. The Incas made sacrifices at high mountain shrines, and these imposing landforms almost certainly had significance much earlier in time (e.g., Williams and Nash 2006). Andeans in the highlands continue to consider mountains to be active agents in the production of animal and crop fertility (Bolin 1998; Isbell 1978; Rasnake 1988) and even in human political affairs (Gose 1994; Mishkin 1940:237). From this view, pukaras might have been spiritually charged peaks where inhabitants built walls to demarcate sacred space and define the social unit. If pukaras were associated with warfare at all, runs another argument, it might have been a form of ritualized combat quite foreign to the Western concept of war. "Ritual battles" or *tinku* have been practiced for centuries and up to the present day in several parts of the Andean highlands. Limited in scope, festive, and scheduled to the church calendar, *tinku* are battles fought with slingstones, whips, and fists between communities on otherwise fairly amicable terms, in which spilt blood and the occasional death augur a prosperous harvest (see, among others, Arkush and Stanish 2005; Chacon et al. 2007). Though recorded *tinku* battles do not involve fortifications, perhaps (say some) pukaras provided an arena for similar ritual battles that were tightly governed by rules, and limited in their destructiveness (Topic and Topic 1999, 2009).

Archaeological debates such as this one are hard to resolve conclusively. On the surface, the problem is that we rarely find ourselves beyond the shadow of a doubt. Archaeological evidence of violence, such as walls, burning episodes, mass graves, and skeletal trauma, is often ambiguous, and can be interpreted in multiple ways (e.g., Walker 1998). But the underlying problem is that violence in the past has political repercussions in the present (see also Chap. 11). That affects not just our reporting of violence, but our fundamental vision of it, for even with an open-and-shut case for interpersonal violence, some ways of envisioning the violence make it seem more palatable, and some, more barbaric.

This basic problem infuses not just Andean archaeology, but the anthropology of warfare in general. Take, for instance, the difference in tenor between an ethnographic study of "indigenous" warfare (say in highland Papua New Guinea, e.g., Meggitt 1977; Poposil 1994; Rappaport 1968; Roscoe 1996; Wiessner and Tumu 1998) and an anthropological treatment of a factional (ethnic or sectarian) war in a more militarized setting, like Chechnya (Tishkov 2004) or Mozambique (Nordstrom

1997) or El Salvador (Dickson-Gomez 2003). The first, if it was written any time since the 1930s, is relatively free of moral judgment; the second is typically infused with moral outrage, deplores how war ruins lives and communities, and condemns those responsible. One could try to argue that New Guinean wars were not as destructive, but they also ruined lives and communities, albeit on a smaller scale. I would suggest that our treatment of these two kinds of war is affected by our fundamental loyalties as anthropologists toward people marginalized by existing power structures. War in Papua New Guinea is waged by indigenous non-western people against other indigenous non-western people. It is seen as a coherent cultural practice, and it is treated sensitively and respectfully by anthropologists. In Mozambique and other factional wars, "the state" is usually involved in one way or another, conflict may have its roots in colonial histories, and perpetrators are usually not defined as "indigenous." War in such a context is discussed by anthropologists as exceptional, appalling, a rupture of the fabric of society; rightly or wrongly, it is rarely treated as a cultural practice. To do so might seem dangerously close to exculpating the warmongers. Our anthropological loyalties are enlisted along different lines in these two kinds of war, so – understandably – the violence itself is envisioned and discussed quite differently. This is implied even by the connotations of the terms we habitually use: "warfare" versus "a war."

The problem of violence and the indigenous subject has affected anthropological and archaeological interpretation for many decades. As new evidence has surfaced and intellectual paradigms have been embraced and discarded, we have reformulated our interpretations to carefully avoid the abhorrent colonialist trope of indigenous savagery. Let's take a whirlwind tour.

From the 1940s–1960s, it was common knowledge among anthropologists that the "warfare" of band- and tribal-level societies, if it existed at all, was game-like and inconsequential; peaceful natives merely played at battle (see Otterbein 2000). That idea allowed anthropologists to retain the image of a non-violent noble savage, in contrast with two brutal recent world wars that showed just how bloodthirsty the West was.

It became clear by the mid 1960s that in fact indigenous warfare could be quite lethal and destructive. In response, a new wave of interpretation inspired by cultural ecology ascribed functionalist ends to warfare (e.g., Harris 1974; Rappaport 1968; Vayda 1976). Warfare solved otherwise intractable problems of population pressure and resource distribution. Yes, it was deadly, but it was not mere brutality for its own sake; it was part of a system that made sense if one could stand back far enough to glimpse the whole. (To illustrate the pressure placed by these implicit politics on anthropologists of indigenous war, contrast the scholarly reception of Chagnon's (1968) first and most "fierce" edition of his Yanomamö ethnography with that of Rappaport's (1968) cultural ecology approach to the Maring).

In 1996, Lawrence Keeley argued that archaeologists' reluctance to see or report warfare had led to a "pacification of the past" (see Chap. 14). His influential manifesto let loose a countervailing trend of archaeological studies of violence and war. Occasionally they have been rather sensationalist in tenor (e.g., Turner and Turner 1999),

but more often these studies have tried to mitigate the grim news with the stance that warfare was pursued for material or political ends (for if the era of functionalism is over, rational-choice explanations are still viable). In these treatments, warriors fought over resources, captives, subjects, and political power. Again, non-Western and non-state warfare is not just savagery. It is explicable, in some way rational, and universally human – for if the non-Western past was stained with blood, so was the Western past and present. (My own work falls into this category of explanation).

Now we are starting to see a new wave of archaeological interpretation (Arnold and Hastorf 2007; Demarest 2007; Nielsen and Walker 2009; Orr and Koontz 2009). Even when it had no obvious material or political aim, indigenous warfare or violence was charged with culturally specific meanings, and made sense to both perpetrators and victims. If we can penetrate the cosmovision of the culture involved, we can understand scalping, or child sacrifice, or – (fill in the blank with your favorite atrocity).

There is evidence to support almost all of these stances. Warfare often happened for material reasons; often it had very significant cultural meanings; occasionally, it was even relatively inconsequential and rule-bound. These are empirical, not theoretical issues. But obviously, a political subtext has always informed our visions of indigenous war, and it continues to do so.

The Andes

In the Andes the context of archaeological interpretation is highly politicized. It is the result of five centuries of complex history in which dominant themes have been the ruthless or subtle political, economic, and sexual oppression of indigenous Andeans, and multiple waves of indigenous resistance. Today, despite recent political gains, land redistributions, and cultural movements, poverty and discrimination remain common for those who speak indigenous languages (Gelles 2002). Meanwhile, representations of Andean indigeneity by colonizers, intellectuals, anthropologists, and self-identified indigenous people proliferated, and today continue to form a major site of struggle (Canessa 2005; Guss 2005; Ramos 1998). Prominent among them is a romantic vision of the indigenous subject that has surfaced in various contexts: at moments of nativism, as part of twentieth-century nationalist projects of folklorization (Lauer 1997), and in struggles for power that revolve around identity politics (Hale 1997). Anthropology has been intimately connected to the creation and promotion of these images, as well as their critique (Field 1994; Hale 1994). Here I restrict discussion mainly to Peru and Bolivia, and single out two emblematic characteristics in the imagining of the indigenous subject: violence and spirituality. These traits emerge directly from the twin discourses of representation, as old as European contact, which Alcida Ramos (1994) terms positive “Edenic” and negative “civilizing” discourses.

Fig. 12.1 Andeans practice human sacrifice in Cieza de León's *Crónica del Perú* (Antwerp 1554). Courtesy of the John Carter Brown Library at Brown University

The Violent Andean

Let us start with the generally negative stereotype of Andeans as violent, which goes with characteristics like "primitive," "irrational," and either "doomed to extinction" or "in desperate need of civilizing." This stereotype was formulated in the first European encounters with and conquest of Andeans, including European portrayals of human sacrifice (Fig. 12.1); Adorno 1990), and Spanish chronicles which first evoked warlike, savage aboriginals civilized by the imperial Incas, then rewrote Incas as coercive tyrants (Flores Galindo 1986). It was strengthened by conflicts and indigenous rebellions early in the history of the colony. For instance, the massive uprisings of the 1780s in Peru and Bolivia resulted not only in a very bloody colonial suppression but in the administrative crackdown on all things Andean, from theater and painting to traditional clothing (Flores Galindo 1986). This and many other peasant revolts, land seizures, and violent incidents reinforced a persistent fear of indigenous violence on the part of the *criollo* elite (Poole 1994; Stern 1987).

Throughout nineteenth-century learned discourse, indigenous Andeans were relegated to the margins as if irrelevant to the flourishing *criollo* republics, or characterized

in horrifically negative terms thinly veiled with scientism (Flores Galindo 1986; Millones 2008).[1] But the earliest ethnographies of the twentieth century, including those by North Americans, were hardly better (Thompson 2002:13–14). Bandelier (1910: 19, 34–35) claimed the Aymara were characterized by "savage cruelty" and an "innate ferocity of character" that were only superficially concealed by a submissive manner. La Barre (1948:39–41) claimed they were "truculent, hostile, silent, and unsmiling… capable of extreme cruelty to the point of revenge cannibalism," while Bolivian cholos were likewise characterized by "hostility" and "fantastic brutality". In Peruvian and Bolivian intellectual discourse about the indigenous Andean, as well, savagery, criminality, and hostility to outsiders formed a persistent theme (Nugent 1992).

These negative portrayals were countered by more sympathetic characterizations (of which more later). But they never disappeared, and took on new life since Peru's civil war in the 1980s and early 1990s between government forces and leftist insurgents: the Shining Path (Sendero Luminoso) and the Movimiento Revolucionario Túpac Amaru (MRTA). These movements were led by intellectuals and were Maoist or Marxist in orientation, taking class rather than race as their rallying point. But class and race were overlapping categories. It escaped no one's notice that the *campesinos* (peasants) the Sendero aimed to liberate were poor and of rural extraction and often spoke Quechua – key reasons for the initial spread of the movement in the rural south-central highlands. Hence, to many in Lima, the war underscored the potential of the largely indigenous countryside to explode into horrific violence. Ultimately, both Senderistas and pro-government forces executed Quechua-speaking *campesinos* in huge numbers as example or reprisal killings, and displaced thousands more (CVR Report 2003).[2] In the conflict, the army and paramilitary forces drew on old fears and deep racisms as they brutalized their victims (CVR Report 2003, v. 8 108–113).[3]

[1] For instance, Flores Galindo (1986) cites the eminent Peruvian historian and philosopher Sebastián Lorente, who wrote in his 1855 *Pensamientos sobre el Perú*: "[The natives] lie in ignorance, they are cowardly, indolent, incapable of acknowledging charity, gutless, lazy pickpockets, with no respect for the truth, and without a single elevated sentiment, they vegetate in misery and in their petty concerns, they live in drunkenness and die in lasciviousness" (Lorente 1980[1855]:117). The Peruvian writer Clemente Palma affirmed in 1897 that "The indian race is an old and degenerate branch of the ethnic trunk from which grew all the inferior races. It has all the traits of decrepitude and incapacity for civilized life. Without character, endowed with an almost nonexistent mental life, apathetic, without aspirations… the abyss is enormous that separates the Indian race from the perfectible races" (Palma 1897:14–15).

[2] It is estimated that more than 69,000 Peruvians lost their lives in this conflict, almost half of them in just the province of Ayacucho. More than 75% of those killed were native speakers of Quechua. Torture and rape were favored tactics of intimidation, especially by army forces. The war displaced hundreds of thousands more, resulting in huge waves of migration to Lima and in the reinforcement of great social and political inequalities in the city.

[3] Luis Mujica (2004:11) summarizes, "The armed forces (insurgents or military) imputed the image of 'dangerous' to anything unknown to them. The Andean world was converted into a space of 'natives and savages' and in this manner constituted a threat to the 'New State' from the perspective of the insurgents, or to the state itself from the viewpoint of the forces of order. Andean inhabitants were thus considered '*cholos brutos* [brutish cholos],' '*yana umas* [black faces],' or '*animales*.'"

Yet even while indigenous Andeans made up the overwhelming majority of the victims of violence, a subsidiary consequence of the civil war was the enhanced polarization of the country such that for urbanites, provincial inhabitants became dehumanized, and the highlands converted into a dangerous place of lawless, senseless violence, perhaps rooted in indigenous savagery (Poole 1994:253–4).

Thus, during and after Sendero, the violent potential of the indigenous Andean was part of the Peruvian public imaginary (though certainly not an uncontested part). In *Lituma en los Andes*, a 1993 novel by Mario Vargas Llosa – Peru's most famous author, 1990 presidential candidate, and a prominent conservative voice in Peruvian politics and thought – Senderistas and the army struggle for control over an indigenous highland village, a place where atavistic traditions survive of mountain-worship, sacrificial violence, and cannibalism. This indigenous violence is uniquely disturbing because it is irrational; while Senderistas and the government perform political violence, the Quechua-speaking villagers' acts of human sacrifice are without explanation (Franco 2006).[4] Vargas Llosa's other writings present Peru's civil war as a descent into ancient savagery from a state of civilization (Cohn 2000), and violence by Sendero as a superficially modernized return to patterns of indigenous barbarism (Vich 2002).

Today, Peru is integrated as never before by interregional migration, commerce, and the penetration of cell phone and internet service into many areas formerly considered remote. Yet in public discourse the predominantly indigenous sierra often retains that same quality of backwardness and inscrutability as in *Lituma en los Andes*; it is an imagined space where heinous atrocities are possible and plausible. Accusations of ritual human sacrifice in the rural provinces surface from time to time in the Peruvian and international media (e.g., Associated Press 2004). This trope forms the theme of Patrick Tierney's *The Highest Altar* (1989), a breathless account of the journalist's travels around the southern Andean highlands where, he concludes, ancient forms of human sacrifice are still rife. Even academic discussions of riots or vigilante executions in the provinces sometimes make reference to ancient traditions of ritual battle or sacrificial violence (e.g., Galdo 2007:272; San Martín 2002). In these accounts, the lines between ancient and contemporary violence, or between accusation and reality, seem blurry and perhaps irrelevant. In November 2009, General Félix Murga, Peru's chief of criminal investigations, caused a furor when he announced the seizure of a gang of criminals who had captured up to 60 wayfarers on lonely country roads in parts of Huánuco province,

[4] Some aspects of this portrayal were apparently based on Vargas Llosa's experience leading a 1983 inquest into the massacre of eight Lima journalists at the provincial village of Uchuraccay (journalists who may have been mistaken for Senderistas). The resulting report (Vargas Llosa et al. 1983) stressed the intrinsically violent culture of the indigenous people of the Uchuraccay area as a primary explanatory factor (Theidon 2000:544). Of the inquest, Vargas Llosa later wrote, "The violence that we observed surprises us because in our daily life it is anomalous. For the [indigenous] Iquichanos, that violence is the atmosphere in which they move from birth to death" (Vargas Llosa 1990, cited in Franco 2006:174).

killed them, and rendered their fat for sale to the European cosmetics industry (Engber 2009). This astonishingly lurid crime was an obvious evocation of the legendary white demon figure of the *pishtaco* or *kharisiri*, who lurks on isolated roads at night and lures Andean victims to their death to plunder their fat.[5] The story broke down under closer investigation, and apparently arose as an elaborate hoax mounted to deflect attention from police violence in Trujillo (Chauvin 2009). Naturally, the original story was reported much more widely than its later debunking; like other stories about violence in the Andean provinces, it resonated with explosive connotations, encapsulating the possibility that in remote Huánuco, the most horrific of legends could be true.

Meanwhile, since the 1980s and 1990s indigenous identity has become a rallying point in many parts of Latin America (Albó 1991; Hale 1994; Jackson and Warren 2005), and externally imposed stereotypes have circulated back to be reappropriated and reworked by indigenous activists (Clifford 1988). In *indianismo* movements in Bolivia and Ecuador, where race has been mobilized more actively and successfully than in Peru (Albó 1991; Gelles 2002), the idea of indigenous violence is revalorized: it is tied not to pre-Columbian sacrificial rituals, but to a glorified history of militant resistance (see Chap. 11). For example, Aymara politicians, intellectuals, and activists hearken back to the iconic figure of Tupac Katari, leader of a rebellion in 1781 (Fig. 12.2); Albó 1987; Rivera Cusiquanqui 2003).[6] Despite acute and often violent conflict between indigenous factions in the rebellions of the 1780s (Thompson 2002), these wars are now presented as race wars, monolithic tales of resistance to colonial oppressors.

In this context, acts of "indigenous" violence can resonate both as examples of primitive barbarity and dramatic shows of resistance. Daniel Goldstein traces the multivalent meanings of dozens of lynchings of purported criminals in impoverished neighborhoods of Cochabamba in Bolivia (Goldstein 2004; Goldstein and Castro 2006). These communal acts of vigilante justice (*justicia comunitaria*) not only deter other delinquents and call attention to under-policing; they also send a defiant warning to outsiders that residents are unified, tough, and potentially violent. They are intentionally publicized by the communities to the local media, which covers them in gruesome detail, portraying the lynchers as savage and backward, but also deserving of respect for their fierce defense of their community.

More subtle evocations of militancy and "toughness" surface in contemporary performances of *tinku* battles, a traditional part of annual religious festivals in several parts of Ecuador, Peru, and Bolivia. On the one hand, as Orlove (1994) argues, tinku can serve partly as a demonstration to outsiders and governmental authorities of the community's toughness and potential for violence; on the other, it can be

[5] Pishtacos, who are commonly envisioned as white or *criollo*, symbolize the bloodthirsty violence that figures in indigenous Andean stereotypes of non-indigenous outsiders, stereotypes grounded in histories of exploitation and brutality (see Canessa 2000; Portocarerro 1991; Weismantel 2001).

[6] Tupac Amaru II, leader of the contemporaneous 1780 rebellion in Peru, also has had an iconic status; he was claimed as forefather by Velasco's government and the revolutionary MRTA alike.

Fig. 12.2 Supporters of Bolivian president Evo Morales' referendum election display posters linking the Aymara leader to Tupac Katari and the 1781 rebellion ("Katari, la rebelión. Evo, la revolución"). Photo by Agencia Boliviana de Información (ABI), 2008

marketed by the cultural tourism industry as an exciting, shocking spectacle of primitive savagery. For instance, in recent years a growing number of foreign tourists come to the rural Bolivian village of Macha to ogle at the fighting, contemplate its inscrutable barbarity, and spend money, placing the people of Macha in an unsettling predicament (Keane 2007). Archaeologists must tread carefully in this territory, where any finding of pre-Hispanic violence is prone to be reported with tabloid excitement (Gwin 2004; Popson 2002).

The Spiritual Andean

Standing in contrast to the image of the violent Andean is the spiritual Andean. This image was first evoked by defenders of indigenous Andeans of the Early Colonial period such as Guamán Poma and Bartolomé de las Casas, who portrayed Indians as innocent, worthy, and devout (once Christianized). Although occasional sympathetic portrayals of indigenous Andeans surfaced in the succeeding centuries (Coronado 2009:5–6), developments of the twentieth century especially conspired to revalorize Andeans through an emphasis on Andean spirituality, usually conceptualized as ancient and authentic spirituality.

The first such development was *indigenismo*, a romanticized "orientalism" of Andean indigeneity which reached a height in 1920s and 1930s among urban intellectuals and artists. Leftist politics were married to a celebration of Andean culture and especially, its ancient and glorious past (e.g., Valcárcel 1927; see de la Cadena 2000; Salomon 1985). This positive reconceptualization of an imagined Andean Other valorized "Andean" rituals, festivals, and beliefs, endowed these cultural expressions with authenticity, and made indigeneity part of the Peruvian nationalist project (Coronado 2009). It inspired a generation of *folkloristas* (such that indigenous Andean identity is closely associated with festival performance, handicrafts, and shamanism; Lauer 1997) and left a permanent mark on Peruvian literature, anthropology, and thought. Decades later, the hugely influential *indigenista* novelist Jose Maria Arguedas portrayed Indians as childlike victims of oppression, connected to a magical Andean landscape inhabited with spirits.[7]

The movement laid the groundwork for a wave of structuralist-influenced Andean anthropology by (mostly) North Americans, as well as some Peruvians, from the 1960s to the early 1990s (Starn 1991; e.g., Abercrombie 1998; Allen 1988; Bastien 1978; Gose 1994; Isbell 1978; Meyerson 1990; Skar 1982; see also the historical anthropology of Bouysse-Cassagne 1978; Platt 1986; Zuidema 1964, etc.). Many were wonderful ethnographies of close-knit, largely indigenous rural villages. In these works, Quechua- or Aymara-speaking villagers use strong kin ties, reciprocity, the comforting small rituals of daily life, and the yearly round of major ceremonies to make their hardscrabble existence livable and meaningful. Their rugged landscape is interwoven with sacredness, spirits, memory, and the overarching invisible meanings of the cosmos. Anthropologists influenced by symbolic anthropology particularly emphasized rituals (Bastien 1978; Millones 1975; Nuñez del Prado 1974) and deep symbolic structures of cosmology, gender, and kinship (Bouysse-Cassagne 1978; Harris 1978; Platt 1986; Zuidema 1964). More recent ethnographies too highlight traditional ritual as a defining feature of Andean indigenous identity, and perhaps the key to its survival (Bolin 1998; Field 1994; Gose 1994; Millones 2008; Rasnake 1988) While these works acknowledge that conflict exists (particularly with non-indigenous neighbors and outsiders), the structuralist orientation of many of the most influential Andean ethnographies helped shape a vision of Andean social worlds as stable, resilient, deeply spiritual, and basically harmonious. Starn (1991, 1994) has scathingly argued that anthropologists invested so heavily in this vision of Andean communities that they had no inkling of Peru's coming civil war, even up to its very brink. Certainly, such works were susceptible to oversimplification, inspiring a generation of documentaries in which pan-pipes echo from misty mountain peaks while narrators intone truisms about the immediacy of the spirit world to Andeans.

In recent years, this crudely overblown version of the spiritual Andean has proliferated in representations by tour operators, nationalist promoters, and purveyors

[7] Galdo (2007) contrasts Vargas Llosa's horrific portrayal of an Andean sacrifice (1993) with the celebratory and deeply spiritual Andean sacrifice of the bull in Arguedas' *Yawar Fiesta* (1958).

of all things folkloric (van den Berghe and Flores Ochoa 2000). The desires of foreign tourists, including New Age tourists, for an uncorrupted, exotic opposite to all Western civilized vices (Ramos 1998), go hand in hand with the strategic essentialism of "indigenous" subjects (Spivak 1987) to construct the fantasy of the spiritual Andean. For instance, former Peruvian president Alejandro Toledo, who self-identified as indigenous, chose to be sworn into office at Machu Picchu with "two Inca priests," "traditional" sacrifices, and other references to purported Inca rituals of legitimacy (Silverman 2002). Here and elsewhere, newly invented traditions, a la Hobsbawm (1983), have created new sacred mountains, rituals, and legends which claim authenticity in the deep past (e.g., Silverman 2002:896). In Peruvian state-produced promotional materials, the country is described as "magical" and "mystical," in harmony with nature, and unchanged from its pre-conquest origins (Vich 2007). These visions conspire to form a pre-Columbian past in which violence has no place, to the absurd extent that Peruvian guides may inform tourists that the Incas lacked the concept of war before the arrival of the Europeans (Richard Chacon pers. comm. 2011).

The Dilemma for Archaeology

In the oversimplified terms of the public imagination, the violent Andean is opposed by the spiritual Andean. These problematic tropes, essentialist, homogenizing, and static, are so deeply embedded in the strategies of representation of multiple actors that they are impossible to avoid. Their existence politicizes archaeological interpretation while impoverishing the space of its possibilities.

The intellectual traditions of Andean archaeology make us particularly cautious about past violence. With no native pre-conquest histories to guide inquiry, Andean archaeology by North Americans has long been influenced by the positive but often ahistorical visions derived from structuralism, cultural ecology, and symbolic anthropology. Despite nearly 20 years of critique of the concept of "lo Andino" or a unique and homogenous Andean culture (e.g., Poole 1992; Starn 1991), archaeologists still contend with the impression of fundamental enduring principles of Andean life (Gelles 2002) – perhaps a peasant mode of production incorporating vertical ecological adaptation, perhaps some basic elements of cosmology and ritual propitiation to ensure fertility, perhaps the reciprocity that knits *ayllu* communities together (see Isbell 1995). In its emphasis on the regulation of social, ecological, and cosmic orders, this bundle of perspectives is not particularly receptive to conflict. Among Peruvian and Bolivian archaeologists, Marxism and historical materialism have been dominant theoretical perspectives for decades, emerging in the school of thought known as Latin American social archaeology (Lumbreras 1974, 2002; see Patterson 1994; Politis 2003). While in principle the Marxist orientation of many South American archaeologists might have led them to develop a greater interest in pre-Columbian conflict than their North American colleagues, in practice the committed political engagement of Latin American social archaeology encourages the presentation of pre-Columbian indigenous achievement in a uniformly favorable

light. Hence, much archaeology of the central Andes, insofar as it presents a political vision of native Andeans, can be placed squarely in the tradition of indigenismo and the anthropological valorization of Andeans that took place from the 1960s onward.

Archaeological evidence for violence sits uneasily with this disciplinary tradition, generating plentiful (if productive) arguments among archaeologists (Arkush and Stanish 2005). In these arguments, the violent Andean and the spiritual Andean hover in the background. Archaeological interpretations of violence tend to be disputed, or neutralized, by alternative interpretations as ritual (never mind that there is plenty of overlap between the two realms; Arkush and Stanish 2005). When the fact of violence cannot be disputed, the manner is: it was violence that was so ritualized it does not really count as "violence." My interlocutors at conferences are haunted by the specter of the violent Andean, so they replace him with the spiritual Andean; I can't stand the romantic essentialism of the spiritual Andean, and prefer a violent Andean who has mitigating circumstances. I have argued that warfare in the age of pukaras, at least at the onset, was related to a period of severe drought and resource unpredictability (Arkush 2008). In other words, warfare was not barbaric mayhem or inherent cultural logic, but a reasonable if deadly step taken in conditions of great stress and hardship. There was nothing especially murderous about these Andeans; they were just in the wrong place at the wrong time. It is hard to assess how much my materialist (rather than culturalist) approach to the violence of the period owes to a half-conscious attempt to dispel the long shadow of the violent Andean.

Longstanding debates over "trophy heads" are another good example of this dilemma for interpretation. In Andean iconography, disembodied heads (sometimes decapitated with a knife, sometimes suspended by a cord) were a long-lived symbol of power or ritual potency, perhaps connected to fertility (Carmichael 1994; Proulx 2001). Disembodied heads were portrayed being held by powerful figures in Cupisnique and late Paracas traditions by around 500 BC or earlier (Cordy-Collins 1992; Paul 2000). This iconographic theme reached its apogee in the Nazca river valleys on the south coast (ca. 1–750 AD), then continued in the Middle Horizon states, and afterwards was taken up in the southern fringes of the Andes, even while it died out elsewhere. These images correspond to archaeological examples of disembodied crania. Though they are known from several regions, by far the most numerous are from the Nazca drainages. They have holes in the forehead for cords, and those that are well preserved often show signs of elaborate processing, including defleshing and probable reconstruction of the face (Kellner 2002:91; Verano 1995). Heads are much more commonly from men than from women and children (Tung 2007; Verano 1995). They were often carefully wrapped in cloth before being deposited in caches, structures, or graves.

Were these heads the product of violence, and if so, what kind of violence? The positions in this conversation have changed over the last hundred years, following not only accumulating evidence, but the politics of interpretation. Uhle (1914, 1918) and Tello (1918), the first Andeanists to identify Nasca heads in the iconographic and archaeological records, marked out interpretive positions corresponding to violent and spiritual visions of the Nasca, respectively. Uhle coined the term "trophy heads," arguing the heads were taken from enemies slain in war. That interpretation

has remained popular, particularly among North American archaeologists (e.g., Proulx 1989, 2001; Sawyer 1966; Verano 1995). It is supported by cross-cultural analogy in general (Chacon and Dye 2007) and possible connections in particular to highland Bolivian and northern Amazonian practices of the ethnographic present (Proulx 1999; Uhle 1914, 1918). Tello, who was strongly influenced by the indigenismo movement, emphasized that the heads had a ritual significance beyond simple militarism; they were sacred fetishes, concentrated sources of power and magic. That stance too has ample supporting evidence; it seems clear that no matter how they were taken, heads were used for ritual purposes (e.g., Arnold and Hastorf 2007; Conlee 2007; Knudson et al. 2009). In addition, a few scholars, including (but not exclusively) South American archaeologists, suggest that at least some heads were not taken in combat at all, but rather were the curated heads of revered ancestors, implying a more peaceful vision of Nasca people (Baryabar 1987; Browne et al. 1993; Carmichael 1988, 1995; Coelho 1972). There is precedent for this argument as well, for at the time of the Spanish conquest, the dead bodies of important ancestors were kept and worshipped in the Andean highlands, and some earlier cultures had kept and manipulated parts of ancestral bodies, especially heads (e.g., Kaulicke 1997; Millaire 2001; Santoro et al. 2005). Some have suggested that ancestor heads first predominated, and later on, trophy heads became dominant (Arnold and Hastorf 2007; Browne et al. 1993).

New evidence has continually reshaped the discussion. Surveys have shown that Nasca villages were small and undefended (Schreiber and Lancho Rojas 2003; Reindel 2009), and rates of skeletal trauma are moderate, including injuries on trophy heads themselves[8] (Kellner 2002). Skeletal isotopes suggest the heads were taken from Nasca people rather than foreign populations (Knudson et al. 2009). But Valdez' recent find (2009) of 71 decapitated, bound prisoners, carelessly deposited where they fell in a central structure of a fortified village in the Acarí valley around 100 BC, as well as Tomasto's report (2009) of a young decapitated Paracas man, wounded by a projectile point, cast strong doubt on peaceful interpretations of disembodied heads earlier in the south coastal sequence. Still, there is room for debate: given that heads were taken violently, what kinds of rules and rituals governed their taking? Were heads taken in raids pursued for primarily non-ritual reasons such as revenge or territorial conflict (Proulx 1989, 2001; Verano 1995), or in *tinku*-like "ritual battles" arranged specifically for the purpose (Browne et al. 1993; Silverman 1993)? Did practices of combat and decapitation change over time? The interpretation that researchers favor will have much to do with their attitude towards those apparitions, the violent Andean and the spiritual Andean.

To conclude: the nature of our times means that violence and warfare in the Andean past is political. Any archaeological argument about violence is indirectly

[8] The incidence of fractures on combined trophy heads reported by Verano (1995), Kellner (2002), and Forgey and Williams (2005) is about 10% (8 out of 79 adult crania), comparable to rates in the general Nasca population (Kellner 2002). These studies may underestimate trauma on trophy heads somewhat, because the posterior portion of some Nasca trophy skulls was removed (Kellner 2002), meaning wounds on those portions would not be detectable.

affected by the ways in which "indigenous Andeans" are imagined and represented. Our first responsibility is to the data, but that is cold comfort when data are interpretable in different plausible ways. On the surface, arguments about Andean violence and warfare have been about evidence. Underneath, they have also been about politics. This makes it harder to discuss ancient violence in a way that acknowledges the complex humanity of its practitioners, neither impugning them nor falsely prettifying them. By pointing out this problem, I wish not to condemn the field or critique the various, creative ways in which archaeologists have engaged with violence in the Andean past, just to open the curtains and let in some air.

We cannot extricate ourselves from our political context. We should not depart from doing archaeology that celebrates the histories of pre-Columbian Andeans. But we can at least recognize that our debates about violence are framed in part by the violent Andean and the spiritual Andean who perch like a cartoon devil and an angel on our shoulders, urging us towards visions of the Andean past that are too black and too white. A wealth of new data is beginning to reveal the ways in which violence and warfare emerged, varied, and were invented anew as specific histories of demography, economy, political relationships, and symbolism unfolded. Tracing these histories will entail being wary of Andean essentialism, and employing its truisms cautiously. Although we cannot look at the past fresh as though subsequent history had never happened, we can remember that then, it had not happened yet.

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References

Abercrombie, T. A. (1998). *Pathways of Memory and Power: Ethnography and History among an Andean People*. Madison: University of Wisconsin Press.

Adorno, R. (1990). The Depiction of Self and Other in Colonial Peru. *Art Journal* 49(2): 110–118.

Albó, X. (1987). From MNRistas to Kataristas to Katari. In: *Resistance, Rebellion, and Consciousness in the Andean Peasant World: 18th to 20th Centuries*. S. Stern (ed.). Pp. 379–419. Madison: University of Wisconsin Press.

Albó, X. (1991). El retorno del Indio. *Revista Andina* 9(2): 299–345.

Allen, C. J. (1988). *The hold life has: Coca and cultural identity in an Andean community*. Washington, D.C.: Smithsonian Institution Press.

Arguedas, J. M. (1958). *Yawar Fiesta*. Lima: Editorial Juan Mejía Baca.

Arkush, E. (2006). Collapse, conflict, conquest: The transformation of warfare in the late prehispanic Andean highlands. In: *The Archaeology of Warfare: Prehistories of Raiding and Conquest.* E. Arkush and M. W. Allen (eds.). Pp. 286–335. Gainesville: University Press of Florida.

Arkush, E. (2008). War, chronology, and causality in the Titicaca Basin. *Latin American Antiquity* 19(4): 339–373.

Arkush, E. (2011). *Fractured Landscapes: Colla Hillforts of the Ancient Andes*. Gainesville: University Press of Florida.

Arkush, E., and C. Stanish. (2005). Interpreting conflict in the ancient Andes: implications for the archaeology of warfare. *Current Anthropology* 46(1): 3–28.
Arnold, D. Y., and C. A. Hastorf. (2007). *Heads of State: Icons, Power, and Politics in the Ancient and Modern Andes*. Walnut Creek, CA: Left Coast Press.
Associated Press. 2004. Decapitated infant found in Peru may have been human sacrifice. February 5.
Bandelier, A. (1910). *The Islands of Titicaca and Koati*. New York: The Hispanic Society of America.
Baryabar, J. P. (1987). Cabezas trofeo Nasca: nuevas evidencias. *Gazeta Arqueológica Andina* 15: 6–10.
Bastien, J. W. (1978). *Mountain of the Condor: Metaphor and Ritual in an Andean Ayllu.* Prospect Heights, IL: Waveland Press.
van den Berghe, P. L., and J. Flores Ochoa. (2000). Tourism and nativistic ideology in Cuzco, Peru. *Annals of Tourism Research* 27(1): 7–26.
Bertonio, L. (1986). *Vocabulario de la lengua Aymara*. La Paz, Bolivia: CERES, IFEA, and MUSEF.
Bolin, I. (1998). *Rituals of respect : the secret of survival in the high Peruvian Andes*. Austin: University of Texas Press.
Bouysse-Cassagne, T. (1978). L'éspace Aymara: urco et uma. *Annales; Economies, Sociétés, Civilisations* 5–6: 1057–1080.
Browne, D., H. Silverman, and R. Garcia. (1993). A cache of 48 Nasca trophy heads from Cerro Carapo, Peru. *Latin American Antiquity* 4(3): 274–294.
de la Cadena, M. (2000). *Indigenous mestizos: The politics of race and culture in Cuzco, Peru, 1919–1990*. Durham: Duke University Press.
Canessa, A. (2000). Fear and Loathing on the Kharisiri Trail: Alterity and Identity in the Andes. *The Journal of the Royal Anthropological Institute* 6(4): 705–720.
Canessa, A. (2005). *Natives Making Nation: Gender, Indigeneity and the State in the Andes*. Tucson: University of Arizona Press.
Carmichael, P. (1988). Nasca Mortuary Customs: Death and Ancient Society on the South Coast of Peru. Ph.D. dissertation, University of Calgary.
Carmichael, P. (1994). The Life from Death Continuum in Nasca Imagery. *Andean Past* 4: 81–90.
Carmichael, P. (1995). Nasca burial patterns: Social structure and mortuary ideology. In: *Tombs for the Living: Andean Mortuary Practices.* T. D. Dillehay (ed.). Pp.161-187. Washington DC: Dumbarton Oaks.
Chacon, R. J., Y. Chacon, and A. Guandinango. (2007). The Inti Raymi festival among the Cotacachi and Otavalo of Highland Ecuador: Blood for the earth. In: *Latin American Indigenous Warfare and Ritual Violence.* R. J. Chacon and R. G. Mendoza (eds.). Pp. 116–141. Tucson: University of Arizona Press.
Chacon, R. J., and D. H. Dye. (2007). *The Taking and Displaying of Human Body Parts and Trophies by Amerindians*. New York: Springer.
Chagnon, N. A. (1968). *Yanomamö: The Fierce People*. New York: Holt, Rinehart and Winston.
Chauvin, L. (2009). Peru's Fat-Stealing Gang: Crime or Cover-Up? *Time*, December 1.
Clifford, J. (1988). *The Predicament of Culture: Twentieth-century Ethnography, Literature, and Art*. Cambridge: Harvard University Press.
Coelho, V. P. (1972). Enterramentos de cabeças da cultura Nasca. Universidad de São Paulo, Brazil.
Cohn, D. (2000). 'Regreso a la barbarie': Intertextual Paradigms for Peru's Descent into Chaos in Lituma en los Andes. *Latin American Literary Review* 28(55): 27–45.
Conlee, C. A. (2007). Decapitation and Rebirth: A Headless Burial from Nasca, Peru. *Current Anthropology* 48(3): 438–445.
Cordy-Collins, A. K. (1992). Archaism or tradition? The decapitation theme in Cupisnique and Moche iconography. *Latin American Antiquity* 3(3): 206–220.
Coronado, Jorge. 2009. *The Andes Imagined: Indigenismo, Society, and Modernity*. Pittsburgh: University of Pittsburgh Press.

Covey, R. A. (2008). Multiregional perspectives on the archaeology of the Andes during the Late Intermediate Period (c. AD 1000–1400). *Journal of Archaeological Research* 16: 287–338.

(CVR), Comisión de la Verdad y de la Reconciliación. 2003. Informe Final de la Comisión de la Verdad y Reconciliación. Lima.

De la Vega, E., K. L. Frye, and T. Tung. (2005). The Cave Burial from Molino-Chilacachi. In: *Advances in the Archaeology of the Titicaca Basin.* C. Stanish, A. Cohen, and M. Aldenderfer (eds.). Pp. 185–196. Los Angeles: Cotsen Institute of Archaeology Press, UCLA.

Demarest, A. A. (2007). Ethics and Ethnocentricity in Interpretation and Critique: Challenges to the Anthropology of Corporeality and Death. In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* R. J. Chacon and D. H. Dye (editors). Pp. 591–617. New York: Springer.

Dickson-Gomez, J. (2003). Growing up in Guerilla Camps: The Long-term Impact of Being a Child Soldier in El Salvador's Civil War. *Ethos* 30(4): 327–356.

Engber, D. (2009). A mysterious crime in Peru revives a vampire legend that's more than 400 years old. *Slate Magazine*, December 17. http://www.slate.com/id/2239003/.

Field, L. W. (1994). Who are the Indians? Reconceptualizing indigenous identity, resistance, and the role of social science in Latin America. *Latin American Research Review* 29(3): 237–248.

Flores Galindo, A. (1986). *Buscando un inca: Identidad y utopía en los Andes*. Lima: Editorial Horizonte.

Forgey, K., and S. R. Williams. (2005). Were Nasca trophy heads war trophies or revered ancestors? Insights from the Kroeber Collection. In: *Interacting with the Dead: Perspectives on Mortuary Archaeology for the New Millenium*. G. F. M. Rakita, J. E. Buikstra, L.A. Beck, and S. R. Williams (eds.). Pp. 251–276. Gainesville: University of Florida Press.

Franco, J. (2006). 'Alien to Modernity': The Rationalization of Discrimination. *Journal of Latin American Cultural Studies* 15(2): 171–181.

Galdo, J. C. (2007). Rituales sangrientos: Poéticas y políticas del sacrificio en José María Arguedas y Mario Vargas Llosa. *Revista de Crítica Literaria Latinoamericana* 33(65): 265–276.

Gelles, P. H. (2002). Andean Culture, Indigenous Identity, and the State in Peru. In: *The Politics of Ethnicity: Indigenous Peoples and Latin American States.* D. Maybury-Lewis (ed.). Pp. 239–266. Cambridge: Harvard university Press.

Goldstein, D. M. (2004). *The Spectacular City: Violence and Performance in Urban Bolivia*. Durham: Duke University Press.

Goldstein, D. M., and F. W. Castro. (2006). Creative Violence: How Marginal People Make News in Bolivia. *The Journal of Latin American Anthropology* 11(2): 380–407.

Gose, P. (1994). *Deathly Waters and Hungry Mountains: Agrarian Ritual and Class Formation in an Andean Town*. Toronto: University of Toronto Press.

Guss, D. M. (2005). *The festive state: race, ethnicity, and nationalism as cultural performance*. Berkeley: University of California Press.

Gwin, P. (2004). Peruvian temple of doom. *National Geographic* 7 (July):102–17.

Hale, C. R. (1994). Between Che Guevara and the Pachamama: Mestizos, Indians and identity politics in the anti-quincentenary campaign. *Critique of Anthropology* 14(1): 9–39.

Hale, C. R. (1997). Cultural politics of identity in Latin America. *Annual Review of Anthropology* 26(1): 567–590.

Harris, M. (1974). *Cows, Pigs, Wars, and Witches: The Riddles of Culture*. New York: Vintage Books.

Harris, O. (1978). Complementarity and conflict: an Andean view of women and men. In: *Sex and Age as Principles of Social Differentiation.* J. Lafontaine (ed.). Pp. 21–40. London: Academic Press.

Hobsbawm, E. (1983). Introduction: Inventing Tradition. In: *The Invention of Tradition.* Ranger, T., and Hobsbawm, E. (eds.). Cambridge University Press, Cambridge.

Isbell, B. J. (1978). *To Defend Ourselves: Ecology and Ritual in an Andean Village*. Austin: University of Texas Press.

Isbell, W. H. (1995). Constructing the Andean Past, or, "As You Like It.". *Journal of the Steward Anthropological Society* 23(1–2): 1–12.

Jackson, J. E., and K. B. Warren. (2005). Indigenous movements in Latin America, 1992–2004: Controversies, Ironies, New Directions. *Annual Review of Anthropology* 34(1): 549–573.
Juengst, S., and S. J. Chávez. (2011). After the Fall: Trauma and Labor in the Late Intermediate Period at Ch'isi. Poster presented at the 76th annual SAA meeting, Sacramento.
Kaulicke, P. (1997). La muerte en antiguo Perú. Contextos y conceptos funerarios: una introducción. *Boletín de Arqueología PUCP*(1): 7–54.
Keane, D. (2007). Ancient Bolivian Fighting Festival Confronts the Outside World. *Associated Press.* May 17 2007.
Keeley, L. H. (1996). *War Before Civilization*. New York: Oxford University Press.
Kellner, C. (2002). *Coping with environmental and social challenges in prehistoric Peru: Bioarchaeological analyses of Nasca populations.* PhD dissertation, University of California, Santa Barbara.
Knudson, K. J., S. R. Williams, R. Osborn, K. Forgey, and P. R. Williams. (2009). The geographic origins of Nasca trophy heads using strontium, oxygen, and carbon isotope data. *Journal of Anthropological Archaeology* (11):244–257.
La Barre, W. (1948). *The Aymara Indians of the Lake Titicaca Plateau*. Menasha, Wis.: American Anthropological Association.
Lauer, M. (1997). *Andes imaginarios: Discursos del indigenismo-2*. Lima: Sur Casa de Estudios de Socialismo.
Lorente, S. (1980 [1855]). *Pensamientos sobre el Perú republicano del siglo XIX*. Lima: Universidad de San Marcos.
Lumbreras, L. G. (1974). *La Arqueologia como ciencia social*. Lima: Ediciones Histar.
Lumbreras, L. G. (2002). La arqueologia testimonial. *Gaceta Arqueológica Andina* 26: 5–12.
Meggitt, M. (1977). *Blood Is Their Argument*. Palo Alto, CA: Mayfield.
Meyerson, J. (1990). *'Tambo: Life in an Andean Village*. Austin: University of Texas Press.
Millaire, J-F. (2001). The Manipulation of Human Remains in Moche Society: Delayed Burials, Grave Reopening, and Secondary Offerings of Human Bones on the Peruvian North Coast. *Latin American Antiquity* 15(4): 371–388.
Millones, L. (1975). El mundo sobrenatural de Yaután. *Folklore Americano* 19: 141–50.
Millones, L. (2008). *Perú Indígena: Poder y religión en los Andes centrales*. Lima: Fondo Editorial del Congreso del Perú.
Mishkin, B. (1940). Cosmological Ideas among the Indians of the Southern Andes. *The Journal of American Folklore* 53(210): 225–241.
Mujica, L. (2004). Entre la memoria y la utopia. Experiencias y perspectivas desde el Informe final de la Comisión de la Verdad y Reconciliación del Perú. Paper presented at the Groupe de Recherches Interdisciplinaires sur l'Amérique Latine, Université Catholique de Louvain.
Nielsen, A. E. (2001). Evolución Social en Quebrada de Humahuaca (AD 700–1536). In: *Historia Argentina Prehispánica.* E. Berberián and A. Nielsen (eds.). Pp. 171–264. Córdoba, Argentina: Editorial Brujas.
Nielsen, A., and W. Walker. (2009). *Warfare in Cultural Context: Practice, Agency, and the Archaeology of Violence*. Tucson: University of Arizona Press.
Nordstrom, C. (1997). *A Different Kind of War Story*. Philadelphia: University of Pennsylvania Press.
Nugent, J. G. (1992). *El laberinto de la choledad*. Lima: Fundación Friedrich Ebert.
Nuñez del Prado, J. V. (1974). The Supernatural World of the Quechua of Southern Peru As Seen from the Community of Qotobamba. In: *Native South Americans.* P. Lyon (ed.). Boston: Little, Brown.
Orlove, B. (1994). Sticks and Stones: Ritual Battles and Play in the Southern Peruvian Andes. In: *Unruly Order: Violence, Power, and Cultural Identity in the High Provinces of Southern Peru.* D. Poole (ed.). Pp. 133–64. Boulder, CO: Westview Press.
Orr, H., and R. Koontz (eds.). (2009). *Blood and Beauty: Organized Violence in the Art and Archaeology of Mesoamerica and Central America*. Los Angeles: Cotsen Institute of Archaeology Press.
Otterbein, K. (2000). A History of Research on Warfare in Anthropology. *American Anthropologist* 101(4): 794–805.

Palma, C. (1897). El porvenir de las razas en el Perú. Tésis de Bachiller. Lima: Universidad Nacional Mayor de San Marcos.

Patterson, T. C. (1994). Social Archaeology in Latin America: An Appreciation. *American Antiquity* 59(3): 531–537.

Paul, A. (2000). Bodiless Human Heads in Paracas Necrópolis Textile Iconography. *Andean Past* 6: 69–94.

Platt, T. (1986). Mirrors and Maize: The Concept of Yanantin among the Macha of Bolivia. In: *Anthropological History of Andean Polities*. J. Murra, N. Wachtel, and J. Revel (eds.). Pp. 228–59. Cambridge: Cambridge University Press.

Politis, G. G. (2003). The Theoretical Landscape and the Methodological Development of Archaeology in Latin America. *American Antiquity* 68(2): 245–272.

Poole, D. (1992). Antropología e historias andinas en los EE.UU: Buscando un reencuentro. *Revista Andina* 10: 209–45.

Poole, D. (1994). Peasant Culture and Political Violence in the peruvian Andes: Sendero Luminoso and the State. In: *Unruly Order: Violence, Power, and Cultural Identity in the High Provinces of Southern Peru*. D. Poole (ed.). Pp. 247–281. Boulder, CO: Westview Press.

Poposil, L. (1994). I am very sorry I cannot kill you anymore: war and peace among the Kapauku. In: *Studying War: Anthropological Perspectives*. S. P. Reyna and R. E. Downs (eds.). Pp. 113–126. Langhorne, PA: Gordon and Breach.

Popson, C. (2002). Grim rites of the Moche. *Archaeology Magazine* 55(2):30–35, March/April.

Portocarrero, G. (1991). *Sacaojos. Crisis social y fantasmas coloniales.* Lima: Tarea.

Proulx, D. A. (1999). Kopfjagd und rituelle Verwendung von Trophäenköpfen in der Nasca-Kultur. In: *Nasca: Geheimnisvolle Zeichen im Alten Peru*. J. Rickenbach (ed.). Pp. 79–87. Zurich: Museum Reitberg.

Proulx, D. (1989). Nasca Trophy Heads: Victims of Warfare or Ritual Sacrifice? In: *Cultures In Conflict: Current Archaeological Perspectives. Proceedings of the Twentieth Annual Conference of the Archaeological Association of the University of Calgary*. D.C. Tkaczuk and B. C. Vivian (eds.). Pp. 73–85. Proceedings of the Twentieth Annual Conference of the Archaeological Association of the University of Calgary. Calgary: University of Calgary Archaeological Association.

Proulx, D. (2001). Ritual uses of trophy heads in ancient Nasca society. In: *Ritual Sacrifice in Ancient Peru*. E. Benson and A. Cook (eds.). Pp. 119–136. Austin: University of Texas Press.

Ramos, A. (1994). From Eden to limbo: The construction of indigenism in Brazil. In: *Social Construction of the Past: Representation as Power.* G. C. Bond and A. Gilliam (eds.). Pp. 74–88. London: Routledge.

Ramos, A. (1998). *Indigenism: Ethnic politics in Brazil*. Madison: University of Wisconsin Press.

Rappaport, R. A. (1968). *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People*. New Haven: Yale University Press.

Rasnake, R. N. (1988). *Domination and Cultural Resistance: Authority and Power Among Andean People*. Duke University Press.

Reindel, M. (2009). Life at the Edge of the Desert – Archaeological Reconstruction of the Settlement History in the Valleys of Palpa, Peru. In: *New Technologies for Archaeology.* Reindel, M., and G. Wagner (eds.). Pp. 439–461. Berlin: Springer.

Rivera Cusiquanqui, S. (2003). *Oprimidos pero no vencidos. Luchas del campesinado aymara y quechua, 1900–1980*. La Paz: Hisbol.

Roscoe, P. (1996). War and society in Sepik New Guinea. *Journal of the Royal Anthropological Institute* 2(4): 645–666.

Salomon, F. (1985). The Historical Development of Andean Ethnology. *Mountain Research and Development* 5(1): 79.

San Martín M., J. (2002). Ritual conflict (tinku) and vindication of indigenous rights in Bolivia. *Mountain Research and Development* 22(4): 394–396.

Santoro, C. M., V. G. Standen, B. T. Arriaza, and T. D. Dillehay. (2005). Archaic Funerary Pattern or Postdepositional Alteration? The Patapatane Burial in the Highlands of South Central Andes. *Latin American Antiquity* 16(3): 329–346.

Sawyer, A. R. (1966). *Ancient Peruvian Ceramics: The Nathan Cummings Collection*. New York: The Metropolitan Museum of Art.

Schreiber, K., and J. Lancho Rojas. (2003). *Irrigation and Society in the Peruvian Desert: The Puquios of Nasca*. Lanham MD.: Lexington Books.

Silverman, H. (1993). *Cahuachi in the Ancient Nasca World*. Iowa City: University of Iowa Press.

Silverman, H. (2002). Touring Ancient Times: The Present and Presented Past in Contemporary Peru. *American Anthropologist* 104(3): 881–902.

Skar, H. (1982). *The Warm Valley People: Duality and Land Reform among the Quechua Indians of Highland Peru*. New York: Clumbia University Press.

Solometo, J. (2006). The dimensions of war: Conflict and culture change in central Arizona. In: *The Archaeology of Warfare: Prehistories of Raiding and Conflict*, E. Arkush and M. W. Allen (eds.). Pp. 23–65. Gainesville: University Press of Florida.

Spivak, G. (1987). *In Other Worlds: Essays in Cultural Politics*. New York: Methuen.

Starn, O. (1991). Missing the Revolution: Anthropologists and the War in Peru. *Cultural Anthropology* 6(1): 63–91.

Starn, O. (1994). Rethinking the Politics of Anthropology: The Case of the Andes. *Current Anthropology* 35(1): 13–18.

Stern, S. (ed.). (1987). *Resistance, Rebellion, and Consciousness in the Andean Peasant World*. Madison: University of Wisconsin Press.

Tello, J. C. (1918). *El uso de las Cabezas Humanas Artificialmente Momificadas y su Representación en el Antiguo Arte Peruano*. Lima: Ernesto R. Villaran.

Theidon, K. (2000). 'How we learned to kill our brother'? Memory, morality and reconciliation in Peru. *Bulletin del'Institut Francais d'Etudes Andines* 29(3): 539–554.

Thompson, S. (2002). *We Alone Will Rule: Native Andean Politics in the Age of Insurgency*. Madison: University of Wisconsin Press.

Tishkov, V. 2004. *Chechnya: Life in a War-Torn Society*. Berkeley: University of California Press.

Tomasto Cagigao, E. (2009). Talking Bones: Bioarchaeological analysis of individuals from Palpa. In: *New Technologies for Archaeology: Multidisciplinary Investigations in Palpa and Nasca, Peru*. M. Reindel and G. Wagner (eds.). Pp. 141–158. Berlin: Springer.

Topic, J. R., and T. L. Topic. (1999). Hacia una comprensión conceptual de la guerra andina. In: *Arqueología, Anthropología e Historia en los Andes: Homenaje a María Rostworowski.* R. Varón G. and J. Flores E. (eds.). Pp. 567–590. Lima: Instituto de Estudios Peruanos.

Topic, T. L., and J. R. Topic. (2009). Variation in the Practice of Prehispanic Warfare on the North Coast of Peru. In: *Warfare in Cultural Context: Practice, Agency, and the Archaeology of Violence*. A. Nielsen and W. Walker (eds.). Pp. 17–55. Tucson: University of Arizona Press.

Tung, T. A. (2007). From Corporeality to Sanctity: Transforming Bodies into Trophy Heads in the Pre-Hispanic Andes. In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*. R. J. Chacon and D. H. Dye (eds.). Pp. 481–504. New York: Springer.

Turner II, C. G., and J. A. Turner. (1999). *Man Corn: Cannibalism and Violence in the Prehistoric American Southwest*. Salt Lake City: University of Utah Press.

Uhle, M. (1914). The Nazca pottery of ancient Peru. *Proceedings of the Davenport Academy of Sciences* 1–16.

Uhle, M. (1918). El uso de las cabezas humanas artificialmente momificadas y su representación en el antiguo arte peruano. *Revista Universitaria* 13: 478–533.

Valcárcel, L. (1927). *Tempestad en los Andes*. Lima: Biblioteca Amauta.

Valdez, L. M. (2009). Walled Settlements, Buffer Zones, and Human Decapitation in the Acari Valley, Peru. *Journal of Anthropological Research* 65: 389–416.

Valkenier, L. (1995). New evidence for Chimu Capac and the Early Horizon period in the Supe Valley, Peru. *Journal of the Steward Anthropological Society* 23(1–2): 269–286.

Vargas Llosa, M. (1990). *Contra Viento y Marea*. Vol. 3. Barcelona: Seix Barral.

Vargas Llosa, M., Guzmán Figueroa, A., and Castro Arenas, M. (1983). Informe de la comisión investigadora de los sucesos de Uchuraccay.

Vayda, A. P. (1976). *War in Ecological Perspective*. New York: Plenum.

Verano, J. W. (1995). Where Do They Rest? The Treatment of Human Offerings and Trophies in Ancient Peru. In: *Tombs for the Living: Andean Mortuary Practices.* T. D. Dillehay (ed.). Pp. 189–227. Washington, D.C.: Dumbarton Oaks.

Vich, V. (2002). *El canibal es otro. Violencia y cultura en el Peru contemporanea*. Lima: Instituto de Estados Peruanos.

Vich, V. (2007). Magical, Mystical: "The Royal Tour" of Alejandro Toledo. *Journal of Latin American Cultural Studies: Travesia* 16(1): 1–10.

Walker, W. H. (1998). Where are the witches of prehistory? *Journal of Archaeological Method and Theory* 5(3): 245–308.

Weismantel, M. J. (2001). *Cholas and Pistacos: Stories of Race and Sex in the Andes*. Chicago: University of Chicago Press.

Wiessner, P, and A. Tumu. (1998). *Historical Vines: Enga Networks of Exchange, Ritual, and Warfare in Papua New Guinea*. Washnington, D. C.: Smithsonian Institution Press.

Williams, P., and D. Nash. (2006). Sighting the apu : a GIS analysis of Wari imperialism and the worship of mountain peaks. *World Archaeology* 38(3): 455–468.

Zuidema, T. (1964). *The Ceque System of Cuzco*. Leiden: Brill.

Chapter 13
Conservation or Resource Maximization? Analyzing Subsistence Hunting Among the Achuar (Shiwiar) of Ecuador

Richard J. Chacon

Abstract This study tests the idea that indigenous hunters employ selective prey and patch choice to augment the sustainability of their long-term foraging returns. In other words, do Achuar (Shiwiar) hunting patterns maintain the group's "harmony" or "balance with nature" behaving as conservationists, or do they act as resource maximizers acting in ways predicted by optimal foraging theory? Analysis of indigenous hunters' prey choice in light of patch selection and optimal diet breadth models indicate that the Achuar (with few exceptions) are overharvesting local populations of various species of Neotropical wildlife. Significantly, this research documents differential species vulnerability to indigenous hunting pressure which, in turn, affects the sustainability of Amazonian wildlife harvests. Additionally, this research illustrates how a relatively isolated egalitarian and autonomous Amerindian group of subsistence hunter–horticulturalists, who maintain many of the traditional beliefs about wildlife population dynamics, are fully capable of overhunting several species of Neotropical wildlife. As such, the overharvesting of various types of wild game by the Achuar cannot be considered as being an artifact of Western contact. Lastly, this work examines some of the ethical issues raised by these findings.

Introduction

It is often assumed that indigenous peoples exist in balance or in harmony with nature. This notion is based on the biological concept of equilibrium (Pimm 1991). This state of equilibrium is achieved when the predator population hunts sustainably

R.J. Chacon, Ph.D. (✉)
Department of Sociology and Anthropology, Winthrop University,
Rock Hill, SC, 29733 USA
e-mail: chaconr@winthrop.edu

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and does not deplete the prey populations on which it depends for its survival. Some argue that native peoples possessed sufficient knowledge of wildlife population dynamics which prevented them from overharvesting fauna, or that they managed natural resources based on a conservation ethic (Bettinger 1976; Booth and Jacobs 1990; Nelson 1983; Repetto and Holmes 1983; Stoffle 2005).

Indigenous Peoples Acting as Conservationists

Indigenous peoples practicing subsistence hunting may seem to exist in harmony with nature with regard to their respective wildlife populations by not driving their local faunal populations into local extinction. This observation is viewed by some as proof that native peoples operate with the goal of long-term wildlife conservation in mind (see Bunyard 1989; Clad 1985; Feit 1973; Harris 1974, 1975; Martin 1978a, b; Nelson 1982, 1983; Reichel-Dolmatoff 1974). However, the observation that native hunting peoples inhabit a certain area for a specific period of time, and harvest wild game in adequate amounts may not necessarily mean that they forage with conservation in mind. A sustainable harvest could have come about as an unintended result of the forager's low population density and/or relatively inefficient hunting technology. For a practice to qualify as conservation, it must prevent or mitigate the depletion of natural resources and it also must be done intentionally (Smith and Wishnie 2000).

Game Taboos

Additionally, various scholars have argued that wildlife taboos were a part of a society's adaptation to its local environment. Large animals in Amazonia such as tapirs (*Tapirus terrestris*), capybaras (*Hydrochaeris hydrochaeris*), and red brocket deer (*Mazama americana*) were believed to have been tabooed by some native peoples as a preventive measure designed to protect animals that are particularly susceptible to becoming extinct locally (Conzemius 1932; Gross 1975, 1983; Harris 1974, 1975; Ross 1976, 1978). Moreover, McDonald argued that indigenous game taboos functioned as a type of "primitive environmental protection agency" designed to conserve wildlife species that are vulnerable to depletion due to slow reproductive rates (1977:734).[1]

[1] Nelson (1983) and Stoffle (2005) also argue that traditional religious beliefs prevented native peoples from overharvesting natural resources. While rejecting the notion that Amerindians existed in equilibrium with the environment, Pierrotti believes that "…Indigenous peoples developed rituals and ceremonies specifically designed to minimize chances of resource collapse,…" (2010:162).

Indigenous Peoples Acting as Resource Maximizers

While the belief that indigenous hunters seek to maintain a harmonious balance with their respective environments may be both popular and emotionally appealing, relatively few data have been offered to substantiate such claims. There is both theoretical and empirical evidence to suggest that there is little incentive for humans in egalitarian settings to conserve voluntarily common-pool resources (held in open-access mode) that they otherwise find immediately useful (Alvard 2000; Dawes 1980; Hardin 1968; Hodson et al. 1995; Low 1996; Low and Heinen 1993; Olson 1965; Ridley and Low 1994; Rogers 1991; Smith and Wishnie 2000; Williams 1966).[2] Furthermore, several scholars studying human impact on animal populations and human hunting practices have tested their data using an evolutionary-based ecological model known as optimal foraging theory (OFT), which is founded on the premise that individuals should be expected to seek out fitness-enhancing resources in the most efficient method possible (Alvard 1995a; Hames 1987; LeBlanc and Register 2003; Rogers 1991; Smith 1983).[3]

Under What Conditions Would a Conservation Strategy Be Adaptive?

Alvard (1998, 2002) has specified under which conditions conservation-mindedness would be an adaptive strategy for human foragers. He hypothesizes that the following factors are necessary for true conservation to occur: (1) Private ownership of resources. This would motivate owners to refrain from immediately consuming their resources because they would have a reasonable expectation of being able to consume them in the future. Note that ownership implies resource defense and

[2] However, anthropologists have documented the existence of common-pool resources that are managed effectively via common property regimes (Borgerhoff and Coppolillo 2005; Smith and Wishnie 2000). Understanding such strategies may shed light on the long-term sustainable faunal harvests practiced by certain Northwest Coast peoples as documented by Campbell and Butler (2010) along with Langdon (2007).

[3] However, evolutionary ecology does not rule out the possibility of conservation (Smith and Wishnie 2000). See also Winterhalder and Lu (1997) for a foraging simulation model that results in sustainable harvests when foragers switch to less desirable "fall back" foods. Additionally, through computer simulation of human behavior, Winterhalder et al. (1988) document how foragers and their resources reach equilibrium without adhering to conservationist practices.

territoriality.[4] (2) Resources must have sufficient value. The less abundant a resource is, the greater its value and the greater the return for its defense and ownership. If the resource is so abundant and not limiting, then the costs of defending resources and territory simply outweigh the benefits of private ownership and so conservation is unlikely to occur. (3) Possibility of investing resources. Human beings tend to prefer present consumption over future consumption (Loewenstein and Elster 1992). If resources could be invested toward future "profits" (such as acquiring mates and/or feeding future offspring), then conservation would be adaptive. In other words, "[s]elfish conservation could conceivably evolve if the long-term benefits that accrue to the actor are greater than the initial costs" (Alvard 1998:477). Additionally, for conservation practices to take hold, "[a]t a minimum, people need to recognize that a resource is becoming scarce" (Lu Holt 2005:206).[5] Furthermore, the practice of conservationist harvesting strategies is most likely to take place when there is rapid and clear feedback regarding the impact on individual and family welfare as when overharvesting results in clear individual and familial costs (Low 1996; Low and Heinen 1993). Likewise, Jochim (1981) suggests that a conservationist strategy must include a system of territoriality, ownership of resources, and environmental predictability (that allows planning) along with conditions that encourage the close monitoring of natural resources (feedback mechanisms).

Johnson (1989) theorized that the following conditions are necessary for indigenous conservation to occur: (1) A perceived scarcity of resources. If a resource that people want is scarce, they are more likely to invest in its management (instead of its immediate consumption), unless the cost of restraint is too high or an acceptable substitute is available. (2) A certainty that conserved resources will be available in the future to individuals (or their descendents) who exercise restraint. (3) A likely circumstance exhibiting the aforementioned conditions would be met in what Carneiro (1970) refers to as a circumscribed environment. In this situation, the presence of warfare and territoriality drives individuals and their families into restricted and inadequate zones that hostile groups would simultaneously avoid (Johnson 1989).

Hames (1991) argues that one of the greatest challenges that a forager may face when pursuing a conservationist or prudent predator strategy is that a co-resident may selfishly cheat and take advantage of another hunter's restraint.[6] Thus, the first requirement for conservationism is the presence of a social mechanism that punishes

[4] According to ecological-evolutionary theory, territories tend to develop in regions where resources are dense and predictable (Brown 1964; Davies and Hudson 1984). Hames (1991) adds that only areas in which resources are relatively dense and predictable are worth defending (territoriality), as the costs of excluding access to others are outweighed by the benefits of maintaining sole rights of harvesting. This is significant as de Thoisy et al. (2009:406) assert that "…a renewed focus on the demarcation of indigenous territories, and subsequent enforcement of territorial rights, can provide adequate incentives for long-term resource management, particularly if successful partnerships can be implemented with conservation organizations."

[5] Likewise, Vickers states that "[p]eople are more apt to conserve their resources when they perceive that the resources are threatened" (1994:310).

[6] See also LeBlanc and Register (2003).

or threatens punishment for those who fail to practice conservation. Likewise, Smith (2001) holds that conservation cannot be maintained without punishment for non-conservers.[7] Therefore, the goals of conservation are more likely to be achieved if political leaders (such as chiefs) are present as they could unequivocally exercise community control by possessing the ability to enforce (under pain of tangible punishment) compliance of sustainable harvesting practices (Hames 1991).[8]

Given these aforementioned conditions necessary for the development of conservation, it is highly unlikely that any present-day Amazonian groups (with their egalitarian political systems and sparsely rather than densely located resources) meet the specific criteria for the development and maintenance of widespread conservationist harvesting strategies.[9] It is important to note that there is ample archaeological and ethnohistorical evidence for the existence of various chiefdom-level societies existing throughout the Amazonia prior to the arrival of Europeans (Balée 2007; Balée and Erickson 2006; Roosevelt 1980, 1987, 1989; Newson 1996). So theoretically, these groups could have engaged in conservationist strategies.[10] Furthermore, the resource-rich varzea regions of the lower Amazon (where many chiefdoms were once located) are known to possess high-yielding dense and predictable fish and wildlife resources that would make maintaining a perimeter (territoriality), to keep out poachers, a worthwhile effort. An intra- and interspecific analysis of the faunal remains excavated from Amazonian chiefdom-level archaeological sites would shed light on this issue.

Optimal Foraging Theory

First developed by MacArthur and Pianka (1966), OFT is concerned with the behavior of foragers. It represents an attempt to construct a set of models that specify a general set of "decision rules" for foragers (Cronk et al. 2000; Krebs 1978). OFT is based on economic optimization arguments and the assumption that foragers were

[7] Among contemporary Maya, restraint in hunting is promoted by the belief in a supernatural guardian of wildlife who punishes hunters who waste meat or who harvest more game than what is necessary (Chap. 6).

[8] For example, among the Tikopia, chiefs ensure sustainable harvests by monitoring the utilization of natural resources (Diamond 2005; Firth 1983; Kirch 1997). However, the presence of political complexity does not guarantee sustainability. One need only consider the environmental degradation caused by the chiefdom societies of Hawaii and Easter Island (Diamond 2005; Kirch 1997).

[9] However, see Lu (2001) for an example of a common property regime among the Waorani that may have fostered epiphenomenal conservation. Hill and Padwe (2000) report on Aché foragers who harvest a very small and sustainable proportion of wild game because of local source-sink conditions. Also, Vickers (1994) reports sustainable game harvests among the Siona-Secoya, but this most likely is an example of epiphenomenal conservation. See Smith and Wishnie (2000) for further discussion on sustainable harvests in small-scale societies.

[10] See Erickson (2006) for evidence indicating sustainable ecological practices among pre-contact Amazonian chiefdom-like societies.

favored by natural selection to make choices that yield the greatest benefits (in returns per unit of cost) and that have the greatest payoffs in terms of the forager's survival and reproduction (Smith 1985). OFT states that selective forces operate on individuals who inhabit a world where resources are finite and act as limiting factors. OFT holds that because resources (food, space, and mates) are limited, natural selection will favor organisms whose behaviors and morphology enhance their access to these resources (Foley 1985). OFT predicts that natural selection favors foraging decisions that maximize short-term returns, which in turn enhances their opportunities for reproductive success (Stephens and Krebs 1986). In short, "foragers will be selected to behave so as to maximize the net value (of energy or nutrients) per unit of foraging time" (Smith 1983:626). As Alvard (1992:2) noted with regard to OFT, "No explicit or implicit assumptions about harvest sustainability are made, and thus decisions to pursue or ignore are made independent of the effects that removing a particular prey type has on the fate of its population." As such, foragers will harvest prey with little regard for the long-term effects of their actions on wildlife populations, for to do so would have lowered the reproductive fitness.

Patch Selection Model

At the same time, OFT also makes the prediction that prey species probably will not be exploited to annihilation in a particular patch/area, since before this threshold is attained, prey density would decrease to such an extent that continued pursuit of that particular species would be too energetically costly to foragers (Smith 1983). Natural selection has favored foragers who respond to low densities of target prey species by moving to new a patch/area with higher densities of prey species before the target prey item becomes extinct locally. It is important to note that this decision on the part of the forager to switch to a different patch/area is borne not out of concern for the survival of any particular prey species, but rather a forager relocates to a new (non-overharvested) patch/area so as to maximize its hunting returns (in terms of kg/hr or kg/hunt).

Optimal Diet Breadth Model

Additionally, OFT assumes that the energetic resources are distributed throughout the environment in a more or less homogenous manner and that natural selection has favored foragers who can maximize the net rate of energetic return from foraging within a patch/area. To apply the model, various prey types are ranked according to their economic (i.e., energetic) value, which is determined by comparing the net value gained by acquiring the prey item to the time costs of pursuing, capturing, and processing the organism. Natural selection has favored foragers who pursue energetically high-ranked prey species over energetically low-ranked prey species.

As the encounter rates of high-ranked (more preferred) prey items decrease (as the result of harvesting), prey will be added to the forager's diet in sequential order of decreasing (less preferred) rank (Broughton 2002; Stephens and Krebs 1986). This logic predicts that the relative frequency with which both high- and low-ranked prey are selected by foragers within a patch/area can provide an index of the encounter rate of both high- and low-ranked items. Therefore, an observed decrease in the frequency of a particular high-ranked (more preferred) species in a forager's diet can be viewed as evidence for the decline in its encounter rate or density in the surrounding patch/area/environment of that particular prey type during the period of harvesting.

Foragers will continue to pursue higher ranked (more preferred) prey items in a specific patch/area until the continued pursuit of these particular species becomes too energetically costly (due to low encounter rates stemming from overharvesting). In order to meet their subsistence needs, foragers then add lower ranked (less preferred and less profitable) species into their diet or foragers may choose to pursue game in a new patch/area with a higher encounter rate of high-ranked (more preferred) prey items. Therefore, the diet breadth model predicts that when high-ranked (more preferred) prey types are abundant, foragers will target these items over low-ranked (less preferred) prey so as to maximize yield relative to effort. Under these conditions, one expects a restricted (relatively narrow) diet breadth which emphasizes the higher-ranked (more preferred) prey types. The model also predicts that as the abundances of high-ranked (more preferred) prey items decline, the diet breadth will expand to include lower ranked (less preferred) prey types.[11]

It is important to note that OFT predicts that if in the course of traversing through a depleted area in order to arrive at a non-depleted patch/area, a forager should harvest a higher ranked (more preferred) species whenever it is encountered, regardless of how depleted this prey item has become in any particular patch/area.

Since my original research plan was not designed to test this particular aspect of OFT, the precise determination of animal encounter rates and handling times presents some difficulties for the analysis of my data. I nonetheless participated in numerous hunts, observed the taking of most Neotropical game types, and made detailed records of hunting yields. Because of these observations and based on conversations with hunters, I feel competent to make estimates that rank prey types according to the net body size. The categorization of game in this study as larger bodied (more preferred species) vs. smaller bodied (less preferred species) is based on the pre-processed weights of harvested animals. As mentioned above, precise measurements of handling times were not recorded, but Achuar informants say that their game preferences correlate highly with weight. Thus, estimations of prey

[11] Research indicates that some individuals may employ harvesting strategies that do not maximize energetic return rates. The explanation for this seemingly "irrational economic" behavior is that it serves as an honest costly signal of fitness-related qualities (Bliege et al. 2001). Some types of inefficient hunting may persist because foragers gain benefits from widely disseminating information on their hunting prowess relative to competitors through the hunting of large and risky prey items (Hawkes 1990, 1991, 1992, 1993).

efficiency ranking in this study are based on my observations of hunters in the field, informants' statements, and especially on prey size.[12] Under ideal research conditions, I would have preferred to employ energetic efficiency rank order rather than weight rank order (see Hames and Vickers 1982 for similar protocols).

Co-harvesting

Furthermore, "Optimal Foraging Theory predicts that any prey encountered that has a low handling cost, or a handling cost/benefit ratio below a given level, will be harvested" (Yesner 1981:162). Thus, a hunter, so as to not return home empty handed, may harvest randomly encountered small-bodied (less desirable) game that was not originally targeted (Preucel and Hodder 1996).

Central Place Foraging

OFT additionally predicts that differential allocation of time in hunting patches will lead to patterns of radial game depletion (Hames 1991; Orians and Pearson 1979). After a location is settled, foragers hunt close to the village since the game is distributed equally in all areas surrounding the community.[13] Initially, the hunting that takes place near the village results in the highest return rates (in terms of kg/hr or kg/hunt) because travel time is minimized. As time passes, areas in close proximity to the village become depleted, so hunters extend their range because the added travel time to more remote locations is repaid by the higher return rates (in terms of kg/hr or kg/hunt) in those zones (Hames 1991).[14]

Conservation

In order to investigate whether or not the Achuar indeed behave as conservationists or resource maximizers, it is necessary to first define clearly what is meant by the term "conservation." Alvard (1995a:790) states that "…conservation can be defined as subsistence decisions that are costly to the actor in the short-term but aimed at increasing the sustainability of the harvest in the long-term." Additionally, a sustainable harvest is one in which the harvest rate is equal to or less than the natural growth rate of the desired resource (Clark 1990).

[12] Kayapo hunters also largely target large-bodied species over small-bodied species (de Thoisy et al. 2009).

[13] This also assumes that foragers operate in a homogeneous environment.

[14] See Sirén et al. (2004) for an example of the effects of central place forgaing on local faunal populations.

Epiphenomenal Conservation vs. True Conservation

Alvard (1993, 1994, 1995a) along with Hunn and Williams (1982) noted that small groups of foragers may appear to be practicing conservation because they are harvesting prey at rates less than the net production of the prey populations. This apparent "balance" that native peoples seem to have with their environment may be more parsimoniously explained by the fact that small and highly mobile foraging populations that employ relatively inefficient technologies (such as blowguns or bows and arrows compared to firearms) simply do not have the demographic potential or the technological capacity for overexploiting their environments. Alvard concluded that this epiphenomal conservation has often mistakenly been identified as genuine conservationism and has led some scholars to conclude that indigenous subsistence hunters intrinsically strive to maintain a balance with nature, or to put it as he reports, they are considered to be "natural conservationists" or "ecologically noble savages" (1993:355).[15]

In other words, the sustainable harvests of natural resources by traditional communities may simply be a demographic, technological consequence, instead of being the product of collective ecological wisdom. "In most cases, harmonious coexistence between indigenous groups and forest wildlife is more related to low densities of the indigenous population and small offtakes exerted on habitats with negligible changes, rather than an active body of knowledge guiding successful natural resource management system" (de Thoisy et al. 2009:406). Thus, the presence of sustainable harvests does not necessarily mean that foragers are acting with conservation in mind (Smith and Wishnie 2000).[16]

Analysis of Achuar Game Choice

If indeed it is true that Amazonian hunters are foraging in ways intended to minimize the long-term impacts on wildlife populations, conceivably they should be employing many of the same harvesting practices used by modern wildlife managers and biologists in order to manage the size and productivity of herds. Two of the

[15] See Redford (1991) for the original use of the "ecological noble savage" term.

[16] The hunting data collected by Vickers from 1973 to 1982 suggest that the Siona-Secoya along the Aguarico River were hunting most prey in a sustainable manner. However, there was clear-cut evidence of depletion for one species, Salvin's Curassow (Vickers 1994)."The observed sustainability of Siona-Secoya hunting resulted from their low population density (0.2 persons per square kilometer), the availability of a large hunting territory, and their limited hunting technology" (Vickers 1994:321). Moreover, the village (San Pablo) from which the data were collected never exceed 250 people (Vickers 1994). Thus it appears, as is suggested by Vickers, that the Siona-Secoya's mostly sustainable harvest is an example of epiphenomal conservation.

most frequently employed techniques by professional game managers are (1) the avoidance of harvesting pregnant females and (2) interspecific selective harvesting (prudent predation).

(1) The Avoidance of Harvesting Pregnant Females

Conservation-minded hunters will not knowingly kill pregnant females as these animals are near the critical moment necessary for the survival of the species into the next generation (i.e., giving birth) (Alvard 1992, 1995a, 1998).

(2) Interspecific Selective Harvesting (Prudent Predation)

A conservation-minded hunter will refrain from harvesting prey types that are particularly vulnerable to depletion or that have become depleted.[17] Therefore, a conservation-minded hunter will cease harvesting vulnerable species in patches/areas that have been overhunted (Slobodkin 1961, 1968).

Hypotheses to Be Tested

The goal of this paper is to test empirically the predictions generated by these opposing views on how indigenous hunters might harvest faunal resources.

Indigenous Peoples Acting as Conservationists

The goal of hunters is to harvest wildlife in ways that conserve prey species even if it means that foragers experience short-term energetic costs.

Indigenous Peoples Acting as Resource Maximizers

The goal of hunters is to harvest wildlife in the most efficient way possible with no regard to the long-term effects their actions may have on prey populations.

[17] "As a rule, larger animals tend to have lower reproductive rates and lower population densities than smaller animals. Hence many larger animals tend to be more susceptible to depletion by predators" (Vickers 1994:318).

Predictions About Hunter Behavior

Predictions regarding the behavior of hunters generated from each hypothesis are presented below.

Conservation Prediction

Hunters will harvest prey species in ways that are commensurate with maximum sustained yield. That is to say, they should adhere to selective game harvesting patterns designed to avoid the depletion of local wildlife. In short, hunters will avoid killing pregnant females. Additionally, while traversing through lower yielding areas (in terms of kg/hr or kg/hunt) in order to reach higher yielding patches/areas (in terms of kg/hr or kg/hunt), hunters will neither pursue nor harvest prey items that are particularly vulnerable to overharvesting in these lower yielding patches/areas. As such, Achuar hunters will behave as prudent predators.

Resource Maximization Prediction

Hunters will harvest prey species with no concern regarding the effects of their actions on wildlife populations. Hunters will seek to maximize their hunting return rates (in terms of kg/hr or kg/hunt) with no regard for selective game harvesting techniques. In other words, hunters will harvest pregnant females whenever encountered. Additionally, while traversing through lower yielding patches/areas in order to reach higher yielding localities, hunters will pursue and harvest prey items that are vulnerable to overharvesting in overhunted patches/areas (i.e., no prudent predation). Moreover, hunters in higher yielding patches/areas will target larger bodied (more preferred) prey types over smaller bodied (less preferred) species (resulting in a relatively narrow diet breadth), while foragers in lower yielding patches/areas will expand the diet breadth to include smaller bodied (less preferred) species.

The Study Population: The Achuar of Ecuador

The Achuar (also known as Shiwiar) are one of four subgroups of the Jivaroan linguistic family, who currently number approximately 5,000, with populations extending along the Pastaza River straddling the Ecuadorian and Peruvian border. Other Jivaroan groups include the Shuar, Aguaruna, and Huambisa (Hendricks 1993; Ross 1976).

Data on prey choice among the Neotropical hunter–gatherer–horticulturalist Achuar of Alto Corrientes in Ecuador were gathered in four periods: June through August of 1993, June through October of 1994, April through July of 1996, and July through August of 1998.[18] During each field season, data on both observed and non-observed hunts, hunting returns, and prey selection were collected.

Because the hunters in the village of Alto Corrientes are basically subsistence hunter–gatherer–horticulturalists with minimal market articulation, they are an ideal population in which to test the hypotheses presented above.[19] They are in effect classic "central place foragers" (Orians and Pearson 1979) as hunting takes place along trails that radiate into the forest, and the men return with game to the village where women and children are provisioned.[20]

The village of Alto Corrientes is located in eastern Ecuador in the Pastaza Province along the banks of the Corrientes River at 01°, 54 min, and 27 s Latitude South and at 076°, 57 min, and 32 s Longitude West at an elevation of 354 m above sea level.[21]

The population of this community, which fluctuated from 44 to 58 individuals through the course of the study, practiced a subsistence strategy based on hunting, fishing, and swidden horticulture along with some gathering of wild plants. Although missionary light aircraft sporadically provides some access to medical treatment and other facilities outside their territory, food procurement patterns remain largely traditional. This community first became established at its present location during the early 1980s when a group of individuals fleeing intra-tribal warfare broke away from their natal village of Conambo and created a new settlement called Alto Corrientes (Fig. 13.1).[22]

Environmental Setting

The territory of the Achuar encompasses riverine as well as the interfluvial habitats or biotypes of the Neotropical rainforest (Lathrap 1968). Achuar villages that are located in the riverine biotype are situated on floodplains found in the lower valleys (generally below 300 m) that are inundated regularly and are characterized by a particularly abundant flora and fauna (Descola 1996).

[18] This community was established in its present location in the early 1980s.

[19] The Achuar of Alto Corrientes neither engage in cash cropping, nor are they involved in the bush meat trade. As such, everything they hunt, fish, or farm is for internal consumption exclusively.

[20] However, the Achuar of Alto Corrientes will deviate from a central place foraging pattern in preparation for village feasts that occur about one or twice a year. See below for more information on these occurrences.

[21] These data were obtained using a Magellan 2000 GPS instrument.

[22] See Chacon (2007) for a discussion of the conflict between the Alto Corrientes and the Conambo.

Fig. 13.1 Location of the Achuar (Shiwiar) village of Alto Corrientes. Map drawn by Christopher Storie

Achuar interfluvial villages (such as Alto Corrientes) are situated in the upper reaches of rivers (with their surrounding hills generally between 300 and 500 m in elevation). Interfluvial communities are not subject to annual flooding, and terrestrial

herbivores are less abundant (compared to that in riverine areas) because plant resources are more dispersed in these areas in comparison to that in lowland riverine regions (Fittkau 1973). Furthermore, the small acidic streams typical of interfluvial areas tend to support smaller fish populations than the larger lowland rivers found in the riverine biotype (Descola 1996).

Prey

Terborgh et al. (1984) reported 99 species of mammals, including 13 species of non-human primates, and 526 species of birds found within Peruvian Manu National Park which is comprised mostly of interfluvial rain forest. Since the Achuar also inhabit a very remote and undeveloped area of the Neotropical interfluvial biotype, it is reasonable to conclude that the Alto Corrientes vicinity has many of the same type of animals inhabiting its territory. This study indicates that only a relatively small number of interfluvial fauna that are present are preyed upon by the Achuar. Table 13.1 below lists the 42 different species killed during 255 observed and unobserved hunts conducted by Alto Corrientes hunters.

Methodology

Per capita foraging yields were measured by sampling the pre-processed weight of wild game captured on focal person follows and also on non-observed hunts. When a focal person day was scheduled, I followed individual (blowgun and shotgun) hunters into the forest and recorded all their activities. Behavioral data recorded included technology used, species taken, and the weight of each kill. Additionally, the relative age and the sex of each animal were determined by noting physical characteristics such as size, pelage, dentition, and reproductive organs.

Data on unobserved hunts were gathered by visiting each household at least twice a day (once in the morning and once in the late afternoon) to determine if anyone had acquired game on that day. If a kill had been made, I recorded the name of the hunter, the date of the kill, the technology used in the hunt, the time he had spent foraging, the species, and weights along with the age and sex of the animals taken. At first, a few individuals perceived my interest in their game acquisition as a desire on my part to eat some of their food. However, once they realized that my interest in their food was scientific rather than gustatory, obtaining hunting return data became relatively easy as villagers began cooperating with the study. Whenever a hunter came back from the field, individuals would run to my hut to announce that someone had just returned from the forest with game, or sometimes a loud cry announcing a similar event would be heard throughout the village for my benefit.

Table 13.1 Common and scientific names of all animals harvested by Achuar hunters at Alto Corrientes (using all available technologies)

Common name	Scientific name
Mammals	*Mammalia*
Red brocket deer	*Mazama americana*
Collared peccary	*Tayassu tajacu*
Woolly monkey	*Lagothrix lagothricha*
Red howler monkey	*Alouatta seniculus*
White capuchin monkey	*Cebus albifrons*
Squirrel monkey	*Saimiri sciureus*
Saki monkey	*Pithecia* spp.
Titi monkey	*Callicebus moloch*
Paca	*Agouti paca*
Acouchy	*Myoprocta* spp.
Agouti	*Dasyprocta* spp.
Squirrel	*Sciurus* spp.
Coati	*Nasua nasua*
Birds	*Aves*
Curassow	*Mitu mitu*
Trogon	*Trogon* spp.
Guan	*Penelope* spp.
Tinamou	*Tinamus* spp.
Chachalaca	*Ortalis* spp.
Toucan	*Ramphastos* spp.
Scarlet macaw	*Ara macao*
Blue and yellow macaw	*Ara araruna*
Dove	*Columbina* spp.
Trumpeter	*Psophia crepitans*
Aracari	*Pteroglossus* spp.
Limpkin	*Aramus guarauna*
Rail	*Aramides* spp.
Blue-headed parrot	*Pionus menstruus*
Parrot	*Amazona* spp.
Collared jay	*Cyanolyca viridicyana*
Chestnut woodpecker	*Piculus elegans*
Cuckoo	*Piaya* spp.
Caracara	*Phalcoboenus* spp.
Woodpecker	*Melanerpes* spp.
Manakin	*Pipra* spp.
Screaming piha	*Lipaugus vociferans*
Black-fronted nunbird	*Monasa nigrifrons*
Anhinga	*Anhinga anhinga*
Oropendola	*Psarocolius* spp.
Woodcreeper	*Xiphorhychus* spp.
Motmot	*Momotus* spp.
Miscellaneous small birds	?
Reptiles	*Reptilia*
Caiman	*Caiman* spp.

Data based on 255 hunts

The hunters even went so far as to refrain from their traditional practice of immediately plucking feathers from birds that they had killed in the forest, thereby allowing me to identify and create a photographic record of their prey.

Hunting Technologies

The hunting technologies employed included the traditional blowgun made from what is known locally as *chonta* palm wood, machetes, and several 16-gage, muzzle-loading, black powder shotguns.

Blowgun Technology

In Alto Corrientes, blowguns ranged from 2.32 to 2.80 m in length (with one boy's blowgun measuring 1.83 m). These weapons are made from two matched lengths of *chonta.* This palm wood is then grooved lengthwise, sealed with tree resin, and wrapped with a vine to ensure that the two halves stay together. The groove located lengthwise between the two halves of wood becomes the bore of the blowgun. The bore is made smooth by repeatedly passing a *chonta* wood rod drill through the groove with a mixture of water and sand. The entire process of constructing a blowgun (using metal tools) lasts a week. The mouthpiece of the blowgun is made from the long bone of a peccary or a jaguar.

A blowgun hunter carries with him a bamboo tube that can store up to a hundred darts. These tubes average 23.1 cm in length and 5.3 cm in diameter and will invariably have a piranha mandible attached to it.[23] In addition to the piranha jaw, the receptacle will also have attached a hollowed-out gourd measuring an average of 4.6 cm in diameter containing kapok (a cotton-like material that provides an air seal for darts as they travel through the blowgun).

Both poisoned and non-poisoned darts are lightweight, made from the ribs of palm fronds, and measure an average of 34 cm in length. They are carried in the bamboo tube. The penetration of non-poisoned darts results in relatively small wounds in the prey, so they are only effective against small birds and small mammals. For larger prey (such as monkeys or peccaries), poisoned darts are necessary. The poison used is commonly referred to as *curare* and it is made from the *Strychnos* spp. vine. C*urare* is obtained from Achuar trading partners in Peru and sometimes from the western trading post in Montalvo. The toxicity of *curare* is quite great as one or two darts effectively bring down large game. I observed hunters shooting darts and hitting both arboreal and terrestrial species at distances of over 30 m (Fig. 13.2).

[23] Piranha teeth are used for notching blowgun darts so that the poisoned tips will readily break off once inside the bodies of wounded animals.

Fig. 13.2 Alto Corrientes blowgun hunter

Shotgun Technology

A total of six Ecuadorian single-shot, muzzle-loading, black powder shotguns were present in Alto Corrientes during the study period. The men obtained these weapons by walking a full day to Montalvo, an army settlement with a trading post, where the weapons cost 140,000 Sucres.[24] The only source of cash for men in the village was to work on maintaining the village's dirt airstrip clear of encroaching vegetation. The Ecuadorian government's Civil Aviation Program would then reimburse workers 10,000 Sucres for each day's work on the airstrip. At this rate, a man would have to work for 14 days in order to purchase a shotgun. Other supplies necessary for the

[24] During the course of this study, the exchange rate averaged 3,173 Sucres per $1 US dollar.

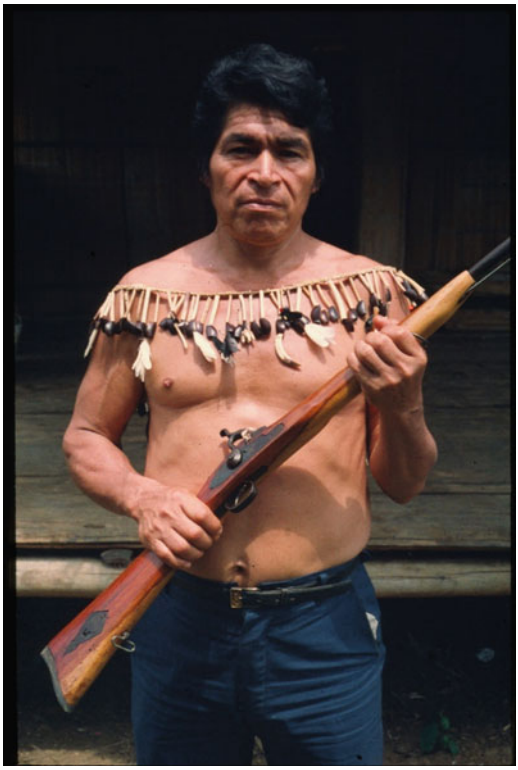

Fig. 13.3 Alto Corrientes shotgun hunter

use of firearms include a small tube of black gun powder: 10,000 Sucres (one full day's work); one pound of lead # 4 shot: 5,000 Sucres (a half day's work); and one container of firing caps at 2,500 Sucres (one-fourth day's work). Heavy shot such as slugs are also carried by hunters for use on tapir, deer, or for warfare. The Achuar make their own wadding from the shavings of palm bark (Fig. 13.3).

Combined (Blowgun and Shotgun) Technology Hunting

Hunters prefer to employ different technologies on different prey types and this is why Achuar men will sometimes go hunting armed with both a blowgun and a shotgun in order to take advantage of all opportunities to obtain meat (Fig. 13.4).[25]

[25] See Chacon (2001) for a detailed comparison of Achuar blowgun vs. shotgun hunting harvests.

Fig. 13.4 Alto Corrientes man hunting with blowgun and shotgun

The Machete

This weapon is used opportunistically only when an animal is injured, when an animal is hidden in a hole or a tree cavity, or when a kill can be confidently made without the use of blowgun darts or ammunition.

Alto Corrientes Hunters

Table 13.2 provides a breakdown of individual hunters who participated in the study. A total of 15 hunters (using all available technologies) participated in the study.[26] Data on 255 Achuar hunts (48 observed foraging trips and 207 interviews regarding unobserved hunts) were included in the sample.

[26] All hunters were males who were 16 years of age or older.

Table 13.2 Alto Corrientes hunters (in rank order of numerical importance) who participated in the 255 hunts recorded in the study using all available technologies: blowgun, shotgun, combined (blowgun and shotgun), and machete

Hunter	Number of hunts	% of total sample
Záca	57	22.3
Kaízar	50	19.6
Tlíngas	36	14.1
Jávirit	26	10.2
Charápa	24	9.4
Jimbíts	18	7.0
Chúji	17	6.7
Pablo	13	5.1
Apíto	4	1.6
Bálti	3	1.2
Tserímbo	2	0.8
Péaas	2	0.8
Ramiro	1	0.4
Arupérto	1	0.4
Estamaníco	1	0.4
	255 hunts	*100% of all hunts*

Table 13.3 The numerical rank order of all the various technologies employed by Alto Corrientes hunters

Rank	Technology	# of hunts	% of total[a]
1	Shotgun	181	70.9
2	Blowgun	62	24.4
3	Combined (blowgun and shotgun)	10	3.9
4	Machete	2	0.8
		255 hunts	*100*

Data based on 255 hunts

[a]Total includes individuals of unidentified sex

Hunting Technology Types

The various technologies employed by individuals to kill animals during the study period are presented in Table 13.3. Of 255 foraging trips in the sample, 181 (70.9%) were shotgun hunts, 62 (24.4%) were blowgun, 10 (3.9%) were combined (blowgun and shotgun) technologies, and 2 (0.8%) were machete hunts.

The Harvest

The total Achuar harvest can be examined in a number of ways depending on the type of question or comparison being addressed. Insight into whether or not hunters forage with conservation or resource maximization in mind can be gained by the analysis of the prey choices that Alto Corrientes hunters made, as is shown in Table 13.4.

Table 13.4 Prey choice by Alto Corrientes hunters (using all available technologies) by sex in rank order of numerical importance

Species	Male	Female	Total[a]
Woolly monkey	11	9	23
Collared peccary	5	6	18
Titi monkey	9	4	16
Squirrel	4	1	13
Howler monkey	5	3	8
Saki monkey	6	1	7
Agouti	2	1	7
Acouchy	1	0	4
White capuchin monkey	3	1 (pregnant)	6
Squirrel monkey	1	1	2
Paca	1	1	2
Coati	1	1	2
Red brocket deer	0	1 (pregnant)	1

Data based on 255 hunts
[a]Total includes individuals of unidentified sex

Analyzing Achuar Prey Choice by Sex

Only those animals for which it was possible to ascertain their sex easily while in the field were included in the sample. Since it is particularly difficult to sex many species of birds, they were excluded from the analysis. The findings on the sex of prey choice of Alto Corrientes hunters are documented in Table 13.4. It is significant to note that during the course of the study, one pregnant white capuchin monkey (*Cebus albifrons*) and one pregnant red brocket deer (*Mazama americana*) were killed and their respective fetuses consumed by villagers.[27]

Comparing Village Patch to Hunting Camp Harvests

The impact of Achuar hunting on local game populations can also be assessed by comparing hunting return data from foraging trips that originate from the village of Alto Corrientes with data collected from foraging trips that originated from various hunting camps located at some distance from the village. In other words, hunting returns can be used as a measure for estimating local wildlife populations.

[27] The Achuar find deer fetus particularly tasteful.

Hunting Camp Returns

The practice of Jivaroan men dispersing from their respective villages to hunting camps for extended periods of time was recorded in the 1930s by Karsten (1935). This practice continued into the 1970s (Descola 1993; Ross 1976) and persisted throughout the 1990s (this study). Research has shown that as the immediate surroundings of villages are hunted, foraging yields decrease so men maintain isolated retreats (hunting camps) "that afford them immediate access to areas better stocked with game than the overused neighborhood of their main residences" (Descola 1993:136).

In order to compare the return rates from foraging trips that were conducted from the village with return rates from excursions that originated from remotely located hunting camps, I accompanied hunters on extended foraging trips to several of the aforementioned hunting camps.[28] Data on hunting returns were collected over the course of 23 days of foraging from various hunting camps, with the closest location being situated at a distance of 10.1 km from the village, and the furthest camp being situated at a distance of 13.3 km from the village of Alto Corrientes (Fig. 13.5).[29]

A comparison between the forays that originated from the village and the hunts that originated from remotely located hunting camps reveals differences in foraging returns, which are reported in Table 13.5. Hunting trips that started from the village

Fig. 13.5 Author (hat) with three Alto Corrientes blowgun hunters and one shotgun hunter

[28] Informants reported that these hunting camps were also used as refuges in times of war. Hence, the Achuar tend to be secretive about the exact locations of these clearings. See Beckerman and Yost (2007) for similarly "hidden gardens" among the Waorani.

[29] These distances were ascertained by using a Magellan 2000 GPS instrument.

Table 13.5 The Achuar return rates of foraging trips originating from the village vs. foraging trips originating from hunting camps (using all available technologies)

Location of hunts	Kg harvested	Hours hunted	Kg/hr	Kg/ hunt	# hunts (all tech.)	Duration (hrs)
Hunting camps	332.55	474.75	0.70	5.12	65	7.3
Village patch	564.84	1,291	0.44	2.97	190	6.8
Overall	897.39	1,765.75	0.51	3.52	255	6.9

Data based on 255 hunts

harvested a total of 564.84 kg of game in 1,291 hours of hunting (for return rate of 0.44 kg/hr) using all available technologies in 190 foraging trips. Hunting camp foragers harvested a total 332.55 kg of game in 474.75 hours of hunting (for a return rate of 0.70 kg/hr) using all available technologies in 65 foraging trips. A comparison of village patch/area returns (in terms of kg/hr) to those of hunting camps reveals no statistical differences ($p > 0.05$). However, a comparison of village patch/area returns (in terms of kg/hunt) with those of hunting camps (in terms of kg/hunt) does reveal dramatic differences in return rates. Hunting camp foragers harvested game at a return rate of 5.12 kg/hunt, while village patch/area hunters harvested fauna at a return rate of only 2.97 kg/hunt. This difference is statistically significant ($t = 4.44$, $p < 0.0001$). The fact that hunting camp patch/areas have significantly higher return rates (in terms of kg/hunt) than hunts conducted in proximity to the village indicates that prey animals in the village patch/area are relatively less abundant than prey animals in the village hunting camp patch/area. Therefore, hunters choose to forage in the remotely located hunting camp patch/areas in order to increase the number of larger bodied (more preferred) prey items encountered and harvested, thereby increasing their foraging efficiency (in terms of kg/hunt) (Fig. 13.6).[30]

As is shown in Table 13.5, one of the surprising findings was that the average duration of a hunt increased in a patch/area of higher return rates. That is to say, an average village patch/area hunt (occurring in lower yielding areas) lasted 6.8 hours, while the average hunting camp foraging trip (occurring in higher yielding areas) lasted 7.3 hours. From this finding, one could conclude that overall, the Achuar are "Energy Maximizers" and not "Time Minimizers," but that would be a mistaken conclusion. The reason why men leave the comfort and safety of their village in order to forage intensely (up to 6 days at a time) from isolated hunting camps is to ensure a plentiful supply of meat for upcoming village festivities.[31] Each man is under considerable social pressure to obtain a bountiful supply of game not only for his immediate family and his extended kin, but also to serve food to the many guests from neighboring villages who have been invited to participate in a feast. During these periods of intense foraging that occur at hunting camps, men attempt to maximize their yields so that they can subsequently enjoy the impending celebration in

[30] It is important to note that round trip travel time that men spent walking from the village of Alto Corrientes to the hunting camps was not included in the hunting patch/area kg/hr return rates reported in this study.

[31] Prey items taken at hunting camps are smoked over a fire for preservation.

Fig. 13.6 Achuar hunting camp

which they will abstain from all subsistence activities for up to 1 week, spending the entire time eating, drinking, and socializing.

It is a source of great prestige for Achuar men to feed their guests well (i.e., lots of meat), and it is considered a terrible humiliation for hosts to run out of food while the festivities are taking place. In short, these periods of intense foraging that are conducted from hunting camps help to ensure that a respectable amount of meat will be available for the men to share publicly with their guests and, therefore, increase their status vis-à-vis their fellow villagers and neighbors. This study shows that Amazonian hunters who have demonstrated a "Time Minimization" strategy in regard to time allocated to overall hunting (see Chacon 2001) are quite capable of undergoing periods of punctuated "Energy Maximization" in order to meet the increased demand for food that arises during extraordinary festive periods that involved the feeding of up to 20 guests in a village with only a maximum of 58 residents.

Since, as previously stated, men suspend all food procurement activities during village feasts, the need to amass large quantities of game before the beginning of the celebrations contributes to the intensity of hunting that occurs in preparation for village festivities. This situation illustrates the complexity and malleability of human behavior. Apparently, Achuar individuals, in certain circumstances, pursue an "Energy Maximization" strategy, while other circumstances lead those same individuals down the pathway of "Time Minimization" (Smith 1987).[32]

[32] See Chacon (2001) for an overview of the "Energy Maximization" vs. "Time Minimization" debate.

Comparing Success Rates of Village Patch vs. Hunting Camp Foraging Trips

A comparison between the success rate of foraging trips that originated from the village and the success rate of hunts that originated from hunting camps is useful for assessing the encounter rates (population densities) of certain types of prey. Hunting success can be used as a measure for estimating the population of game species. Data on the success rate of all Alto Corrientes hunts using all available technologies were recorded and are presented in Table 13.6. A foraging trip was categorized as being successful if it resulted in the killing of at least one animal, regardless of the size of the prey item.

Men (using all available technologies) were successful in killing game on 141 of 255 hunts for an overall success rate of 55%. Of these 255 hunts, 190 of them originated from the village and the remaining 65 were initiated from hunting camps. Of 190 village foraging trips, hunters were successful on 96 occasions at a success rate of only 51%, whereas on the remaining 65 hunting camp foraging trips, men were successful on 48 occasions at a 74% success rate. This difference is statistically significant ($\chi^2 = 10.72$, $p < 0.0047$). These findings indicate a dramatic increase in the success of hunters who forage in patches/areas located 10–13 km from the village of Alto Corrientes. Therefore, it is reasonable to assume that the difference in success that men who forage from hunting camps experience compared to village patch/area hunters is a function of the differential densities of wildlife in each respective area. These findings suggest that the patch/area near the village was relatively less abundant in game (in comparison to hunting camp patch/area) and that hunters chose to forage in the hunting camp patch/area in order to increase the probability of a successful hunt.

Comparing Interspecific Prey Choice

A comparison of the types of prey items harvested in foraging trips that originate from the village with the prey types taken from isolated hunting camps reveals the impact of Achuar hunting on the respective wildlife populations, and these findings are shown in Table 13.7.

Table 13.6 Success rates of Achuar hunts originating from the village vs. foraging trips originating from hunting camps (using all available technologies)

Location of hunts	# of hunts	Successful hunts	% of success
Village patch	190	96	51
Hunting camps	65	48	74
Overall	255	141	55

Data based on 255 hunts

Table 13.7 Prey items harvested (using all available technologies) by Alto Corrientes hunters in village patch hunts vs. hunting camp foraging trips in rank order of numerical importance

Common name of prey harvested	Village patch hunts (190)	Hunting camp forays (65)	Total (255)
Tinamou	39	5	44
Misc. small birds	31	0	31
Woolly monkey	3	20	23
Guan	14	7	21
Toucan	16	2	18
Collared peccary	14	4	18
Titi monkey	10	6	16
Aracari	12	3	15
Squirrel	9	4	13
Trumpeter	8	4	12
Limpkin	9	0	9
Red howler monkey	3	5	8
Agouti	7	0	7
Saki monkey	2	5	7
Rail	7	0	7
White capuchin monkey	5	1	6
Curassow	2	3	5
Trogon	5	0	5
Dove	4	1	5
Acouchy	4	0	4
Parrot	3	0	3
Oropendola	2	1	3
Motmot	3	0	3
Collared jay	3	0	3
Cuckoo	3	0	3
Manakin	3	0	3
Paca	0	2	2
Squirrel monkey	0	2	2
Caiman	2	0	2
Scarlet macaw	2	0	2
Chachalaca	2	0	2
Caracara	0	2	2
Woodpecker	2	0	2
Screaming piha	2	0	2
Coati	2	0	2
Red brocket deer	0	1	1
Blue and yellow macaw	1	0	1
Anhinga	1	0	1
Chestnut woodpecker	1	0	1
Blue-headed Parrot	1	0	1
Woodcreeper	1	0	1
Black-fronted nunbird	0	1	1
Totals	*238*	*79*	*317*

Data based on 255 hunts

Comparing Village Patch vs. Hunting Camp Patch Diet Breadth

Table 13.8 reveals that of 43 different species harvested over the course of 255 hunts (employing all available technologies), village patch/area hunters bagged 37 species over the course of 190 forays, whereas hunting camp foragers took only 20 species over the course of 65 forays. This difference is statistically significant ($\chi^2 = 3.61$, $p < 0.05$). The data indicate that the diet breadth of village patch/area hunters is wider than the diet breadth of hunting camp foragers.

Larger Bodied Prey Item Harvest: Village Patch vs. Hunting Camp Patch

The absence of larger bodied (more preferred) game animals (weighing >1.5 kg) in a harvest serves as an indicator of its low encounter rate (low density) in the patch/area in question. When the village patch/area harvest is compared to that of the hunting camp harvest, differences in interspecific prey choice are revealed. As shown in Table 13.9, a total of 190 village patch/area hunts yielded 40 larger bodied prey items, while 65 hunting camp forays bagged 41 larger bodied prey items. Overall (all 255 hunts), 81 larger bodied (more preferred) prey items were harvested.[33] The findings indicate that significantly more larger bodied prey items were taken during hunting camp forays than during village patch hunts ($\chi^2 = 39.67$, $p < 0.001$). It is important to note that while traversing through lower yielding village patches/areas in order to reach higher yielding hunting camp localities, foragers pursued and, if possible, harvested any larger bodied prey items they encountered. In short, no game was ever ignored because the hunters were operating in an overharvested patch/area.

As indicated in Table 13.10, larger bodied (more preferred) prey types were taken at a greater rate during hunting camp forays than on hunts originating from the village area. Village patch/area hunts resulted in only 0.21 larger bodied prey

Table 13.8 Comparison of village patch vs. hunting camp diet breadth of Alto Corrientes hunters (using all available technologies)

Location of hunts	# of hunts	Types of species harvested
Village patch	190	37
Hunting camps	65	20

Data based on 255 hunts

[33] As previously stated, the categorization of game in this study was assigned on the basis of preprocessed weight.

Table 13.9 Larger bodied prey items harvested by Alto Corrientes hunters (using all available technologies) in terms of village patch hunts vs. hunting camp foraging trips in rank order of numerical importance

Larger bodied (>1.5 kg) prey types	Village patch hunts (190)	Hunting camp forays (65)	All hunts (255)
Woolly monkey	3	20	23
Collared peccary	14	4	18
Red howler monkey	3	5	8
Saki monkey	2	5	7
Agouti	7	0	7
White capuchin monkey	5	1	6
Currasow	2	3	5
Paca	0	2	2
Caiman	2	0	2
Coati	2	0	2
Red brocket deer	0	1	1
Total # of larger bodied prey items harvested	40	41	81

Data based on 255 hunts

Table 13.10 Harvest rates of larger bodied prey items bagged by Alto Corrientes hunters (using all available technologies) in terms of village patch hunts vs. hunting camp foraging trips

Location of hunts	# of larger bodied prey items	# of hunts	Rate of larger bodied prey items harvested per hunt
Village patch	40	190	0.21
Hunting camps	41	65	0.63
Overall	81	255	0.32

Data based on 255 hunts

items per hunt, while hunting camp forays yielded 0.63 larger bodied prey items per hunt. Overall (all hunts), 0.32 larger bodied (more preferred) prey items per hunt were harvested.

Smaller Bodied Prey Item Harvest: Village Patch vs. Hunting Camp Patch

As indicated in Table 13.11, smaller bodied (less preferred) game animals (weighing 1.5 kg or less) were taken in greater numbers during village patch/area hunts than during hunting camp forays. The findings reveal that 190 village patch/area hunts yielded 198 smaller bodied prey items, while 65 hunting camp excursions yielded only 38 smaller bodied prey items. Overall (all 255 hunts), 236 smaller bodied (less preferred) prey items were harvested. These results indicate that significantly more smaller bodied prey types were harvested during village patch hunts than during hunting camp forays ($\chi^2 = 148.4$, $p < 0.001$).

Table 13.11 Smaller bodied prey items harvested by Alto Corrientes hunters (using all available technologies) in terms of village patch hunts vs. hunting camp foraging trips in rank order of numerical importance

Smaller bodied (1.5 kg or less) prey types	Village patch hunts (190)	Hunting camp forays (65)	All hunts (255)
Tinamou	39	5	44
Misc. small birds	31	0	31
Guan	14	7	21
Toucan	16	2	18
Titi monkey	10	6	16
Aracari	12	3	15
Squirrel	9	4	13
Trumpeter	8	4	12
Limpkin	9	0	9
Rail	7	0	7
Trogon	5	0	5
Dove	4	1	5
Acouchy	4	0	4
Oropendola	2	1	3
Parrot	3	0	3
Motmot	3	0	3
Collared jay	3	0	3
Cuckoo	3	0	3
Manakin	3	0	3
Squirrel monkey	0	2	2
Scarlet macaw	2	0	2
Chachalaca	2	0	2
Caracara	0	2	2
Woodpecker	2	0	2
Screaming piha	2	0	2
Blue and yellow macaw	1	0	1
Anhinga	1	0	1
Blue-headed parrot	1	0	1
Chestnut woodpecker	1	0	1
Woodcreeper	1	0	1
Black-fronted nunbird	0	1	1
Total # of smaller bodied prey items harvested	198	38	236

Data based on 255 hunts

As indicated in Table 13.12, smaller bodied (less preferred) prey items were taken at a greater rate in the village patch/area by hunters than were harvested in the more productive hunting camp area. Village patch/area hunters harvested 1.04 smaller bodied prey items per hunt, while hunting camp forays yielded only 0.58 smaller bodied prey items per hunt. Overall (all hunts), 0.93 smaller bodied (less preferred) prey items were harvested per hunt.

Table 13.12 Harvest rates of smaller bodied prey items bagged by Alto Corrientes hunters (using all available technologies) in terms of village patch hunts vs. hunting camp foraging trips

Location of hunts	# of smaller bodied prey items	# of hunts	Harvest rate of smaller bodied prey items per hunt
Village patch	198	190	1.04
Hunting camps	38	65	0.58
Overall	236	255	0.93

Data based on 255 hunts

Discussion

As shown in Table 13.4, the data indicate that Achuar foragers harvested pregnant females.[34] This behavior does not support predictions made by the conservationist hypothesis, since conservation-minded foragers should never kill pregnant female mammals.[35] It is important to point out that no scientifically based wildlife conservation plan, with long-term sustainability as its goal, would allow hunters to harvest wild game in this manner.[36]

Patch Selection Model Supported

As shown in Tables 13.8–13.12, the data indicate that prey were acquired in ways that are largely in accordance with predictions made by OFT's patch selection model. It is clear that Alto Corrientes hunters went to great efforts (i.e., traveling from 10 to 13 km) to move from the less productive (relatively low success rate and

[34] Stearman reports how among the Yuquí, female game animals with young "are often specifically targeted because they tend to trail behind, or in the case of primates, are slowed down by the infants they carry. Fetuses removed from slower pregnant females killed in the hunt are considered a delicacy" (1994:348). Additionally, the Kekchi Maya readily kill and eat pregnant paca (Kitty Emery personal communication 2010). Moreover, according to Hames, "Yanomamö hunters react with indifference to the discovery that a peccary or deer being butchered was pregnant" (Raymond Hames, personal communication 2011).

[35] In addition to interviewing numerous indigenous foragers, I have logged thousands of hours hunting with native Amazonians and they have never indicated that reproductive status was a determining factor in their decisions about which animals to pursue. Thus, the Achuar appear to harvest wild game opportunistically. Among the subsistence hunting Waimiri Atroari, female spider monkeys make up 80% of the catch for this species. Females are preferred over males because their bodies contain more fat. Female spider monkeys can be easily identified from the ground because of their conspicuous red genitalia (Souza-Mazurek et al. 2000). Interestingly, opportunistic Matsigenka bow hunters harvest more female primates than males because slower-moving females make easier targets than faster moving males (de Thoisy et al. 2009).

[36] Likewise, Wadley et al. (1997) found little evidence for conservation among the Iban of Borneo as hunters opportunistically harvested animals such as pregnant female wild pigs. Boigu Island subsistence hunters of the Torres Strait preferentially target female dugong (*Dugong dugong*) for harvesting (Raven 1990).

low kg/hunt return rate) village patch/area to more productive (relatively high success rate and high kg/hunt return rate) hunting camp patches/areas. These actions resulted in an increase in the number of larger bodied (more preferred) prey items harvested, thus improving their foraging efficiency (in terms of kg/hunt). It is also clear that when hunters foraged in the relatively less productive proximity of their village, men killed more smaller bodied (less preferred) prey items in greater numbers than when in a relatively more productive patch/area of forest (i.e., hunting camps).[37]

Optimal Diet Breadth Model Supported

As Table 13.8 documents, the fact that the diet breadth of hunters foraging in the relatively less productive village patch/area expanded to include smaller bodied (less preferred) prey as a response to larger bodied (more preferred) game scarcity is consistent with predictions made by OFT.[38] Conversely, Table 13.8 also shows how the diet breadth of hunters foraging in the relatively more productive hunting camp patches/areas is narrower than the diet breadth of relatively less productive village patch/area hunters, as predicted by OFT.[39]

Tables 13.9 and 13.10 indicate that the area near the village was showing signs of overharvesting of many (but not all) species, with hunters who foraged from the more distant (and higher yielding) hunting camps preferentially targeting larger bodied (more preferred) prey items whenever encountered over smaller bodied (less preferred) species as predicted by the optimal diet breadth model (Fig. 13.7).[40]

Evidence for Co-harvesting

As put forth by Yesner (1981) along with Preucel and Hodder (1996), foragers returning from unsuccessful hunts occasionally harvest (less preferred) items randomly encountered during their forays so as to not return empty handed. Similarly, Achuar hunters harvested randomly encountered squirrels so as to not return to the village empty handed. As seen in Table 13.11, this particular smaller bodied (less preferred)

[37] See Hames and Vickers (1982) along with Peres and Nascimento (2005) for similar findings.

[38] Similar trends among the Yuquí of Bolivia have been documented by Stearman (1992). This Amazonian group (which is living in an area that is becoming depleted) is now harvesting greater numbers of individuals of smaller-bodied (less preferred) species. These findings are in concert with predictions made by the OFT optimal diet breadth model.

[39] See Hames and Vickers (1982) for similar findings.

[40] Interestingly, a decline in highly high-ranked and highly desired dugongs *(Dugong dugong)* caused many Torres Strait Boigu Island subsistence hunters to focus on harvesting low-ranked and less desired green turtles *(Chelonia mydas)* (Raven 1990).

Fig. 13.7 Author weighing a titi monkey harvested by hunting camp foragers

prey item, which was harvested in the lower yielding patch/area near the village, was also bagged in the higher yielding hunting camp localities by men so as to not return from foraging trips empty handed.

No Evidence for Prudent Predation

The data indicate that prey animals are less abundant in the patch/area near the village of Alto Corrientes than in areas near hunting camps, and yet, Achuar hunters do not refrain from killing slow-reproducing, larger bodied (more preferred) species in the village patch/area. As predicted by OFT, while traversing through the relatively low-yielding village patch/area in order to reach localities with more abundant game (i.e., hunting camp patch/areas), Achuar hunters did not refrain from pursuing and/or harvesting larger bodied (more preferred) species that are particularly vulnerable to overharvesting. In short, as predicted by OFT, hunters observed during this study always pursed game with no regard for the location of the encounter (either near or remotely located from the village) or for the density of the animal's population (either scarce or plentiful).[41]

[41] A decline in high-ranked dugongs caused certain Boigu Island subsistence hunters to intensify their attempts to bag this highly prized species (Raven 1990).

Further Signs of Overharvesting

As shown above, current Achuar hunting practices are resulting in the overharvesting of various species and this may eventually lead to the relocation of the village. Toward the end of the study, some Alto Corrientes hunters repeatedly complained about the scarcity of various game species and they expressed a desire to relocate (fission off) to a more productive area (i.e., patch switching) that is located within their relatively small in size, legally held territory.[42] It is also important to note that larger bodied (more preferred) prey items such as tapirs, white-lipped peccaries, and spider monkeys were completely absent from either village patch/area or hunting camp harvests.[43] None of these three species is currently tabooed by the Achuar of Alto Corrientes, and OFT predicts that these prey types should never be passed up by hunters, so their absence likely reflects low encounter rates stemming from indigenous overhunting.[44]

Possible Exceptions

As shown in Tables 13.13–13.15, five larger bodied prey items were taken at higher rates during village patch/area hunts than during forays originating from hunting camps (see below for a discussion of these findings). As shown in Table 13.13, during the course of 190 village patch/area hunts, 14 collared peccaries were harvested for a rate of 0.07 collared peccaries per hunt, while seven agoutis were captured by village patch/area hunters at the rate of 0.04 agoutis per hunt.[45] Five white capuchins were obtained at the rate of 0.03 monkeys per hunt, while two caiman along with

[42] Several scholars have put forth low abundance of game as a major factor in the relocation of villages (Gross 1975; Harris 1974; Meggers 1971; Roosevelt 1980; Siskind 1973). Some may argue that relocation is an adaptation designed to maintain a group's balance with nature (i.e., prevent the depletion of local fauna), but predictions stemming OFT's patch switching model offer a more parsimonious explanation for why hunters choose to relocate when faced with low abundance of game.

[43] Similarly, Peres and Nascimiento (2005) report that tapirs are extremely rare in the vicinty of the Kayapo village of A'Ukre. Additionally, Franzen (2006) documents the overharvesting of spider monkeys by Huaorani subsistence hunters. Likewise, tapir and spider monkeys are becoming scarce in areas near Waimiri Atroari villages of the Brazilian Amazon (Souza-Mazurek et al. 2000).

[44] Traditionally, both tapir and red brocket deer were considered taboo by the Achuar (Ross 1976, 1978). However, during the course of this study, both species were eagerly pursued by Alto Corrientes hunters whenever encountered in the forest. Moreover, one pregnant red brocket deer was taken and consumed by the villagers (fetus included). Therefore, the absence of tapir and the relative scarcity of red brocket deer in the harvest recorded in this study likely stem from the overhunting of these species, rather than from any reticence on the part of Achuar foragers to bag these particular prey types. See Hames and Vickers (1982) for a similar "de-tabooing of deer." The absence of white-lipped peccaries in the Achuar harvest may also be the result of overhunting. However, it is important to note that white-lipped peccaries have been known to move out of an area for years, and then return in great numbers (Bodmer 1990; March 1993; Mayer and Brandt 1982; Sowls 1984).

[45] In this study, I classified agoutis at the lower end of the larger-bodied prey category.

Table 13.13 Harvest rates of select larger bodied prey items taken during village patch hunts (using all available technologies)

Larger bodied prey type	Total # of larger bodied prey items	Village patch hunts (190)	Rate of larger bodied prey items harvested per village patch hunt
Collared peccary	18	14	0.07
Agouti	7	7	0.04
White capuchin monkey	6	5	0.03
Caiman	2	2	0.01
Coati	2	2	0.01

Data based on 255 hunts

Table 13.14 Harvest rates of select larger bodied prey items taken during hunting camp forays (using all available technologies)

Larger bodied prey type	Total # of larger bodied prey items	Hunting camp forays (65)	Rate of larger bodied prey items harvested per hunting camp foray
Collared peccary	18	4	0.06
Agouti	7	0	0.00
White capuchin monkey	6	1	0.02
Caiman	2	0	0.00
Coati	2	0	0.00

Data based on 255 hunts

Table 13.15 Harvest rates of select larger bodied prey items taken during village patch hunts vs. hunting camp forays (using all available technologies)

Larger bodied prey type	Rate of larger bodied prey items harvested per village patch hunt	Rate of larger bodied prey items harvested per hunting camp foray
Collared peccary	0.07	0.06
Agouti	0.04	0.00
White capuchin monkey	0.03	0.02
Caiman	0.01	0.00
Coati	0.01	0.00

Data based on 255 hunts

two coatis were taken during village patch/area hunts both at the rate of 0.01 prey items per hunt.

As shown in Table 13.14, during 65 hunting camp forays, four peccaries were harvested at a rate of 0.06 collared peccaries per hunt, while no agoutis were captured. One white capuchin was obtained at the rate of 0.02 monkeys per hunt, while no caimans and no coatis were taken during the hunting camp excursions.

Sustainable Yields?

Table 13.15 compares the harvest rates of selected larger bodied game (collared peccaries, agoutis, white capuchin monkeys, caimans, and coatis) taken during village patch/area hunts to the harvest rates of these same species taken during hunting camp forays. Village patch/area foragers harvested collared peccaries at the rate of 0.07 collared peccaries per hunt, while hunting camp foragers do so at the rate of 0.06 collared peccaries per hunt. Village patch/area hunters obtained agoutis at the rate of 0.04 agoutis per hunt, while hunting camp foragers never took this larger bodied animal during the course of the study. White capuchins were captured during village patch/area hunts at the rate of 0.03 monkeys per hunt, while hunting camp foragers obtained this same species at the rate of 0.02 capuchins per hunt. Caimans were harvested by village patch/area hunters at the rate 0.01 caiman per hunt and village patch/area hunters took coatis at the rate of 0.01 coatis per hunt. Hunting camp foragers never harvested a caiman or a coati during the course of the study. A sign test (Ambrose and Ambrose 1987) of the harvesting rates of these five larger bodied prey items (collared peccary, agouti, white capuchin monkey, caiman, and coati) showed no significant difference between village/patch area and hunting camp/patch area rates. As such, the data suggest that hunters may be harvesting local collared peccary, agouti, white capuchin monkey, caiman, and coati populations at sustainable levels.

Collared Peccaries

As shown in Table 13.15, collared peccary populations do not seem to be depressed near the village, and this may indicate that this particular species is being harvested at sustainable levels. Collared peccaries are known to have relatively high reproductive rates in addition to being attracted to village gardens from which they obtain food.[46] Therefore, areas near village horticultural plots perhaps favor higher densities of this particular species than would have been present in a non-disturbed forest (Balee 1989; Donkin 1985) (Fig. 13.8).[47]

[46] For another example of Neotropical wildlife being attracted to Amerindian settlements, see Demarest (2004) and Emery (2000, 2004, 2007) who report the existence of a human–deer symbiotic relationship among the ancient Maya. Fallow zones and patches of jungle were maintained even in the proximity of densely populated Maya regions to support a nearby wild deer population for hunting and trapping. Research indicates that deer were attracted to gardens in order to feed on corn.

[47] For similar findings, see (Alvard et al. 1997; Stearman 1990; Vickers 1991).

Fig. 13.8 Collared pecarry harvested by a blowgun hunter in the proximity of the village of Alto Corrientes

Agoutis

It should be of no surprise (as was first reported in Table 13.7) that agoutis were taken by the Achuar only in proximity to the village as these rodents are known to be attracted to gardens (Irvine 1987).[48] It is likely that this rodent (like the collared

[48] Among the Yuqui, the number of agoutis harvested increased as larger prey types became depleted (Stearman 1990, 1992). The Siona-Secoya generally prefer harvesting larger-bodied game animals such as tapirs, peccaries, woolly monkeys, and howler monkeys over relatively smaller-bodied species. However, the taking of relatively small rodents (including agoutis) intensified only when larger game became scarce. Currently, agouti populations do not appear to have been depleted by the Siona-Secoya in over ten years of hunting (Vickers 1991). The Siona-Secoya's sustainable agouti harvests might be an example of epiphenomenal conservation. Likewise, Sirén et al. (2004) report that agoutis do not appear to be depleted near the Quichua settlement of Sarayacu.

peccary) is found in artificially higher densities near the village (and its nearby gardens) as cultivated areas provide agoutis with access to a number of edible cultigens.[49]

White Capuchin Monkeys

As reported in Table 13.15, white capuchin monkeys do not seem to be depressed in the village patch area. These results may indicate a sustainable harvesting rate or they may simply be the result of sampling error.

Caiman and Coatis

As reported in Table 13.15, only two caiman and two coatis were taken during village patch/area hunts, and I can only speculate as to why none were bagged during hunting camp forays. These results too may be due to sampling error.

Similarities to the Yuquí of Bolivia

In an attempt to shed additional light on the data presented in this study, it may be useful to consider similar findings reported elsewhere in the Neotropics. Stearman (1990) compared a Yuquí harvest that was documented in 1983 with one recorded in 1988 (this was after a significant incursion of colonists who routinely hunted wild game in Indian territory). Those data indicate that native hunters failed to bag a single tapir or white-lipped peccary during the 1988 harvest. Furthermore, the Yuquí also experienced a decreased hunting return rate (as measured in kg/hr), as well as a significant drop in their hunting/fishing trip success rate in the same year. There was also a shift in their 1988 diet with smaller less desirable species being killed in greater amounts than in 1983 (confirming optimal diet breadth predictions), and the Yuquí traveled greater distances in 1988 than they did previously in order to forage in more productive areas (confirming patch switching predictions). The Achuar's present situation is somewhat analogous to the Yuquí's plight in that men from Alto Corrientes, who forage from higher yielding hunting camps, are harvesting game

[49] Agoutis were the most common animal hunted by the horticultural prehistoric Cerro Brujo Indians of Panama. As is the case in Amazonia today, these rodents were likely attracted to gardens in the past where native peoples harvested them in amounts disproportionate to their forest biomass (Linares 1976). These findings suggest that these ancient peoples of Panama had depleted the larger prey type populations near their settlement.

much in the same way as the Yuquí did back in 1983 when their local environment was not depleted. Whereas the men from Alto Corrientes, who hunt in the lower yielding village patch/area, face a similar situation as the Yuquí did back in 1988 when their local environment became depleted.[50]

Conclusions: The Achuar Forage as Resource Maximizers

The Achuar's willingness to hunt and consume pregnant female mammals (along with their respective fetuses) supports the resource maximization hypothesis.

Evidence indicating the overharvesting of local game is found in the relatively high abundance of various smaller bodied (less preferred) species bagged near the Achuar village of Alto Corrientes. This conclusion is further strengthened by the significantly higher number of larger bodied (more preferred) game taken during hunting camp forays than the number of larger bodied game harvested during village patch/area hunts.

Also, the higher hunting camp foragers' success rate, compared to the lower village patch/area hunters' success rate, indicates the overharvesting of various species in the village patch/area as predicted by OFT. Additionally, the higher foraging return rate (in terms of kg/hunt) of hunting camp foragers, compared to that of village patch/area hunters, indicates overharvesting of several (but not all) species in the village patch/area as predicted by OFT. The data show that the village patch/area appears to show signs of overhunting and yet, Achuar hunters did not refrain from pursuing and, if possible, harvesting larger bodied (more preferred) species in this lower yielding locality (as a prudent predator should).[51] In short, there is no indication of restraint being shown on the part of Achuar hunters toward the species that are particularly vulnerable to being overhunted while foraging in the overharvested village patch/area.

When men wished to maximize their hunting return rates (in preparation for village feasts), they switched to a more abundant patch/area of rain forest (hunting camps). As such, the decision by foragers to switch to the relatively higher yielding

[50] It is important to note that to date, no such incursion of colonists has occurred in the Achuar Alto Corrientes region. Therefore, the scarcity or absence of any species in either the village patch/area or the hunting camp patch/area harvests cannot be attributed to outsider-induced hunting pressure.

[51] Hames reports similar findings: "…in numerous hunts with both Ye'kwana and Yanomamo hunters, I always observed them to pursue game in depleted areas while they were en route to more distant [non-depleted] areas" (Hames 2000:219).

hunting camp patch/area was motivated by a desire to maximize their hunting efficiency.[52] This action was fueled by self-interest rather than a conservationist-minded concern for the long-term survival of Amazonian fauna in the lower yielding village patch/area.[53] This work shows that even if their local rainforest is abundant in game, the harvesting practices of Alto Corrientes foragers will likely result in the continued overharvesting or local extinction of several Neotropical species.

However, it also appears that the Achuar foragers in this study harvest collared peccaries, agoutis, white capuchin monkeys, caimans, and coatis at sustainable levels, while at the same time, these same hunters overharvest many other species.[54] Individuals pursued a highly selective diet biased toward larger bodied (more preferred) prey types (resulting in relatively narrow diet breadth) when foraging in higher yielding patches/areas. However, these same individuals became much less selective in harvesting prey types (resulting in a relatively wide diet breadth that included smaller bodied, less preferred species) when foraging in a lower yielding patch/area. I argue that the inclusion of smaller bodied (less preferred) species in the diet breadth of village patch/area hunters is due to the depletion of larger bodied (more preferred) game in this locality.

With the exception of collared peccary, agouti, white capuchin monkey, caiman, and coati harvests, the findings of this study generally support the predictions of OFT-based optimal diet breadth and patch selection models. This research indicates that the Achuar hunters of Alto Corrientes forage as resource maximizers. Thus, this work does not support the contention that indigenous peoples will invariably behave in ways predicted by the indigenous peoples acting as conservationists hypothesis.[55]

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[52] Similarly, Hames and Vickers (1982) along with Alvard (1994) report that distant hunting localities produce higher yields than foraging areas near villages.

[53] Similar movements in response to overhunting may have occurred among precontact Great Basin hunter–gatherers. As far back as 4,000 years ago, when faced with declining harvests of high-ranked prey species, valley-bottom foragers temporarily relocated to high-altitude hunting camps where alpine hunters focused on bagging high-ranked prey items such as mountain sheep (*Ovis canadensis*) over low-ranked prey (Bettinger 2008). These findings are in accord with OFT-based patch selection and optimal diet breadth models.

[54] These findings illustrate the folly of subscribing to essentialist constructions of indigeneity (be they conservationist or non-conservationist leaning). Therefore, in order to assess the sustainability of Amerindian wildlife harvests properly, a rigorous examination (on a species-by-species basis) is necessary.

[55] Likewise, according to Chagnon, "based on my extensive fieldwork experience in Amazonia, Yanomamö hunters do not harvest wild game with sustainability in mind" (Napoleon Chagnon, personal communication 2011).

Why Not Conserve?

The most parsimonious explanation for why Alto Corrientes hunters (for the most part) do not practice conservation presently is because the Achuar did not have the need to conserve natural resources in the past.[56] Traditionally, whenever a local habitat became depleted, villagers simply relocated their settlement to a non-depleted area. Unfortunately, the practice is no longer a viable option as indigenous communities of the region have been granted legal titles to the land. Relocation to a distantly located non-overharvested area would be an ideal situation for the Achuar villagers of Alto Corrientes. However, the possibility of long-distance resettlement is not feasible for this village because neighboring lands are legally owned and occupied by other indigenous communities.

Overharvesting of Fauna Cannot Be Attributed to Western Influences

Krech III's *The Ecological Indian* (1999) documented the fact that Amerindians are fully capable of overharvesting faunal populations. However, Ranco (2007) asserts that the overhunting of wild game by Amerindians is linked to colonial or modern capitalistic impositions.[57] However, this research demonstrates how the subsistence hunter–horticulturalist Achuar of Alto Corrientes, who have a relatively minor articulation with the market economy, are fully capable of overharvesting local faunal populations. Significantly, the Achuar's subsistence patterns cannot be linked to any historical or contemporary aspects of Western colonization as they live in a relatively egalitarian and autonomous traditional Amerindian village setting. As such, neither can this case of overharvesting of fauna by foragers from the Amazonian Achuar community of Alto Corrientes be tied to the structural conditions of intense poverty or to hundreds of years of colonization, nor can the Amerindian overhunting that

[56] Vickers (1994) offers the same explanation for why traditionally, the Siona-Secoya did not engage in conservationist harvesting practices. Lu (2006) reports that the same is true for the low population density Huaorani people who inhabit a relatively large territory. Additionally, Stearman holds that "resource management strategies do not exist among the Yuquí because they do not perceive the need for them" (1994:348). Likewise, Wadley and Colfer record how among the Iban of Borneo, "…their ancestors never thought of preserving things for the future because they lived in such abundance of land and forest,…Now, however, the local land base was shrinking, and there was nowhere to migrate, one common alternative in the past…People they said, must now think of the natural resources that they will leave for their descendents" (2004:330).

[57] Buege (1996) also blames Euro-American colonialism for the loss of traditional Amerindian conservationist practices.

takes place from this village be associated with any type of neo-colonial arrangement (as argued by Ranco 2007).[58]

Moreover, the overharvesting of game by the Amerindian foragers cannot reasonably be considered as resulting from conversion to Christianity (as argued by Martin 1978a, b) because the indigenous concept of a supernatural gamekeeper who grants foragers luck is still adhered to by every Achuar hunter included in the study.[59] As such, it is not the Achuar's loss of traditional indigenous beliefs regarding wildlife population dynamics that results in overharvesting, but, rather, it is the retention of traditional indigenous beliefs regarding wildlife population dynamics by Achuar hunters that provides an ideological template conducive to overhunting certain species of Neotropical wildlife.[60] In fact, game scarcity among

[58] Indeed, research shows that articulation to the Western market economy often provides incentive for native peoples to overharvest local natural resources (Borgerhoff and Coppolillo 2005; Ventocilla et al. 1996). However, it is important to note that contact with the West can also, under certain circumstances, actually promote conservation as the following case involving the Montagnes Indians of Labrador indicates: "In earlier [pre-contact] times, the tribe's norms had supported community hunting rights within its forests, a system that creates few incentives for an individual hunter to conserve the stock of game. Once the European traders had come on the scene the tribe shifted to a system of exclusive hunting territories…This system is more efficient when game is scarce because the sole owner of a territory inhabited by non-migratory wild animals has a much sharper incentive than a communal hunter to avoid overhunting" (Ellickson 2001:49). Among the Montagnes, "a close relationship existed, both historically and geographically, between the development of private rights in land and the development of the commercial fur trade…Because of the lack of control over hunting by others, it is in no person's interest to invest or maintain the stock of game" (Demsetz 1967:351).

[59] Moreover, it is important to note that neither Martin (1978a, b) nor Ranco (2007) offer any explanation as to why many pre-contact Amerindian populations chose to degrade their local environments (as reported by Kay and Simmons 2002; Mann 2005; Raab and Jones 2004; Webster 2002).

[60] The Achuar of the Pastaza Province of Ecuador are served by American Fundamentalist Christian missionaries who are generally hostile to native beliefs. Missionary efforts to stamp put indigenous myths notwithstanding, every adult male hunter in the village of Alto Corrientes reported belief in the existence of supernatural gamekeeper named *Amasan* who grants men success when foraging just as long as they were respectful of the game they bagged. Significantly, these same hunters attributed all game shortages near their village to the activities of malevolent shamans, not to overhunting on the part of native foragers (Chacon's unpublished fieldnotes). Some Amerindians, such as the Cree, believed that the more animals they killed, the more animas would be available to them (Brightman 1993; Hames 2000). As such, the Cree believe that a hunter's inability to bag wild animals came as a result of an individual's failure to treat the game spirits with respect or due to sorcery, not to a decline in local wildlife populations as a result of overhunting animal population (Charles Bishop, personal communication 2010; Bishop 1981; Bishop and Lytwyn 2007). Additionally, Boigu Islanders of the Torres Strait attribute current dugong and green turtle declines to sorcery. Moreover, Islanders believe that the ocean's resources are "limitless and inexhaustible" (Raven 1990:296). Similarly, according to Lu, the Waorani "have a perception of – 'natural abundance' – a belief that the forest that has always provided for them will always continue to do so" (2006:192). Additionally, Stearman reports that "the Yuquí did not, and still do not recognize that [natural] resources are finite" (1994:348). Along these lines, contemporary Maya hunters believe that a supernatural animal guardian will regenerate wildlife as long as hunters see to it that the bones from harvested animals are properly treated (Chap. 6). For further documentation of similar beliefs among Amerindian groups, see (Brightman 1993; Fienup-Riordan 1990; Krech 1981, 1999, 2007; Niezen 2009; Tanner 1979; Zavaleta 1999).

the Achuar is traditionally attributed to the actions of malevolent shamans, never to overharvesting on the part of native hunters.[61]

Long-Term Consequences and Ethical Ramifications

Even if it were the case that traditional native peoples always harvested natural resources in a conservationist mode, this would not necessarily prevent them from degrading their environment presently, given the effects of sustained contact with the West. Access to modern medicine and pacification often lead to an increase in human fertility, life expectancy, and subsequent population growth (Werner 1983).[62] Thus, even if a native society continues to consume only what it actually needs, this does not guarantee that the harvesting will be conducted at a sustainable rate because the population's growing needs will eventually outweigh the local environment's carrying capacity.[63] Not only will an indigenous community's needs grow (as the result of increased population pressure), but the perceived needs of individuals may also radically change as native peoples are increasingly exposed to the global market economy.[64] The desire for trade goods and/or wealth may cause some indigenous peoples to modify voluntarily or even to abandon traditional/sustainable subsistence practices for the activities that provide them with cash to be used for the purchasing Western manufactures.[65] Therefore, policy makers, natural resource managers, and social scientists should not naively assume that indigenous peoples, when faced with

[61] Interestingly, Polo states that in general, the Inka believed that every species had a particular guardian star in the heavens that was charged with that animal's procreation and increase (Polo 1965). Along these lines, Cobo reports that the Inka believed that the Pleiades star cluster preserved all animal life (Cobo 1990).

[62] Chagnon (1997:245) reports that Yanomamö villages with sustained contact with outsiders for 30 years or more experienced lower mortality rates as they were comprised of individuals who had survived the initial "health shock" ensuing from contact with the Western world. Among the Waimiri Atroari of Brazil, the population is growing by 7% per year, indicating an increasing need for substantially more food resources in the near future (Souza-Mazurek et al. 2000). See Picchi (2006) and Lu Holt (2005) for documentation of similar demographic rebounds among native Amazonians.

[63] According to Alvard (1995b) human population increases may be more important for the decline of game species than the adoption of more efficient hunting technology.

[64] See Hugh-Jones (1992) for documentation of how the material wants of Amazonian peoples may significantly change once they come into contact with the Western world.

[65] Dowie states that "…not all indigenous people are perfect land stewards. Only cultural romantics believe that. And even those who were good stewards in years past may cease being so due to population growth, erosion of culture, market pressures, and the misuse of destructive technologies" (2009:111). See Sirén et al. (2004) for the documentation of Amazonian Indians overharvesting various types of Neotropical fauna.

dynamic new situations, will be able to, or will even want to, retain their traditional natural resource utilization strategies (Henrich 1997).[66]

Given this volatile situation, I believe that the most ethical plan of action, on the part of scholars, should first be to reject the essentialist assumption that Amerindians are innate conservationists. Second, researchers should accurately document the overharvesting of local game populations. These actions would provide local native peoples, anthropologists, biologists, wildlife managers, historical ecologists, and policy makers with the requisite data for the design and implementation of an effective community-based long-term game management plan, which incorporates Traditional Ecological Knowledge (TEK), before wildlife depletion reaches critical levels.[67] In summation, I call for the development of an "adapted management" regime (Hill and Padwe 2000:81) among the Achuar that may include the establishment of no-take zones and/or temporary moratoriums on harvesting depleted species.[68] This effort would recognize the need for indigenous collaboration in the continual monitoring and appropriate adjustments in Achuar hunting so as to promote sustainable game harvests.[69]

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[66] "[I]t is often claimed that forest resources will be well managed if only the traditional users were allowed to maintain control. It is, indeed, widely believed that traditional communities use their resources in a sustainable manner. This belief is based on the fact that traditional communities lived at low densities, had limited technology, and practiced subsistence rather than commercial utilization. Unfortunately, given growing population pressure, increased access to modern technology, increasing market orientation, and steady erosion of traditional cultures, there is no guarantee that biodiversity objectives will be any more likely to be achieved if resource control is placed in the hands of indigenous people" (Kramer and Schaik cited in Lu Holt 2005:199–200).

[67] TEK constitutes the extensive knowledge and understanding that native peoples possess about their local environment (Gadgil et al. 1993).

[68] See Sirén et al. (2004) for an example of the overharvesting of various Neotropical prey types by the Quichua of Sarayacu. The authors also suggest the establishment of no-take areas as a possible solution to local wildlife depletion.

[69] For example, one such successful collaboration involved how researchers trained Aché assistants in data collection protocols. This partnership helped investigators arrive at an accurate understanding of the study area's faunal density (Hill and Padwe 2000).

References

Alvard. M. 1992. “Are Piro Hunters Prudent Predators? Intra-specific Prey Choice in Amazonia.” Unpublished manuscript.

Alvard, M. 1993. “Testing the ‘Ecologically Noble Savage’ Hypothesis: Inter-specific Prey Choice by Piro Hunters of Amazonian Peru.” Human Ecology vol. 21(4):355–387.

Alvard, M. 1994. “Conservation by Native Peoples: Prey Choice in a Depleted Habitat.” Human Nature vol. 5(2):127–154.

Alvard, M. 1995a. “Intraspecific Prey Choice by Amazonian Hunters.” Current Anthropology vol. 36(5):789–802.

Alvard, M. 1995b. “Shotguns and Sustainable Hunting in the Neotropics” Oryx vol. 29:58–66.

Alvard M. 1998. “Indigenous Hunting in the Tropics: Conservation or Optimal Foraging?” In: *Behavioral Ecology and Conservation Biology*. T. Caro (ed.) Pp. 474–500. New York: Oxford University Press.

Alvard, M. 2000. The Impact of Traditional Hunting and Trapping on Prey Populations: Data From Wana Horticulturalists of Upland Central Sulawesi, Indonesia. In: Hunting for Sustainability in Tropical Forests, (eds.). J. Robinson and E. Bennet. New York, Columbia University Press. Pp. 214–230.

Alvard, M. 2002. “Evolutionary Theory, Conservation, and Human Environmental Impact.” In: *Wilderness and Political Ecology: Aboriginal Influences on the Original State of Nature*. C. Kay and R. Simmons (eds.). Pp. 28–43. Salt Lake City: University of Utah Press.

Alvard, M., K. Robinson, K., Redford, and H. Kaplan. 1997. “The Sustainability of Subsistence Hunting in the Neotropics.” Conservation Biology vol. 11(4):977–982.

Ambrose, H., and K. Ambrose. 1987. *A Handbook of Biological Investigation. 4th Edition.* Knoxville: Hunter Textbooks.

Balee, W. 1989. “The Culture of Amazonian Forests.” In: *Resource Management in Amazonia: Indigenous and Folk Strategies.* D. Posey and W. Balee (eds.). Pp. 1–21. The Bronx: New York Botanical Gardens.

Balée, W. 2007. “Complexity and Causality in Tupinamba Warfare.” In: *Latin American Indigenous Warfare and Ritual Violence.* R. Chacon and R. Mendoza (eds.). Pp. 180–197. Tucson: University of Arizona Press.

Balée, William and Clark Erickson. 2006. *Time and Complexity in Historical Ecology.* New York: Columbia University Press.

Beckerman, Stephen and James Yost. 2007. “Upper Amazonian Warfare.” In: *North American Indigenous Warfare and Ritual Violence*. R. Chacon and R. Mendoza (eds.). Pp. 142–179. Tucson: University of Arizona Press.

Bettinger, R., 1976. “The Development of Pinyon Exploitation in Central Eastern California.” Journal of California Anthropology vol. 3:81–95.

Bettinger, Robert. 2008. “High Altitude Sites in the Great Basin.” In: *The Great Basin: People and Place in Ancient Times.* C. Fowler and D. Fowler (eds.). Pp. 87–103. Santa Fe: School for Advanced Research Press.

Bishop, C. 1981. “Northeastern Concepts of Conservation and the Fur Trade: A Critique of Calvin Martin’s Thesis.” In: *Indians, Animals and the Fur Trade.* Shepard Krech III (ed.). Pp. 39–58. Atlanta: University of Georgia Press.

Bishop, Charles A. and Victor Lytwyn. 2007. “Barbarism and Ardour of War from the Tenderest Years: Cree-Inuit Warfare in The Hudson Bay Region.” In: *North American Indigenous Warfare and Ritual Violence.* R. Chacon and R. Mendoza (eds.) Pp. 30–57. Tucson: University of Arizona Press.

Bliege Bird, R., E. Smith and D. Bird. 2001. “The Hunting Handicap: Costly Signaling in Human Foraging Strategies.” Behavioral Ecology and Sociobiology vol. 50:9–19.

Bodmer, R. 1990. “Responses of Ungulates to Seasonal Inundations in the Amazon Floodplain.” Journal of Tropical Ecology vol. 6:191–201.

Borgerhoff, Monique and Peter Coppolillo. 2005. *Conservation: Linking Ecology, Economics and Culture*. Princeton: Princeton University Press.

Booth, A., and H. Jacobs. 1990. "Ties That Bind: Native American Beliefs as a Foundation for Environmental Consciousness." Environmental Ethics vol. 12:27–44.

Brightman, R.1993. *Grateful Prey: Rock Cree Human-Animal Relationships*. Berkeley: University of California Press.

Broughton, J. 2002. "Pre-Columbian Human Impact on California Vertebrates." In: *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature.* C. Kay and R. Simmons (eds.). Pp. 44–71. Salt Lake City: University of Utah Press.

Brown, J. 1964. "The Evolution of Diversity in Avian Territorial Systems." Wilson Bulletin vol. 6:160–169.

Buege, Douglass. 1996. "The Ecologically Noble Savage Revisited." Environmental Ethics vol. 18:71–88.

Bunyard, P. 1989. "Guardians of the Amazon." New Scientist vol. 124(1695):38–41.

Campbell, Sarah and Virginia Butler. 2010. Fishes and Loaves? Explaining Sustainable, Long-Term Animal Harvesting on the Northwest Coast Using the Plant Paradigm." In: *The Archaeology of Anthropogenic Environments*. Pp. 175–203. R. Dean (ed.). Carbondale, IL: Center for Archaeological Investigations, Southern Illinois University.

Carneiro, R. 1970. "A Theory of the Origin of the State." Science vol. 169:733–738.

Chacon, R. 2001. *Testing the Energy Maximization and the Time Minimization Hypotheses: The Effects of Shotgun Technology on Achuar Indian Hunting.* Ann Arbor: UMI Dissertation Services.

Chacon, R. 2007. "Seeking The Headhunter's Power: The Quest for Arutam Among the Achuar Indians of the Ecuadorian Amazon and the Development of Ranked Societies." In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* R. Chacon and D. Dye (eds.). Pp. 523–546. New York: Springer Press.

Chagnon, Napoleon. 1997. *Yanomamö.* Fort Worth: Harcourt Brace.

Clad, J. 1985. "Conservation and Indigenous Peoples: A Study of Convergent Interests." In: *Culture and Conservation: The Human Dimension in Environmental Planning.* J. McNeely and D. Pitt (eds.). Pp. 45–62. London: Croom Helm Publishers.

Clark, C. 1990. *Mathematical Bioeconomics: The Optimal Management of Renewable Resources.* New York: John-Wiley & Sons, Inc.

Cobo, Bernabe. 1990. *Inca Religion and Customs*. Austin: University of Texas Press.

Conzemius, E. 1932. *Ethnographical Survey of the Miskito and Sumo Indians of Honduras and Nicaragua.* Washington DC: US Government Printing Office.

Cronk, L., N. Chagnon and W. Irons. 2000. *Adaptation and Human Behavior.* New York: Aldine de Gruyter.

Davies, N. and A. Hudson. 1984. "Territory Economics." In: *Behavioral Ecology: An Evolutionary Approach.* J. Krebs and N. Davies (eds.). Sinauer, Sunderland, Massachusetts. Pp. 148–169.

Dawes, R. 1980. "Social Dilemmas." Annual Review of Psychology vol. 31:169–193.

Demarest, Arthur. 2004. *Ancient Maya: The Rise and Fall of a Rainforest Civilization. Cambridge*: Cambridge University Press.

Descola, P. 1993. "The World of the Achuar." In: *Amazon Worlds*. M. Paymal and C. Sosa (eds.). Pp. 112–129. Quito: Sacha Runa Foundation.

Descola, P. 1996. *In the Society of Nature.* Cambridge: Cambridge University Press.

Demsetz, H. 1967. "Toward a Theory of Property Rights." The American Economic Review vol. 57(2):347–359.

de Thoisy, Benoit., Cecil Richard-Hansen and Carlos Peres. 2009. "Impacts of Subsistence Game Hunting on Amazonian Primates." In: *South American Primates: Comparative Perspectives in the Study of Behavior, Ecology, and Conservation.* P. Garber, A. Estrada, J. Bicca-Marques, E. Heymann and K. Strier (eds.). Pp. 389–412. New York: Springer Press.

Diamond, Jarod. 2005. *Collapse: How Socities Choose to Fail or Succeed.* New York: Viking.

Donkin, R. 1985. *The Peccary: With Observations on the Introduction of Pigs to the New World.* Philadelphia: American Philosophical Society.

Dowie, Mark. 2009. *Conservation Refugees: The Hundred-Year Conflict between Global Conservation and Native Peoples.* Cambridge: MIT Press.
Ellickson, Robert. 2001. "The Evolution of Social Norms: A Perspective from the Legal Academy." In: *Social Norms*. M. Hechter and K. Opp (eds.,). Pp. 35–75. New York: Russell Sage Foundation.
Emery, Kitty. 2000. "Isotopic Analysis of Ancient Deer Bone: Biotic Stability in Collapse Period Maya Land-use." Journal of Archaeological Science vol. 27(6):537–550.
Emery, Kitty. 2004. "Environments of the Maya Collapse: A Zooarchaeological Perspective from the Petexbatun, Guatemala." In: *Maya Zooarchaeology: New Directions in Method and Theory.* K. Emery (ed.). Pp. 81–96. Los Angeles: University of California Press.
Emery, Kitty. 2007. "Assessing the Impact of Ancient Maya Animal Use." Journal for Nature Conservation vol. 15:184–195.
Erickson, Clark. 2006. "The Domesticated Landscapes of the Bolivian Amazon." In: *Time and Complexity in Historical Ecology*. William Balee and Clark Erickson (eds.). Pp.235-278. New York: Columbia University Press.
Feit, H. 1973. "The Ethno-Ecology of the Waswanipi Cree, Or How Hunters Can Handle Their Resources." In: *Cultural Ecology.* B. Cox (ed.). Pp. 115–125. Toronto: McClelland and Stewart.
Fienup-Riordan. 1990. *Eskimo Essays: Yup'ik Lives and How We See Them*. New Bruswick: Rutgers University Press.
Firth, Raymond. 1983. *We, the Tikopia: A Sociological Study of Kinship in Primitive Polynesia.* Standford: Standford University Press.
Fittkau, E. 1973. "On Biomass and Trophic Structure of the Central Amazonian Rain Forest System." Biotropica vol. 5:2–14.
Foley, R. 1985. "Optimality in Anthropology." Man vol. 20(1):222–242.
Franzen, M. 2006. "Evaluating the Sustainability of hunting: A Comparison of Harvest Profiles Across Three Huaorani Communities." Environmental Conservation vol. 33(1):36–45.
Gadgil, M., F. Berkes and C. Folke. 1993. "Indigenous Knowledge for Biodiversity Conservation." Ambio vol. 22:151–156.
Gross, D. 1975. "Protein Capture and Cultural Development in the Amazon." American Anthropologist vol. 77:526–549.
Gross, D. 1983. "Village Movement in Relation to Resources in Amazonia." In: *Adaptive Responses of Native Amazonians.* R. Hames and W. Vickers (eds.). Pp. 429–449. New York: Academic Press.
Hames, R. 1987. "Game Conservation or Efficient Hunting?" In: *The Question of the Commons.* B. McCay and J. Acheson (eds.). Pp. 97–102. Tucson: University of Arizona Press.
Hames, R. 1991. "Wildlife Conservation in Tribal Societies." In: *Culture, Conservation and Ecodevelopment.* M. Oldfield and J. Alcorn (eds.). Pp. 172–199. Boulder: Westview Press.
Hames, R. 2000. "Wildlife Conservation in Tribal Societies." In: *Preserving Wildlife: An International Perspective*. M. Michael (ed.). 210–235. New York: Humanity Books.
Hames, R. and W. Vickers. 1982. "Optimal Diet Breadth Theory as a Model to Explain Variability in Amazonian Hunting." American Ethnologist vol. 9(2):358–378.
Hardin, G. 1968. "The Tragedy of the Commons." Science vol. 162:1243–1248.
Harris, M. 1974. *Cows, Pigs, Wars and Witches.* New York: Random House.
Harris, M. 1975. *Culture, People and Nature.* New York: Crowell.
Hawkes, K. 1990. "Why Do Men Hunt? Some Benefits for Risky Choices." In *Uncertainty in Tribal and Peasant Economies*. Pp. 145–166. E. Cashdan (ed.). Boulder: Westview Press.
Hawkes, K. 1991. "Showing Off: Tests of Another Hypothesis About Men's Foraging Goals." Ethology and Sociobiology vol. 12:29–54.
Hawkes, K. 1992. "Sharing and Collective Action." In: *Evolutionary Ecology and Human Behavior*. E. Smith and B. Winterhalder (eds.). Pp. 269–300. New York: de Gruyter.
Hawkes, K. 1993. "Why Hunter-Gatherers Work?" Current Anthropology vol. 34:341–362.
Hendricks, J. 1993. *To Drink of Death.* Tucson: University of Arizona Press.
Henrich, J. 1997. "Market Incorporation, Agricultural Change, and Sustainability Among the Machiguenga Indians of the Peruvian Amazon." Human Ecology vol. 25(2):319–351.

Hill, Kim and Jonathan Padwe. 2000. "Sustainability of Ache Hunting in the Mbaracayu Reserve, Paraguay." In: *Hunting for Sustainability in Tropical Forests.* John Robinson and Elizabeth Bennet (eds.). Pp. 79–105. New York: Columbia University Press.

Hodson, T., F. Enhlander and H. O'Keefee. 1995. "Rainforest Preservation, Markets and Medicinal Plants: Issues of Property Rights and Present Value." Conservation Biology vol. 9:1319–1321.

Hugh-Jones, S. 1992. "Yesterday's Luxuries, Tomorrow's Necessities: Business and Barter in Northwest Amazonia." In: *Barter, Exchange and Value: An Anthropological Approach.* C. Humphrey and S. Hugh-Jones (eds.). Pp. 42–74. New York: Cambridge University Press.

Hunn, E. and N. Williams. 1982. "Introduction." In: *Resource Managers: North American and Australian Hunter-Gatherers.* E. Hunn and N. Williams (eds.). Pp. 1–16. Boulder: Westview Press.

Irvine, D. 1987. *Resource Management of the Runa Indians of the Ecuadorian Amazon.* Ph.D. dissertation. Stanford University. Stanford California.

Jochim, M. 1981. *Strategies for Survival: Cultural Behavior in an Ecological Context.* New York: Academic Press.

Johnson, A. 1989. "How the Machiguenga Manage Resources: Conservation or Exploitation of Nature?" Advances in Economic Botany vol. 72:213–222.

Karsten, Rafael. 1935. *The Head-Hunters of Western Amazonas: The Life and Culture of Jibaro Indians of Western Ecuador and Peru.* Helsinki: Societas Scientiarum Fennica, Commentationes Humanarium Literarum, vol. 1.

Kay, C. and R. Simmons. 2002. *Wilderness and Political Ecology: Aboriginal Influences on the Original State of Nature*. Salt Lake City: University of Utah Press.

Kirch, Patrick. 1997. "Microcosmic Histories: Island Perspectives on 'Global' Change." American Anthropologist vol. 99(1):30–42.

Krebs, J. R. 1978. "Optimal Foraging: Decision Rules for Predators." In: *Behavioral Ecology.* J. R. Krebs and N. B. Davies (eds.). Pp. 23–63. Oxford: Blackwell Scientific.

Krech III, Shepard. 1981. "Throwing Bad Medicine." In *Indians, Animals and the Fur Trade.* S. Krech III (ed.). Athens: University of Georgia Press. Pp. 75–108.

Krech III, S. 1999. *The Ecological Indian.* New York: W. W. Norton & Company.

Krech III, S. 2007. "Beyond the Ecological Indian." In: *Native Americans and the Environment*. M. Harkin and D. Rich Lewis (eds.). Pp. 3–31. Lincoln: University of Nebraska Press.

Langdon, Stephen. 2007. "Sustaining a Relationship: Inquiry into the Emergence of a Logic of Engagement With Salmon Among the Southern Tlingits." In: *Native Americans and the Environment: Perspectives on the Ecological Indian.* M. Harkin and D. Lewis (eds.). Pp. 231–273. Lincoln: University of Nebraska Press.

Lathrap, D. 1968. "The Hunting Economies of the Tropical Forest of South America." In: *Man the Hunter.* R. Lee and I. De Vore (eds.). London: Thames and Hudson. Pp. 29–39.

LeBlanc, S. and S. Register. 2003. *Constant Battles: The Myth of the Peaceful, Noble Savage.* New York: St. Martin's Press.

Linares, O. 1976. "Garden Hunting in the American Tropics." Human Ecology vol. 4(4):331–349.

Low, B. 1996. "Behavioral Ecology of Conservation in Traditional Societies." Human Nature vol. 7(4):353–379.

Low, B. and J. Heinen. 1993. "Population, Resources, and Environment: Implications of Human Behavioral Ecology for Conservation." Population and Environment vol. 15(1):7–41.

Loewenstein, G. and J. Elster. 1992. *Choice Over Time.* New York: Russell Sage Publications.

Lu, Flora. 2001. "The Common Property Regime of the Huarani Indians of Ecuador: Implications and Challenges to Conservation." Human Ecology vol. 29(4):425–215.

Lu, Flora. 2006. "'The Commons' in an Amazonian Context." Social Analysis vol. 50(3):187–194.

Lu Holt, Flora. 2005. "The Catch 22 of Conservation: Indigenous Peoples, Biologists, and Cultural Change." Human Ecology vol. 33(2):199–215.

MacArthur, R. and E. Pianka. 1966." On the Optimality of a Patchy Environment." American Naturalist vol. 100:603–609.

Mann, Charles. 2005. *1491: New Revelations Before Columbus*. New York: Knopf.
March, I. 1993. "The White Lipped Peccary." In: *Pigs, Peccaries and Hippos-Status Survey and Conservation Plan.* W. Oliver (ed.). Pp.13-21. Gland, Switzerland: IUCN.
Martin, C. 1978a. "The War Between the Indians and Animals." Natural History vol. 6:92–96.
Martin, C. 1978b. *Keepers of the Game: Indian Animal Relationships and the Fur Trade.* Berkeley: University of California Press.
Mayer, J. and P. Brandt. 1982. "Identity, Distribution, and Natural History of the Peccaries." In: *Mammalian Biology in South America.* M. Mares and H. Gennoways (eds.). Pp.433-455. Pittsburg: University of Pittsburg Press.
McDonald, D. 1977. "Food Taboos: A Primitive Environmental Protection Agency." Anthropos vol.72:734–748.
Meggers, B. 1971. *Amazonia: Man and Culture in a Counterfeit Paradise.* Chicago: Aldine-Atherton.
Nelson, R. 1982. "A Conservation Ethic and Environment: The Koyukon of Alaska." In: *Resource Managers*. N. Williams and E. Hunn (eds.). Pp. 211–228. Boulder: Westview Press.
Nelson, R. 1983. *Make Prayers to the Raven: A Koyukon View of the Northern Forest.* Chicago: University of Chicago Press.
Newson, L. 1996. "The Population of the Amazon Basin in 1492: A View from the Ecuadorian Headwaters." Transactions of the Institute of British Geographers vol. 21(1):5–26.
Niezen, R. 2009. *Defending the Land: Sovereignty and Forest Life in James Bay Cree Society.* Upper saddle River, NJ: Pearson.
Olson, M. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups.* Cambridge: Harvard University Press.
Orians, G. and N. Pearson. 1979. "On the Theory of Central Place Foraging." In: *Analysis of Ecological Systems.* R. Mitchell (ed.). Pp.155-177. Columbus: Ohio University Press.
Peres, Carlos and Hilton Nascimento. 2005. "Impact of Game Hunting by the Kayapo of South-Eastern Amazonia: Implications for Wildlife Conservation in Tropical Forest Indigenous Reserves." Biodiversity and Conservation vol. 120:1–27.
Picchi, Debra. 2006. *The Bakairí Indians of Brazil: Politics, Ecology, and Change.* Long Grove: Waveland Press Inc.
Pierotti, Raymond. 2010. *Indigenous Knowledge, Ecology, and Evolutionary Biology.* New York: Routledge Press.
Pimm, S. 1991. *The Balance of Nature? Ecological Issues in the Conservation of Species and Communities.* Chicago: Chicago University Press.
Polo de Onedegardo, Juan. 1965. "On the Errors and Superstitions of the Indians, Taken from the Treatise and Investigation done by Licenciate Polo." In: *Information Concerning the Religion and Government of the Incas*. Pp. 1–53. A. Brunel, J. Murra and S. Muirden (eds.). New Haven: Human Relations Area File.
Preucel, Robert and Ian Hodder. 1996. "Nature and Culture." In: *Contemporary Archaeology in Theory.* R. Preucel and I. Hodder (eds.). Pp. 23–38. Malden: Blackwell Publications.
Raab, Mark and Terry Jones. 2004. *Prehistoric California: Archaeology and the Myth of Paradise.* Salt Lake City: The University of Utah Press.
Ranco, Darren. 2007. "The Ecological Indian and the Politics of Representation." In: *Native Americans and the Environment: Perspectives on the Ecological Indian*. M. Harkin and D. Lewis (eds.). Pp. 32–51. Lincoln: University of Nebraska Press.
Raven, Michelle. 1990. "The Point of No Diminishing Returns: Hunting and Resource Decline on Boigu Island, Torres Strait." Ph. D. Dissertation. University of California, Davis. Ann Arbor: UMI.
Redford, K. 1991. "The Ecologically Noble Savage." Cultural Survival Quarterly vol. 15(1): 46–48.
Reichel-Dolmatoff, G. 1974. *Amazonian Cosmos: The Sexual and Religious Symbolism of the Tukano Indians.* Chicago: University of Chicago Press.
Repetto, R., and T., Holmes. 1983. "The Role of Population in Resource Depletion in Developing Countries." Population and Development Review vol. 9:609–632.

Ridley, M. and B. Low. 1994. Can Selfishness Save the Environment? Human Ecology Review vol. 1:1–13.
Rogers, A. 1991. "Conserving Resources for Children." Human Nature vol. 1:73–82.
Roosevelt, A. 1980. *Parmana: Prehistoric Maize and Manioc Subsistence Along the Amazon and Orinoco.* New York: Academic Press.
Roosevelt, A. 1987. "Chiefdoms in the Amazon and Orinoco." In: *Chiefdoms in the Americas.* R. Drennan and C. Uribe (eds.). Pp. 153–184. Lanham: University Press of America.
Roosevelt, A. 1989. "Lost Civilizations of the Lower Amazon." Natural History vol. 2:75–82.
Ross, E. 1976. *The Achuara Jivaro: Cultural Adaptation in the Upper Amazon.* Doctoral Dissertation, Columbia University. Ann Arbor: (Xerox) University Microfilms.
Ross, E. 1978. "Food Taboos, Diet, and Hunting Strategy: The Adaptation to Animals in Amazonian Cultural Ecology." Current Anthropology vol.19:1–36.
Sirén, A., P. Hamback, and J. Machoa. 2004. "Including Spatial Heterogeneity and Animal Dispersal When Evaluating Hunting: a Model Analysis and an Empirical Assessment in an Amazonian Community." Conservation Biology vol. 18(5):1315–1329.
Siskind, J. 1973. "Tropical Forest Hunters and the Economy of Sex." In: *Peoples and Cultures of Native South America*. D. Gross (ed.). pp. 226–240. New York: Doubleday Press.
Slobodkin, L. 1961. *Growth and Regulation of Animal Populations.* New York: Holt, Rinehart and Winston.
Slobodkin, L. 1968. "How to be a Predator." American Zoologist vol. 8:43–51.
Smith E. A. 1983. "Anthropological Applications of Optimal Foraging Theory." Current Anthropology vol. 24:625–651.
Smith, E. A. 1985. "Inuit Foraging Groups: Some Simple Models Incorporating Conflicts of Interest, Relatedness, and Central Place Sharing." Ethology and Sociobiology vol. 6:27–47.
Smith, E. A. 1987. "On Fitness Maximization, Limited Needs and Hunter Gatherer Time Allocation." Ethology and Sociobiology vol. 8:73–85.
Smith, E. A., and Mark Wishnie. 2000. "Conservation in Small-Scale Societies." Annual Review of Anthropology vol 29:493–524.
Smith, N. 2001. "Are Indigenous People Conservationists? Preliminary Results From the Machiguenga of the Peruvian Amazon." Rationality and Society vol. 13(4):429–461.
Souza-Mazurek, R., T. Pedrinho, X. Feliciano, W. Hilario, S. Gerôncio, and E. Marcelo. 2000. "Subsistence Hunting Among the Waimiri Atroari Indians of Central Amazonia." Biodiversity and Conservation vol. 9:579–596.
Sowls, L. 1984. *The Peccaries.* Tucson: University of Arizona Press.
Stearman, A. 1990. "The Effects of Settler Incursion on Fish and Game Resources of the Yuqui." Human Organization vol. 49:373–385.
Stearman, A. 1992. "Neotropical Indigenous Hunters and Their Neighbors: Siriono, Chimane, and Yuqui Hunting on the Bolivian Frontier." In: *Conservation of Neotropical Forests: Working From Traditional Resource Use.* K. Redford and C. Padoch (eds.). Pp. 108–128. New York: Columbia University Press.
Stearman, A. 1994. "Only Slaves Climb Trees: Revisiting the Myth of the Ecologically Noble Savage in Amazonia." Human Nature vol. 5(4):339–356.
Stephens, D. and J. Krebs. 1986. *Foraging Theory.* Princeton: Princeton University Press.
Stoffle, R., 2005. "Places That Count: Traditional Cultural Practices in Cultural Resource Management: Tribal Cultural Resource Management: Full Circle to Stewardship." American Anthropologist vol. 107:138–140.
Tanner, A. 1979. *Bringing Home Animals: Religious Ideology and Mode of Production of the Mistassini Cree Hunters.* St. John: Institute of Social and Economic Research.
Terborgh, J., J. Fitzpatrick and L. Emmons. 1984. "An Annotated List of the Birds and Mammals of Cocha Cashu Biological Station." Fieldiana vol. 21:1–29.
Ventocilla, Jorge, Valerio Nuñez, Heraclio Herrera, Francisco Herrera, and Mac Chapin. 1996. "The Kuna Indians and conservation." In: *Traditional Peoples and Biodiversity Conservation*

in Large Tropical Landscapes. K. Redford and J. Mansour (eds.) Pp. 33–56. Arlington, VA: The Nature Conservancy.

Vickers, W. 1991. "Hunting Yields and Game Composition Over Ten Years in an Amazon Indian Territory." In: *Neotropical Wildlife Use and Conservation*. J. Robinson and K. Redford (eds.). Pp. 53–81. Chicago: University of Chicago Press.

Vickers, W. 1994. "From Opportunism to Nascent Conservationism." Human Nature vol. 5(4):307–337.

Wadley, R. and C. Colfer. 2004. "Sacred Forest, Hunting, and Conservation in West Kalimantan, Indonesia." Human Ecology vol. 32(3):313–338.

Wadley, R., C. Colfer and I. Hood. 1997. "Hunting Primates and Managing Forests: The Case of Iban Farmers in Indonesian Borneo." Human Ecology vol. 25(2):243–271.

Webster, David. 2002. *The Fall of the Ancient Maya*. London: Thames & Hudson.

Werner, D. 1983 "Fertility and Pacification Among the Mekranoti of Brazil." Human Ecology vol. 11(2):227–245.

Williams, G. 1966. *Adaptation and Natural Selection*. Princeton: Princeton University Press.

Winterhalder, Bruce and Flora Lu. 1997. "A Forager-Resource Population Ecology Model and Implications for Indigenous Conservation." Conservation Biology vol. 11(4):1354–1364.

Winterhalder, B., W. Baillargeon, F. Capoletto, I. Daniel and C. Prescott. 1988. "The Population Ecology of Hunter-Gatherers and their Prey." Journal of Anthropological Archaeological Research vol. 7:289–328.

Yesner, D. 1981. "Archaeological Applications of Optimal Foraging Theory: Harvest Strategies of Aleut Hunter-Gatherers." In: *Hunter-Gatherer Foraging Strategies: Ethnographic and Archaeological Analyses*. B. Winterhalder and E. Smith (eds.). Pp. 148–170. Chicago: University of Chicago Press.

Zavaleta, Erika. 1999. "The Emergence of Waterfowl Conservation Among Yup'ik Hunters in the Yukon-Kuskowin Delta, Alaska." Human Ecology vol. 27(2):231–266.

Chapter 14
The Studied Avoidance of War as an Instrument of Political Evolution

Robert L. Carneiro

Abstract This work explores the antiquity, the pervasiveness, and the importance of warfare. Particular emphasis is placed on warfare's role in political evolution. This research shows how some scholars deny and or minimize warfare's salient role in the development of social complexity. This investigation exposes how some adherents of Marxism are at a loss to explain the presence of conflict in tribal societies lacking social class structures. The Yanomamö Indians of the Amazon Basin are a case in point. Research findings indicate the need to fully document warfare wherever it is encountered.

In this age of political correctness, *palatability* has too often become a touchstone applied when the status of a scientific theory is to be determined. If an explanation is judged too harsh or too disagreeable, it may fail to win acceptance even though it is correct. Indeed, it may even be rejected out of hand.

Among the unpalatable elements in human history, warfare is surely near the very top. War has cost untold millions of lives, so that from a purely moral point of view, it has nothing in its favor. As a result, a strong tendency exists among the more tender-hearted to brush it aside as a determinant of human affairs. Yet in assessing the role war has played in the events of the past, "palatability" is neither a valid nor an appropriate criterion. Warfare cannot simply be dismissed because it is so distasteful. After all, when faced with discovering the etiology of a disease do we turn our backs on a virulent pathogen simply because it is capable of causing death? No, warfare needs to be retained within the ambit of the major determinants of human history. And its role must be examined with a cold, dispassionate eye. When we

R.L. Carneiro, Ph.D. (✉)
Division of Anthropology, American Museum of Natural History, New York, NY 10024, USA
e-mail: carneiro@amnh.org

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survey the treatment of war by anthropologists – objective students of human conduct, as they are purported to be – we nevertheless often find a disinclination on their part to recognize war as having played a decisive role in the course of events. Those very same individuals sometimes resist acknowledging the very presence of war, even when confronted with powerful evidence of it. A prime example of this can be found in Lawrence Keeley's book, *War Before Civilization* (1996), in which the author shows how archaeologists have systematically underplayed – if not actually denied – the presence of war.

Keeley begins by telling of a proposal he once submitted to the National Science Foundation to excavate an early Neolithic site in Belgium. Previously he had excavated an adjacent site named Darion, which had been "surrounded by an obvious fortification consisting of a nine-foot-deep ditch backed by a palisade" (Keeley 1996:vii). "My research proposal," says Keeley, "claimed that Darion's defenses indicated that this Neolithic frontier was a hostile one and predicted that excavations at nearby sites would reveal similar fortifications." This prediction, however, met with unexpected resistance. "The archaeologists who reviewed these proposals," he tells us, "could not accept the Darion 'enclosure' [as defensive works] and therefore could not recommend funding a project predicated on what they regarded as an erroneous interpretation" (Keeley 1996:vii).

So unsettling did Keeley and his Belgian colleague find this rejection that they were led to question their own initial interpretation. Indeed, Keeley admits, it reached the point where "[s]ubconsciously, we [began to doubt] … our own arguments," and came to believe "that Darion's fortifications were an aberration …" (Keeley 1996:viii). But after further discussion with his colleagues and deeper reflection, Keeley says he came to realize "that I was as guilty as anyone of pacifying the past by ignoring or dismissing evidence of prehistoric warfare – even evidence I had seen with my own eyes" (Keeley 1996:viii).

The fact is that the NSF reviewers notwithstanding, warfare was endemic in Neolithic Belgium. And here, as well as elsewhere around the world, it was the means *par excellence* by which autonomous Neolithic villages started on their careers toward becoming chiefdoms. Since it is firmly established that autonomous political units never willingly surrender their sovereignty, the only way they could become part of a larger political unit was by having the weaker ones among them succumb to their neighbors and thus become part of their stronger polity.

The creation of the earliest chiefdoms by the fusing together of previously sovereign villages constituted a momentous first step in political evolution. It may in fact be considered the most important single step ever taken on the road to state formation. This was so because the transcending of village autonomy was a *qualitative* step, never having occurred before in human history. Once the first chiefdoms were established, though, everything that followed was, in a sense, only a *quantitative* step – additive, but not transformative.

Moreover, this step must be regarded as one of the most difficult ever taken in social evolution since it required more than two million years to achieve. Nevertheless, that warfare played an indispensable role in this step is still disputed. Listen, for

instance, to the views of Morton Fried, a leading political anthropologist and the author of *The Evolution of Political Society* (1967).

Fried did not deny that warfare existed at the chiefdom level. He agreed with Elman Service "that rank societies [a term he preferred to 'chiefdoms'] tend to be combative," and that "many of them exist in what may be seen as a chronic state of war …" (Fried 1967:178). Still he questioned the political consequences of such wars, and explicitly rejected the notion that successful military leaders had gained political ascendancy through their military exploits. "If a direction must be found in the developmental sequence" leading to such power and authority, he contended, it "depends upon prior general status" – by which he meant that such leaders must already have established their leadership qualities through other than military means. And of these means he favored shamanism and membership in a priesthood. Where strong political leadership exists, he held, "it rarely develops that the war leader enlarges his sphere of influence at the expense of the peace leader" (Fried 1967:182).

This assertion, however, flies in the face of overwhelming evidence to the contrary. What the evidence shows is the critical importance of successful military action in giving rise to both chiefdoms as political entities and to the men who led them.

Let me cite one more example of the erroneous notion that the emergence of chiefdoms and states was unrelated to war. Despite the presence of considerable evidence that warfare played a key role in the rise of states in sub-Saharan Africa, the ethnohistorian and Africanist Jan Vansina has declared that the kingdoms of the Congo were, first and foremost, "creations of the mind," doggedly resisting the fact that at base these kingdoms arose as a result of repeated clashes of arms (quoted in Bondarenko 2006:11).

But it is not only tender-minded idealists like Vansina who turn their back on war as a key instrument of political advance. Ostensibly tough-minded Marxist anthropologists, with their arsenal of material conditions presumably at the ready, often relegate war to a very subordinate place in the rise of chiefdoms and states. Despite the fact that Frederick Engels in *The Origin of the Family, Private Property and the State*, a Marxist classic, pointed to the major role warfare had played in the political fortunes of the ancient Germans, present-day Marxists seem to pay little heed to warfare when discussing political dynamics. As quick as they are to jump on the *class struggle* as the prime mover in political affairs, they are skittish about venturing beyond this explanation when it becomes clear that the class struggle could not have been involved. Indeed, while quite ready to embrace the concept of struggle *within* societies as a motive force, Marxists are disinclined to see struggles *between* societies as playing a similarly decisive role. For them, it seems, war is too distasteful an element to be entertained as a causal factor in historical events.

A striking example of this reluctance is provided by the Marxist archaeologist Antonio Gilman. Excavating in what was clearly an area of chiefdoms in Albacete province in southern Spain, Gilman reported finding the remains of no fewer than 270 fortifications. Almost anyone else would have regarded these structures as indicating the prevalence – indeed, the centrality – of warfare in prehistoric southern

Spain. But in accounting for political evolution in this region, Gilman sets aside the results of his own archaeological investigations, turning instead to a more conventional Marxist interpretation – the economic exploitation of poorer members of the society by their wealthy political leaders (see Carneiro 2003:222–223).

In cases like this, Marxists find themselves on the horns of a dilemma. Among the autonomous Neolithic villages that everywhere preceded chiefdoms, social classes were absent, and therefore the class struggle could not be invoked to explain anything. Thus deprived of their favorite mechanism for political change, present-day Marxists are nevertheless loath to turn to warfare to help fill the void.

Even among non-Marxist anthropologists, as we have seen, the tendency exists to minimize the presence of war at the tribal level. That being the case, it is not surprising that they should also deny warfare as having any overall political significance. In this connection, we can cite Brian Ferguson's interpretation of Yanomamö warfare. Ferguson (1995) accounts for it by pointing to the Yanomamös' desire for Western tools and utensils and their competing with each other over their acquisition. Implicit in this interpretation is the notion that local, indigenous, autochthonous conditions were not enough to produce the level of fighting that has characterized the Yanomamö. Nothing that takes place entirely within Yanomamö communities, he seems to feel, is capable of giving rise to such a high level of violence.

This explanation, of course, has broad implications. It implies something about Amazonian warfare generally. If purely local factors were insufficient to bring about the degree of fighting that occurs between villages among the Yanomamö, why should not the same thing be true for other regions of Amazonia as well? For *all* regions of Amazonia, for that matter? And does that mean that in pre-contact times warfare in Amazonia must have been more muted? Was intense warfare just marking time, waiting for Europeans to appear in order to break out in full measure?

This downplaying of warfare under purely native conditions raises yet another question. If warfare in pre-contact Amazonia was relatively infrequent and of minor political significance, by what means does Ferguson propose to account for the rise of those chiefdoms that, here and there, existed in that part of the continent?

Of course this view of pre-colonial Amazonian warfare – if indeed it is still the one Ferguson entertains – is demonstrably false. It ignores the very earliest chronichlers' accounts of aboriginal fighting, which paint a vivid and credible picture of the unrelenting conflicts occurring among such groups as the Carib tribes of the Caribbean coast and the Tupinambá of the Brazilian coast. Examining the evidence objectively, we are forced to conclude that for Amazonia generally, the origin of intense warfare cannot be attributed to the appearance of Europeans. It has older and deeper roots.

This is not to deny, of course, that in certain parts of Amazonia, the intrusion of Europeans served to heighten both the incidence and the severity of intertribal conflicts. In the Peruvian Montaña, for example, the repeated raids of the Conibo on the smaller and weaker Amahuaca were caused in part by the Conibo's awareness that they could exchange their war captives at various Catholic missions in the region for metal tools, the missionaries exacting labor from the bodies of these captives at the same time that they were saving their souls! The point to be stressed here, though,

is that undeniable evidence exists that intertribal warfare was already widespread and fiercely contested in Amazonia prior to the Europeans' arrival. Yet this fact has not deterred that staunch band of anthropologists who, in Keeley's words, are determined to "pacify the past."

That warfare was all but universal at the tribal level of society and that it had profound political consequences is by no means a discovery of modern anthropology. At least since the time of Herbert Spencer a century and a half ago, there has been a clear recognition of it. Writing in *The Principles of Sociology*, for example, Spencer noted that "the governmental-military organization of a society, is initiated by, and evolves along with, the warfare between societies" (Spencer 1967:35). And some pages later he added:

> Headship of … society, then, commonly beginning with the influence gained by the warrior of greatest power, boldness, and capacity, becomes established where activity in war gives opportunity for his superiority to show itself and to generate subordination; thereafter the growth of civil governorship continues primarily related to the exercise of militant functions (Spencer 1967:114).

Other voices besides Spencer's expressed much the same opinion. The philosopher William James, for example, a contemporary of Spencer's who sometimes failed to see eye-to-eye with him, nevertheless shared his realistic appraisal of warfare's role in human history. Thus he wrote:

> … if we think how many things besides frontiers of states the wars of history have decided, we must feel some respectful awe, in spite of all the horrors. Our actual civilization, good and bad alike, has had past wars for its determining conditions (James 1953:265).

In my own studies of socio-political evolution, I have repeatedly been struck by the fact that it was warfare which forced simple villages to surrender their local autonomies and caused them to be fused into successively larger political units. Moreover – just as Spencer observed – along with the growth in the size and complexity of these polities there came a corresponding increase in the scope and power of their political leaders – leaders who ultimately owed their positions of command and control to their military prowess.

Summing up, nothing is to be gained by denying or evading the fact – unpleasant as it may be – that warfare has been a major cog in the engine driving the vehicle of history. And if our aim is to comprehend the past as it actually happened, we make a serious error if we try to sugar coat that past. Warfare must be faced squarely and its consequences accepted unflinchingly. Only then can we hope to attain a fuller and deeper knowledge of how the world came to be what it is.

References

Bondarenko, Dmitri 2006 *Homoarchy; A Principle of Culture's Organization.* URSS, Moscow.

Carneiro, Robert L. 2003 *Evolutionism in Cultural Anthropology; A Critical History.* Westview Press, Boulder, Colo.

Ferguson, R. Brian 1995 *Yanomami Warfare; A Political History.* School of American Research Press, Santa Fe, NM.

Fried, Morton H. 1967 *The Evolution of Political Society.* Random House, New York.

James, William 1953 *The Philosophy of William James.* Edited by Horace M. Kalen. The Modern Library, New York.

Keeley, Lawrence 1996 *Warfare Before Civilization.* Oxford University Press, New York.

Spencer, Herbert 1967 *The Evolution of Society; Selections from Herbert Spencer's Principles of Sociology.* Edited by Robert L. Carneiro. The University of Chicago Press, Chicago.

Chapter 15
Medical Ramifications of Failing to Acknowledge Amerindian Warfare, Violence, Social Inequality, and Cultural Enigmas

John Walden

Abstract Recognizing and acknowledging the universality of human behaviors, including frailties, in Amerindian populations is an essential step in developing effective, basic healthcare delivery programs. The author discusses tribal warfare, violence, social inequality and cultural enigmas and argues that suppressing scholarly data on unflattering realities of indigenous life and reliance on bowdlerized accounts undermines the accuracy of needs assessment in project development which may, in turn, compromise optimal healthcare delivery.

> *A previous era refused to acknowledge the intelligence, sociability, and generosity of uncivilized people and the richness, effectiveness and rationality of their ways of life. Today, popular opinion finds it difficult to attribute to tribal peoples a capacity of rapaciousness, cruelty, ecological heedlessness, and Machiavellian guile equal to our own.*
>
> Keeley (1997):170

I have had the privilege of living, working, and trekking with indigenous peoples throughout rainforest regions of Amazonia virtually every year since 1966. The curious intertwining of the tribesmen's lives with mine has allowed me to witness a spectrum of human nature from all that is good – by far the rule – to that which reveals humanity at its most base. Drawing on these experiences, one purpose of this chapter is to argue the appropriateness of recognizing and acknowledging the universality of human behaviors, including frailties, in Amerindian populations as an essential step in developing effective, basic health care delivery programs; another is to suggest that naiveté makes for poor outcomes in health program planning and execution.

J. Walden, M.D. (✉)
Department of Family and Community Health, Marshall University, Joan C. Edwards School of Medicine, 1600 Medical Center Drive, Suite 1400, Huntington, WV 25701, USA
e-mail: walden@marshall.edu

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As the editors of this book requested that my contribution take the form of *reflections,* I will take a short departure from the main thrust of the chapter and offer these personal thoughts as they apply to the health and welfare of tribal populations in the Americas who have for so long allowed me the pleasure of their company. The following four themes are, in my opinion, underappreciated in planning health-care delivery programs and if not heeded, make for poor outcomes.

Applying What We Already Know

> *"…what is needed is the application of what we already all know. We have diagnosed many things we think are wrong, and it is now a question of applying our knowledge…. Why are we so incapable of applying what we have learnt?"*
>
> Lightman (1977):320

As a physician, my concern is not so much the "then" of Amerindian existence but the "now" – the overarching imperative is not studying tribesman in an effort to gain arcane insights, but doing whatever it takes to implement effective health interventions to ensure that they survive and, indeed, thrive. With respect to isolated populations, the issue is not that of coming up with a new vaccine to prevent disease or a new drug to treat disease; rather, it is finding ways of getting life-saving medicines and vaccines that have been in existence *often for decades* to the target population via an effective infrastructure for delivering adequate health care.

Limitations of the Role of Physicians

> *The basic problems lie at the preventive level and do not require the expensive assets of primary health care delivered by Western physicians. Some form of community health care with perhaps a physician in a consultative role would have been more rational and certainly much cheaper*
>
> Lightman (1977):313

Long ago I came to the realization that the prime reasons people living in the rich nations of the world enjoy good health have far more to do with safe water and sanitation, childhood vaccination programs, and the availability of ample food supplies than the usual interventions of medical doctors (like me) working in clinics and hospitals; take away safe water, sanitation, vaccines….and, healthwise, the USA becomes third world almost overnight.[1]

[1] 1 The 1993 Milwaukee outbreak of diarrheal illness caused by the protozoan parasite *Cryptosporidium* getting into the city water supply is a classic example of the profound consequences of even a brief disruption of safe tap water. During a period of approximately 2 weeks, over 400,000 residents of Milwaukee became ill with stomach cramps, diarrhea and, in some instances, dehydration. In addition to a significant breakdown in the normal functioning of business and city government, over 100 deaths have been attributed to this outbreak. The cost of outbreak-associated illness was estimated to be $31.7 million in medical costs and $64.6 million in productivity losses (Corso et al. 2003).

It is my professional opinion that health programs among marginalized populations that are *totally dependent on physicians alone* – from health promotion and disease prevention to diagnosis and treatment – will fail 100% of the time. Often, what physicians can do to best effect outcomes is participate collaboratively in a supervisory training or consultancy role in strengthening the local infrastructure of healthcare delivery.

The Unsustainability of a State of Isolation

> South American governments have never been able to prevent commercial and religious contact with indigenous peoples.
>
> Goulding et al. (2003)

I believe few, if any, tribal populations throughout Amazonia have been hermetically sealed off from contact with the outside world and its diseases for generations. Virtually every time I have come upon a report of a band or tribe billed as "newly discovered" or "uncontacted," with a little digging, I have found evidence of prior direct or indirect contact going back decades, often centuries. To me, "minimally contacted" seems to have more currency than "uncontacted."

This fantasy of first contact recently made headlines worldwide through sensational photos shot from an airplane showing naked tribesmen in a remote region of Brazil aiming their arrows skyward. Within days, experts opined that the "uncontacted" group was probably a previously recognized band from Peru pushed out of Peru into Brazil by loggers (Wilford 2008). A number of anthropologists have shared with me their personal opinion that most, if not all, tribes have been contacted at one time or another, though not necessarily within the past 100–200 years.

Contacts (whether "initial" or "renewed") occur through well-recognized intrusions from the outside by natural resource exploration teams, missionaries, colonists, *garimpeiros*, road builders and scientists. It is inevitable that direct contacts will occur with increasing frequency even in the most isolated regions of the American tropics not only as a result of population movements into those areas, but also as a result of internal pressures as indigenous peoples themselves seek goods and services from the outside world. Early and Peters, among others, have commented on the underappreciation of Amerindians as active agents in contact with their own attitudes and motivation for change (Early and Peters 2000).

Another under publicized reason why Amerindians have always had contacts, at least with neighboring bands and tribes, stems from the fact that tribesmen tend to be inveterate trekkers. In addition to traveling to hunt, to exchange goods, to find a mate, to flee raiders, to make war, or to visit relatives, I am convinced they sometimes travel as I often do – just for the hell of it. Of this latter, not enough attention has been paid, as though indigenous populations have less capacity for spontaneous whim and "seeing-what's-out-there" than other groups of humans. The desire to be somewhere other than where you currently are may be a universal urge.

Whether one views maintaining isolation as a positive or a negative goal, I see no evidence that isolation through protectionist legislation – or any other means – is under any circumstance, a realistic option. Furthermore, from a health maintenance standpoint, the existing high prevalence of tuberculosis, sexually transmitted diseases, and deadly falciparum malaria found among many tribal populations further negates a strategy of isolation; it takes Western medicine to treat these diseases as no known indigenous cures exist. Hepatitis B infection is highly endemic among many Amerindian peoples and can be prevented by Western vaccines (Coimbra et al. 1996).

The Effectiveness of Limiting Ingress into Minimally Contacted Populations

> "It is practically impossible to find communities which are microbially and culturally uninfluenced from outside".
>
> Polunin (1977):6

While on the subject of isolation, some personal thoughts on the strategy of protecting tribesmen from the onslaught of imported viral illnesses through the restriction of ingress by outsiders to only those individuals approved by some healthcare authority or other bureaucratic entity:

It has been recognized for some time that Amerindians tend to have more severe reactions to many viral illnesses. Influenza and even measles can result in serious illness and death. Thus arose the notion that by restricting travel of potentially infected individuals, tribesmen would be protected. In actual practice, there are at least three problems with this strategy. First, as previously noted, tribesmen travel extensively for many different reasons and, with rare exceptions, at some time during any given year, are likely to come into contact with outsiders or with other tribesmen who have had recent direct contact with potentially infected individuals within a time frame that would allow for maintenance of a communicable disease. Second, I have not seen consistent quarantine of individuals, including the very healthcare authorities who advocate quarantine, for a period of time long enough for individuals to be unlikely to harbor an infectious agent during the quiescent incubation phase. Third, from numerous examples I have observed first hand, health authorities, especially agencies charged with Indian Protection, often use restrictions to limit ingress solely for political or personal reasons.[2]

[2] It turns out that the actual cause of morbidity and mortality from viral respiratory illness among Amerindians is often secondary bacterial infection. Thus, where standard antibiotics are available, morbidity and mortality can often be dramatically reduced by treating individuals seriously ill from respiratory illness. Individuals working with Amerindians are advised that in addition to taking the standard vaccines for third-world travel to protect themselves, they should receive the influenza vaccine recommended by the World Health Organization in any given year to avoid transmission of influenza to vulnerable tribesmen.

The Inevitability of Changing Cultural Perspectives

Cultural change is inevitable; to think otherwise is counterproductive for those whose desire to assist Amerindians rises above naïve romanticism.

An example of this inevitable change is the major cultural shift in the traditional roles of women in tribal societies. Living as I often do in the homes of indigenous peoples, it is apparent to me that young women – especially girls who are enrolled in school or have occasional access to frontier towns via river, trail, or STOL aircraft – are usually not so keen on being one of several subordinate wives within a polygynous household. Riding a bus through Shuar Indian territory between the Ecuadorian towns of Puyo and Macas is an eye-opening experience. One encounters giggling teenage Shuar girls – the grand-daughters and great-granddaughters of men who participated in revenge killings, including the preparation of *tsantsas (*shrunken heads) of slain victims – hopping on and off the bus dressed precisely as my American daughter did when she lived in South Beach Miami – and with the same fondness for having a cell phone plastered against one ear when within signal range.

Such changes in cultural perspectives will have significant implications throughout tribal society, not the least of which will be the increased prevalence of females as trained healthcare providers and health promoters. Privately, a number of government, NGO and Christian mission organizations involved in training indigenous healthcare workers strongly encourage the preferential training of female health providers over men. This is justified on the grounds that women tend to get their work done with fewer distractions, such as a tendency toward preoccupation with ranking, dominance and power that often compromises the effectiveness of their male counterparts.

At this juncture, it would seem appropriate to make a personal comment on the changing cultural perspectives of missionaries. Over the years, I have encountered a surprising number of missionaries who struck me as downright miserable people (doing their very best to make everyone else miserable) and who, judging from their behavior, *loathed* the indigenous peoples with whom they lived and worked. During the past two decades, however, I have increasingly encountered missionaries with a greater appreciation for the fascinating weave of differing cultural beliefs and behaviors, and genuine *joie de vivre.* It is probably not just coincidence that the modern breed of missionaries tend to have a higher and more diverse degree of formal education. I agree with Peters who states: "The public has not recognized the missionaries' contributions of health care, literacy, and ethnographic work; and it is not generally known that missionary work, like much else in society, has altered considerably in the last generation" (Peters 2001).[3]

[3] Writing on the biases of anthropologists, Peters – himself a Professor of Sociology and Anthropology – accuses anthropologists of intellectual colonialism and goes into the following delicious riff: "In many ways, they (anthropologists) are not much different than missionaries, except their sojourn with indigenous people is usually short-term. They are not present for the long-term dialogue and dialectic between the two cultures. All the while, the public tends to view most of what they write as truth, as authority" (Peters 2001:273).

Warfare and Other Manifestations of Violence

> The myth making about primitive warfare resulting from the current Western attitude of self-reproach is, of course, censurable on scholarly and scientific grounds. But it is also deplorable on practical and moral grounds. The ever-immediate problem of how all of humanity can, in Lincoln's immortal words, "achieve and cherish a lasting peace among ourselves and with all nations" is not likely to be solved while we are in the thrall of nostalgic delusions.
>
> Keeley (1997:179).

In a discussion on the impact of publishing unflattering factual data about a study population, Hurtado et al. (2001) summarized the contrasting viewpoints of individuals who feel that publishing negative information can damage a population such that enemies can justify denying them certain rights and privileges versus the position of others who contend that failure to publish factual data would be "deceitful and scientifically unethical to conceal or change".

I have had mixed feelings about putting together the list of societal behaviors that follows in this chapter in that I realize I am potentially casting a negative light on the very people whose company I have sought out above all others throughout my entire adult life. I believe, however, that it is best to plan based on life as it is rather than on life as perhaps it should be; I have seen too many well-intentioned programs and projects go astray because proponents painted the world entirely in pretty colors.

My involvement with native peoples has been almost exclusively pleasant, with peak experiences being the rule rather than the exception. I have found indigenous inhabitants of the tropical rainforests of South America to be quick-witted, incredibly resourceful, humorous, and affectionate. With few exceptions, their child-rearing practices have struck me as models of common sense, kindness, and practicality. And, on a personal level, I have found it therapeutic to temporarily jettison the work-a-day world, relearn patience, and develop an appreciation that the rhythms of nature are not governed by the ticking of a clock; the biospheric cadence of tribal life reminds me of what it is to be truly human.

Readers should keep in mind that beliefs and behaviors vary greatly from one ethnic group to another; bands and tribes living even in close proximity often display cultural traits so diametrically opposite as to stagger the imagination. Also, it is well to keep in mind that many behaviors so repellant to Western sensibilities at the time of early contact are now of historical interest only and seldom, if ever, encountered today.

Warfare

As fate would have it, the first South American indigenous peoples I came to live with on and off over a period of years (beginning in the mid-1960s) were the Cayapa (Chachi) Indians inhabiting the lush tropical forest of northwestern Ecuador near the border with Colombia. Among the Cayapa, I could find no collective memory of

warfare. Murra, writing in the Handbook of South American Indians, comments: "The *Cayapa* pride themselves on their peaceable relations with their neighbors" (Murra 1963:282). Barrett, in his two-volume classic *Cayapa Indians of Ecuador*, remarks: "Predatory raiding was never practiced by them, perhaps on account of their isolated position as well as by reason of their non-militant character" (Barrett 1925:133).[4]

As I got to know the Cayapa better, even their ability to conceptualize hypothetically the notion of warfare seemed oddly wan. So taken was I by their complete disinterest in purposeful violence against another human, I began to refer to the Cayapa as "The Gentle People." And, lacking personal experience with any other tribe for purposes of comparison, I made the naïve leap that all Indians must be like the Cayapa and that the reports I had read on the warlike nature of South American Indians were surely all damnable lies. Wrong! As it turned out, I had chanced upon one of the few rainforest dwelling societies in South America (that I am aware of) that had truly lived in peace for generations.

According to Keeley, "Cross-cultural research on warfare has established that although some societies did not engage in war or did so extremely rarely, the overwhelming majority of known societies (90–95%) have been involved in this activity" (Keeley 1997:27–28). Those who observed Amerindian populations during their first sustained contact with the outside world routinely reported a high background level of inter- and intra-tribal warfare and revenge killings – data indicates a fairly consistent 20–40% death rate by violence in many regions of Amazonia among adult males; rates of deaths as a result of violence as high as 60% have been documented (Beckerman and Yost 2007; Larrick et al. 1979; Yost 1981). Interestingly, after sustained contact, most Amazonian groups rapidly abandoned generations of warfare and violence. Influences, including Christian missionization, government agents, schools, and sports – especially intervillage soccer tournaments! – have been credited with the transformation to more pacific lifestyles. In most regions, warfare is today nonexistent (Robarchek and Robarchek 1998; Chagnon 1988).

[4] In 1969, while a medical student, I had the opportunity to travel by canoe to the "last hut" on the Rio Hoja Blanca at the headwaters of the Cayapa River. Still current at that time was the tribal recollection of the only known taking of a human life by the Cayapa in relatively modern times. This singular event was recounted by Barrett as follows (and mirrors in all details what was told to me by the Cayapa themselves): "There is one crime, however, which demands a severe penalty, namely, outrages against women. The standard of ethics is very high among the Cayapa themselves, and any case of unfaithfulness, if such were to be discovered among themselves, would be most severely dealt with. About 1897 or 1898 two Negroes came to a Cayapa house, drove the men away, and took possession of the premises with the women occupants. On the following day the chief sent down the river a commission which conveyed to the local *teniente politico* at La Tolita the heads of the negroes, carefully wrapped in leaves of the *hoja blanca*, as well as the compliments of the chief, and with an explanation as to the reason why the heads had been separated from the bodies. Incidentally the explanation conveyed the intelligence that future offenses of this kind would be punished in like manner…So far as could be learned, no similar crime has been committed since that time" (Barrett 1925:38–39).

When I have directly asked Shuar and Achuar Indians inhabiting lowland areas of Ecuador and Peru why they believe there was a turn away from tribal warfare, the answer has inevitably been "the arrival of the missionaries." Boster et al. state:

> In the case of the Waorani, peace came following the arrival of Protestant missionaries. The pacification of the Waorani was incredibly rapid – in a 6-year period from 1967 to 1973, more than 500 Waorani came to escape the violence and to settle in Tewænö, the Wao community of converts. The pacification and concentration of 85% of the population on less than a hundredth of a percent of the original territory accomplished several things simultaneously: It ended the feuding by offering a refuge area, it allowed kin to reunite with one another, it allowed many people to find spouses, and it gave the Waorani important access to trade goods. Thus, many of the problems caused by the endless violence were solved by conversion to Christianity and mass resettlement in a newly created Christian community
>
> Boster et al. (2004):481.[5]

In the case of some tribal groups, however, truces are tenuous at best. The Waorani inhabiting Pastaza Province of Ecuador, for example, have sporadically renewed old patterns of intra-tribal violence. One anthropologist with extensive experience among the Waorani reports that a small, isolated Wao community (which was known to exist but had not experienced direct entry by nonindigenous outsiders) was recently decimated by missionized Waorani using modern weapons (Confidential personal communication, 2008). Chagnon reports that: "shotguns are becoming more common in villages where the Salesians operate along the Upper Orinoco. In 1990 a party of mission Yanomamö from Mavaca, armed with shotguns, joined forces with a splinter of the Patanowä-teri and treacherously attacked a remote village that was becoming friendly with the Patanowä-teri. They killed two men with shotguns and abducted seven women. The fact that they had shotguns probably best explains why they would travel so far and arbitrarily attack a group with whom they had no previous quarrel" (Chagnon 1992:190). He added, "Shotguns now give those [Yanomamö] at the missions a tremendous advantage in fights with their distant neighbors, who have only bows and arrows" (Chagnon 1992:219). To this day, revenge killings and warfare are well known among some Yanomami groups in Amazonas State, Venezuela, even those with long-sustained missionization.

Given the voluminous literature (going back centuries) on the ubiquity of Amerindian warfare, ritual fighting, and the like, I am continually amazed by the stance of those in academia who argue that peace reigned throughout indigeneland in the Americas prior to the arrival of Europeans or, equally farfetched, that peace is the norm among all minimally contacted tribesmen to this day. Convoluted theories proposed by squabbling academicians regarding the etiology of tribal warfare strike me as political correctness gone awry – with a whiff of tenured faculty and Ph.D. candidates with too much time on their hands. When I have *asked tribesmen themselves*, I have found that the preoccupation with warfare and homicide was

[5] Readers who wish to read more about the conditions surrounding violence and tribal populations should consult the fascinating and informative text *Waorani: The Contexts of Violence and War*, Authored by Clayton Robarchek and Carol Robarchek. Harcourt Brace College Publishers.

inevitably attributed to revenge killings (vendettas), sexual disputes, and shamanism/sorcery. Although revenge killings historically seemed the predominant rational for homicide, in recent years my personal experience with tribesmen whose families have been directly impacted by homicidal activities attributes sexual disputes and sorcery as the more common underlying factors in causation of death by violence.

Physicians and nurses working with tribal populations known for sustained or sporadic killings should be versed in treating penetrating wounds from shotgun pellets, rifle/pistol bullets, arrows, spears, axes, and machetes, depending on the availability and weapons of choice of the local indigenous population. Emergency Department (ED) and surgical speciality experience in major urban centers in the U.S.A, where gang and drug related violence is all too common, can be useful training for stabilizing and treating patients with penetrating wounds.

Rage Killings

Boster et al. and others reported that among the Waorani, intense rage at the death of kin was deemed sufficient to account for a subsequent killing without any clear link between the cause and the person killed in response (Boster et al. 2004). As stated by Beckerman and Yost, among the Waorani, rage killing was "principally a reflection of a burning emotion; it acted to make graphically explicit the extreme to which the negative emotion had reached. Consequently, the killing did not have to have a logical relation (from our Western point of view) between the 'cause' and the victim" (Beckerman and Yost 2007:142–149).

The Robarcheks' give an example of unfocused rage at some frustrating event directed at an innocent bystander. A man was killed by *kowodë* ("outsiders" – non-Waorani). Upon hearing of the death, a sibling of the deceased, seeing his elderly grandmother lying in her hammock, drove a spear through her shouting: "Why should a worthless old woman like you be alive when my brother is dead?" (Robarchek and Robarchek 1998:122). Likewise, the precipitous killing of infants as a consequence of men experiencing homicidal rage has been reported from multiple sources among tribes in addition to the Waorani (Biocca 1970; Robarchek and Robarchek 1998).

As such, the emotional response we call *rage* may be all that is required for killing.

Hastening Death Among the Elderly

With respect to the elderly, my personal experience (mid-1960s to present) among tribes inhabiting the Colombian and Ecuadorian littoral, as well as most tribes inhabiting the Eastern lowlands of Colombia and Ecuador, western Peru, and southern Venezuela, is that no effort is made toward hastening death when it is clear that the

person's time has come. The individual may be placed in a small hut or "outbuilding" where he or she spends his or her final days with minimal contact from members of the community at large but receives brief visits once or twice daily by one or another family member who brings just enough food and water to sustain life. When the person expires, it is not due to starvation or dehydration.

However, hastening death among the elderly has been reported among many other tribes, both in the past and currently. Referencing the Yahgan of Tierra del Fuego, Bridges discussed *Tabacana*, the custom of hastening the end of aged relatives by strangulation: "The natives had recourse to it only in cases of long-continued insensibility and utter weakness preceding death. *Tabacana* was kindly meant; it was carried out openly and with the approval of all except the victim, who was too inanimate to do anything about it" (Bridges 1963).

A missionary with decades of experience among the Yanomami of the Upper Orinoco region of Venezuela recalled instances where, in her opinion, "kindnesses" in hastening death of the aged and feeble sometimes hinged on "kindness to the family or the community, because they were getting tired of the inconveniences caused by the ongoing sickness" (confidential personal communication).

Violence Toward Women

Before discussing violence against women among indigenous Amazonian populations, a few words on the prevalence of partner (husband or an intimate male partner) violence worldwide:

As noted in the World Health Organization (WHO) report on Violence and Health, "Intimate partner violence occurs in all countries, irrespective of social, economic, religious or cultural group" (Rennison 2002:89). Partner violence includes acts of physical aggression, psychological abuse, and forced intercourse. Between 10 and 69% of women reported being physically assaulted by an intimate male partner at some point in their lives in 48 population-based surveys from around the world. Some examples of selected population-based studies from 1982 to 1999 of the proportion of women ever assaulted by a partner are as follows

Turkey	58%
Bangladesh	47%
Nigeria	31%
Barbados	30%
South Africa	28%
México (Guadalajara)	27%
Canada	27%
United States	22%
Norway	18%
Paraguay	10%

Triggers, by rationale, for physical violence against a spouse commonly include, neglect of children or house, refusal of sex, suspicion of adultery: "An unfaithful woman deserves to be beaten" (Rennison 2002:94), answering back, or disobeying. As stated in the WHO Report on Violence and Health: "Societies often distinguish between 'just' and 'unjust' reasons for abuse and between 'acceptable' and 'unacceptable' levels of violence. In this way, certain individuals – usually husbands or older family members – are given the right to punish a woman physically, within limits, for certain transgressions. Only if a man oversteps these bounds – for example, by becoming too violent or for beating a woman without an accepted cause – will others intervene" (Rennison 2002:95).

That beatings are a sign that the husband cares for his wife has been reported in various cultures. Gmelch, writing about the Irish Tinkers, states: "It should also be noted that some women, especially the older and more traditional, consider a beating a sign that their husbands still care about them." He records that the residents of a Tinker camp outside Dublin "gossiped about one family in which the husband cared so little about his wife that he 'never laid a hand on her'" (Gmelch 1977:122).

Liebow reported a similar pattern among poor black ghetto families in Washington, DC where occasional whippings were interpreted by the victim as "some tangible evidence that her husband cared about her, about them as a family, and that he was willing to fight to protect his (nominal) status as head of the family" (Liebow 1967).

In some regions of the world such as the Eastern Mediterranean, a woman who is raped or who has sex outside marriage and is thus thought to disgrace the family honor may be killed. Mercy found that 47% of women murdered in Alexandria, Egypt, were killed by a relative after they had been raped. "Women in Egypt are doubly victimized by the crime of rape of sexual assault. First, they are victims of the assault itself, but secondly, given Egyptian values and customs, they are severely shamed by having been raped. Virginity and honor are highly valued in Egyptian society. The rape of a female is viewed as a severe blow to the family's honor, bringing great shame to the female victim from both her family and the rest of society. This shame can lead to the murder of the female rape victim by family members or to an attempted or completed suicide on the part of the female rape victim" (Mercy 1993:74).

Among some Amerindian populations, wife beating was, and is, a consistent theme. Lizot, Good, and Chagnon frequently refer to wife beating as well as violence escalating to murder among the Yanomami (Lizot 1985; Good 1991; Chagnon 1992). With respect to wife beating, Chagnon stated: "Women expect this kind of treatment. Those who are not too severely treated might even measure their husband's concern in terms of the frequency of minor beatings they sustain. I overhead two young women discussing each other's scalp scars. One of them commented that the other's husband must really care for her since he has beaten her on the head so frequently!" (Chagnon 1992:113). *Yanoama*, the narrative of Helena Valero, a white girl captured by Indians living in the forests of southern Venezuela and northern Brazil, makes for particularly disturbing reading on the subject of physical abuse toward women (Biocca 1970).

My own experience with tribal populations over several decades is that wife beating is considered an abomination among many, if not most, cultures today, and

violators are subject to ostracism and physical punishment. Wife beating, however, remains a serious problem to this day among a few groups, but even then seems less prevalent than in the past. There is a growing consensus among Amazonian Indians that wife beating, for whatever ascribed justification, crosses the line. Not surprisingly, wife beating is more common coincident with the ingestion of excessive amounts of *chicha* (fermented beverages usually made from maize or manioc) and, especially, high proof alcohol distillates.

Regarding rape: Because of numerous confounding variables (inconsistent definitions of rape; over- and under-reporting; false-reporting, and so on), it is difficult to get reliable rape-specific statistics. It is generally agreed that the incidence of rape is greatly underreported worldwide. In the USA, it has been estimated that only 39% of rapes are reported (Bureau of Justice Statistics 1999). In England, estimates are that between 75 and 95% of rape crimes are never reported to the police (Her Majesty's Inspectorate of Constabulary 2007).

Sexual assault statistics, as reported by George Mason University Sexual Assault Services, suggest that one out of three women worldwide have experienced rape or sexual assault and that in some countries, up to one-third of adolescent girls report forced sexual initiation. Anmesty International reported that one in three Native American women in the USA will be raped at some point in their lives (Washington Post, April 26, 2007. Darryl Fears, Kari Lydersen. Native American women face high rape rate, report says. Page A14).

Given the difficulty of getting accurate data even from the wealthy nations of the world, it is safe to say that the prevalence of rape in tribal populations of Amazonia is essentially unknown. What is known, however, is that rape and gang rape have been reported among some tribal populations of Amazonia from initial recorded contact into current times. Gregor recounts Mehinaku (Brazil) gang rape of women prior to the 1940s who entered the prohibited men's house and gazed upon sacred flutes (Gregor 1985:100–104). He reports that the last such gang rape (initiated by staring at the sacred flutes) occurred around 1940 and that in this unfortunate case, the woman delivered an "oversized" baby that was put to death "because it had too many fathers" (Gregor 1985:102). Gregor, writing in 1985, states: "All Mehinaku women live with the threat of rape" (Gregor 1985:103).

Chagnon describes raids in which a captured woman is "raped by all the men in the raiding party and later, by men in the village who did not go on the raid. She is then given to one of the men as a wife" (Chagnon 1992:219). Good witnessed a rape during his work among the Yanomami of Venezuela (Good 1991:101–104).

Abortion

It is estimated that 46 million induced abortions were performed worldwide in 1995, of which 26 million were legal and 20 million illegal. Estimated induced abortions

per 100 known pregnancies by region: Africa – 15; Asia – 25; Europe – 48; Northern America – 26; and South America – 30 (World Health Organization 1999).

Gendercide (the selective destruction of baby girls mainly through induced abortions) is currently being carried out on a global scale. Made possible through modern prenatal sex-determination ultrasound technology, sex-selection abortion has resulted in vastly exaggerated male per 100 female births, especially in China, parts of India, South Korea, Armenia, Azerbaijan, Georgia, Singapore, and Taiwan. For example, while the natural ratio is approximately 105 males per 100 females, between 2000 and 2005 the ratio of male to female births was approximately 120 in China, 115 in Armenia, and 110 in South Korea; rates described in *The Economist* as "biologically impossible without human intervention" (Xue 2010:77). The societal consequences of "son preference" and the resulting scarcity of brides will no doubt be staggering. As stated by Xue, "A rising population of frustrated single men spells trouble" (2010:79).

Historically and into modern times, abortion for unwanted pregnancies has reportedly been carried out among Amazonian tribal populations through physical means such as repeated, forceful pressing on the abdomen – often in the second month (Early and Peters 2000), and through the use of plant abortifacients (Siskind 1973:208; Hern 1991, 1992). Data on the effectiveness of plant abortifacients is, however, largely anecdotal as is contraceptive knowledge. Hern, evaluating contraceptive use and practice among Peruvian Amazon Indians, focused on *piripiri* (the name generally given for the sedge genus *Cyperus*) which has been reported by numerous authors to be an effective contraceptive. Among the Conibo tribe of the Ucayali River, 50% of all females aged 15 years or more were aware of herbal contraceptives, and 43% of the women between the ages of 20 and 54 years had actually used them. Comparison of fertility in woman who had and had not used herbal contraceptives, however, revealed no support for the effectiveness of *piripiri* (Hern 1976).

Infanticide and Other Forms of Violence Toward Infants and Children

> *Infanticide has been practiced on every continent and by people on every level of cultural complexity, from hunter gatherers to high civilizations, including our own ancestors. Rather than being an exception, then, it has been the rule*
>
> Williamson (1978):61

Infanticide decreased dramatically after contact and missionization, but still occurs.

"In a few tribal societies in Amazonia the second of twins may be dispatched on the grounds that multiple births are unacceptably animal-like; that a woman cannot produce enough milk for more than one baby at a time" (Robarchek and Robarchek 1998:48) or that the second of twins must be of a man other than the father (Steward 1963). Among the Yanomami, the killing of one of twins has been justified by women of the tribe on the grounds that "It would be difficult for a mother to carry a

baby in each arm and still be able to cut firewood, work in the garden, roast plantains, etc." (confidential personal communication). Among the Kuna (San Blas) Indians of Panama, where the prevalence of tyrosinase-positive albinism (OCA2) is exceptionally high, infanticide against albinos ("Moon-Children") was common until the early part of the twentieth century when Protestant and Catholic missionaries discouraged the practice. By the middle of the twentieth century, Kuna albinos held responsible positions as teachers, government workers, and shop-keepers (Woolf 2005).

Firstborn females may be killed at birth; few cases of preferential male infanticide are known (Williamson 1978). Early and Peters discuss infanticide among the Xilixana Yanomami of Brazil and provide a useful table of frequency and percentage of infanticide by historical phase (precontact/contact), sex, and reason (Early and Peters 2000).

Deformed newborns are not uncommonly killed. Gregor addresses infanticide and the killing of deformed newborns among the Mehinaku Indians of the Brazilian Amazon. (cited in Scheper-Hughes 1992:376). According to Gregor's (1988) informants, "The birth of a deformed infant is referred to as a *kanupa*, a forbidden or a tabooed thing, and it is a source of great shame to the parents. At birth each infant is carefully examined: 'We look at its face, at its eyes, its nose, and at its genitals, its rectum, its ears, its toes and fingers. If there is anything wrong, then the baby is forbidden. It is disgusting to us. And so it is buried'" (Scheper-Hughes 1992:376; see also Gregor 1988). Burying children alive immediately after birth has been reported among several tribal populations (Steward 1963). Among the Cubeo of the northwest Amazon, an unwanted child was said to be buried alive at the very spot where it was born (Goldman 1963:166). The custom of burying children alive with their fathers who were mortally wounded in a raid has been reported among the Waorani by Yost (1981).

Other means of killing newborns in Amazonia include abandoning the child in the forest and strangulation: "The mother usually places a stick across the throat of the infant and applies pressure so that the baby chokes to death" (Peters 2000:205). According to Harner, among the Shuar, the birth of twins was never a reason for infanticide and neither was the birth of undeformed babies by married women; deformed children, however, were killed by crushing the infant with a foot (Harner 1972:85).

(Larrick et al. 1979) document significant levels of infanticide among the Waorani Indians of Ecuador based on interviews and genealogies extending back several generations. Regarding the Yanomami, Neel states:

> Limited data are available on infanticide and infant and childhood deaths from histories from Indians and, for some villages, the observations of missionaries. From the unusual sex ratio among children under an estimated age of two we assume there is preferential female infanticide, to the extent that in addition to some 3–4% of infants of both sexes killed for such reasons as presence of congenital defect, an additional 25% of all females born are killed. We estimate that the average Yanomama woman between the ages of 15 and 40 has a liveborn child every 3–4 years, of which, averaging the sexes, some 85% are permitted to live.
>
> Neal (1977):156

A missionary with over 30 years of experience living with Yanomami Indians in Venezuela estimates that infanticide currently takes place in no more than 2–3% (almost certainly less than 5%) of Yanomami births in villages that have some regular outside contact (confidential personal communication).

Hill and Hurtado document cases of extreme child neglect among the Ache of Paraguay. "We have observed parental neglectful behavior that the Ache label *pianjambyre* or 'neglected by its provider (after a parent initiates sexual relations with a new partner)' directly after a man abandoned his wife and newborn child, and there was little doubt that the intention was for the child to die (which it did in about 2 weeks)…Additionally, in accordance with informant statements, most children killed to accompany an adult in the grave are female (80% of all children buried with a deceased adult)" (Hill and Hurtado 1996:163–164).

Hill and Hurtado also state that an Ache "woman reported that her first child was killed because the older men in the band did not want a girl. Another woman mentioned that her first child was killed because the father of the child had abandoned her. A man killed the small boy of another couple because he was 'in a bad mood and the child was crying'" (Hill and Hurtado 1996:164).

On several occasions, I have encountered missionary families who adopted indigenous babies when the plan to kill a newborn became known. I am also aware of medical personnel and NGOs who have adopted unwanted newborns. A missionary friend reared among the Yanomami reports instances in which missionary families "rescued" newborns, who otherwise would have been killed, by promising to return the child in a few months. Though emotionally difficult for the family who temporarily had custody of the child, returning the child to the birth family or relatives after a few months resulted in the desirable outcome as the family or a relative were "happy to take it and care for it as though nothing had happened" (confidential personal communication).

Child Sorcery and Execution of Child Sorcerers

The phenomena of child sorcery and the killing of child sorcerers in Western societies has been widely reported. Consider the following from *The Child and Childhood in Folk-Thought*:

> … there is nothing so astonishing and revolting as the burning and putting to death of mere children for practicing the arts of the devil. Against innocents of both sexes counting no more than ten or twelve years, there appear on the records the simple but significant words *convicta et combusta* convicted and burned….In Würzburg, between 1627 and 1629, no fewer than 157 persons suffered death for witchcraft (guilty and innocent), and among these were included 'the prettiest girl in the town'; two mere boys; a wandering boy of twelve; a maiden of nine and her sister, younger in years; two boys of twelve; a girl of fifteen; a boy of ten and a boy of twelve; three boys of from ten to fifteen years of age. At Lille, in 1639, a whole school of girls – fifty in number – barely escaped burning as witches. Everywhere the maddened, deluded people made sacrifice of their dearest and holiest, tainted, they thought, with the touch of the evil one
>
> Chamberlain (1896):253

As recently as 2010, a controversy erupted over the veracity of reports regarding children in Nigeria being abused and even killed after being accused of being witches (Purefoy 2010).

Fernando Santos-Granero reviewed the practice of accusations of child sorcery and the punishment and execution of child sorcerers among four of six Arawak-speaking peoples living in the Selva Central region of eastern Peru. It was thought that with the "mass conversion to Evangelism, Adventism and Catholicism, the rapid expansion of formal education and health services, and greater integration into a market economy" in the region, these practices had been abandoned as no cases of child witchcraft were reported in the literature after 1970 (Santos-Granero 2004:272). In the mid-1990s, however, accusations of child sorcery resurfaced among the Asháninka of the Tambo River area of Peru. Accusations of sorcery have also been reported among the Yanesha of the Palcazu basin, among the Asháninka of the Pichis and Satipo valleys, and among the Ashéninka of the Gran Pajonal (Santos-Granero 2002).

Summarizing historic data, Santos-Granero remarked that Amerindian children accused of sorcery were condemned to death by bludgeoning, garroting, stoning, drowning, being shot with arrows, or being burned alive. He opined that such gruesome means of execution came about because child sorcerers were considered to be no longer human. (Santos-Granero 2004).[6]

Medical Implication of Cultural Inequality

> All animals are equal, but some animals are more equal than others.
> Animal Farm – George Orwell

Throughout the eastern lowlands of the Andean mountain chain and out into flatter Amazonian *terre firme*, ministries of health, NGOs, and Catholic and Evangelical Christian missions have participated in the training of indigenous *Auxiliares de Enfermería* (Health Auxiliars) and *Promotores de Salud* (Health Promoters) who practice in their home community as a type of "Mid-Level Practitioner" (though without the rigor and duration of the formal training necessary for Nurse Practitioners and Physician Assistants). In the case of Auxiliars, the focus of training is on diagnosing, treating, and preventing the basic health problems encountered in the region. Promoters generally play more of a role in health promotion and disease prevention, though some promoters are experienced in diagnosing and treating diseases. Auxiliars generally have 9 months to 2 years of training, whereas promoters may be volunteers, often with minimal or no formal training. Some promoters, however, have extensive practical experience and may have participated in numerous training

[6] In the American Southwest, witches/sorcerers were likewise executed and their bodies mutilated (Darling 1998).

sessions and function at a high level. Auxiliars usually have the equivalent of a middle-school or, in some cases, a high school education, and are usually compensated for their work. In the past, promotors may have had little or no formal education, though many promotors today have the equivalent of a sixth grade education. Many promoters are not compensated for their work as they are considered "volunteers."

More often than not, it has been my experience that indigenous healthcare workers behave responsibly and provide services with admirable impartiality. Human nature being what it is, however, there are those who may display a tendency toward taking advantage of their position to distribute medicines, vaccines, and services unequally. In the simplest case of partiality, the indigenous provider's nuclear and extended family may have preferential access to vaccines and medications, especially when these resources are in short supply or an epidemic is at hand. During the course of conducting fieldwork among the Achuar (Shiwiar), Chacon observed how certain indigenous health promoters were accused by fellow villagers of favoring their kinsman over the rest of the community when it came to the distribution of medicines (Richard Chacon, personal communication 2010).

Organizations providing goods and supervising services should be particularly attentive to occasional instances of the failure to share vaccines, medicines, and supplies from village to village. As a hypothetical example: the Ministry of Health delivers a 3-month supply of antiparasitic ampoules for injections to treat cutaneous leishmaniasis, or mutilating mucocutaneous leishmaniasis, to the auxiliar who resides in village A. The auxiliar of village A is responsible for distribution of the injections to auxiliars in villages B and C. It is not unknown for villages B and C to receive reduced amounts of the ampoules or none at all.

As such, it would be wise for organizations in charge of providing supplies, including oral and injectable medications, to be especially vigilant in situations where native peoples of differing ethnicities inhabit a given geographic area in which Ministry of Health, NGO, or mission organizations deliver supplies to one ethnic group with the expectation that the supplies will be shared with neighbors of different ethnicity – especially when there has been a history of warfare within living memory.

Medical Implications of Cultural Enigmas

> *The habits of mind that our culture has instilled in us from infancy shape our orientation to the world and our emotional responses to the objects we encounter, and their consequences probably go far beyond what has been experimentally demonstrated so far; they may also have a marked impact on our beliefs, values and ideologies. We may not know as yet how to measure these consequences directly or how to assess their contribution to cultural or political misunderstandings. But as a first step toward understanding one another, we can do better than pretending we all think the same*
>
> Deutscher (2010):42

Some Challenges of Conducting Health Surveys Among Native Peoples

During a sabbatical in 2008, I worked with my Achuar friend Aurelio Freire who was at the time the Medical Director of Nacionalidad Achuar de Ecuador (NAE), on a health-sector focused survey in the Pastaza River Basin of Ecuador. Using a 3-page questionnaire, Aurelio and I collected basic demographic data for 63 Achuar communities represented by NAE in the rainforest provinces of Pastaza and Morona-Santiago in the eastern lowlands of Ecuador.

Using the calendar year 2007 as a frame of reference, data was gathered from informants such as the resident Auxiliar, promoter, *síndico* (one who is elected to promote the interests of the community), or schoolteacher (the majority of Ecuadorian Achuar communities these days have a primary school). Often, several additional members of the community would attend the data collection sessions and offer valuable insights. Because the data was obtained from informants – therefore, relying heavily on individual and collective memory – it will be readily appreciated that population totals (broken down by sex and age), specific causes of death such as illness, injury, and so on, were not necessarily precise.

To the best of our knowledge, this project represents the first attempt to gather concurrent health-focused data from all Achuar communities represented by NAE. As such, the data collected should be considered a "first effort" and not a definitive survey. It is the hope of Aurelio and myself that some governmental or nongovernmental agency will in the future undertake a health-data survey of the Achuar communities in Ecuador that is more comprehensive and meets the criteria for a proper epidemiologic investigation. Two reports came out of this effort. One contains the actual data but, in my opinion, has limited utility; the other, titled Observations and Recommendations, would be of far greater usefulness as a resource for an individual or organization planning a healthcare delivery project among the Achuar.

Additionally, the data obtained were almost certainly inaccurate in many instances due to cultural issues which at this time are not readily understood (at least, they are not understood by me or, apparently, by my Achuar colleague). For example, when initially queried as to "number of deaths in 2007 in your community" in both Spanish (Spanish was well understood and spoken in several communities) and fluent Achuar, informants usually responded "There were no deaths." If, however, informants were later queried as to specific causes of death (such as snake bite, injury, and cancer), positive responses often would be elicited.

This was baffling, both to me and to the Achuar Medical Director. A typical exchange would go as follows:

In Spanish, I would ask the informants: "So, how many people died from any cause during 2007?" Aurelio (who is fluent in Achuar, Shuar, and Spanish) would repeat the question in Achuar. The answer was almost always: "None." In large communities of 200 or more people, I doubted the accuracy of the response and would follow up with: "You mean with 200 people in this village, no one died in

2007?" The response again was usually "No, no one died." "You're sure?" "For certain." *Hmmm……*

The next few questions on the questionnaire were as follows: Deaths Due to Injury; Deaths Due to Illness; Deaths Due to Old Age; Deaths Due to Suicide; Deaths Due to Homicide; Deaths due to Snakebite; Newborn Deaths; Spontaneous Abortion (miscarriage); Deaths Attributed to Shamanism/Sorcery (*brujería*).

"Did anyone die of injury?"
"No."
"Ok, did anyone die of illness during 2007?"
"Yes, the father of the man sitting over there on the bench died of tuberculosis."
"Wait, I thought you said no one died in 2007?"
"One died, the father of that man."
"So, one person died in 2007?"
"Yes, one."
"Ok, in 2007, only one person died of any cause in this community?"
"Yes, only one."
"How about old age?"
"No one."
"And suicide."
"No, no one died of suicide during 2007. A teenage girl killed herself by eating *masu* [a fish poison – *Clibadium spp.* – commonly used by both Achuar (*masu*) and Shuar (*maasu*), also used as a poison for suicide], but that was in 2006, not 2007."[7]
"How about homicide? Was anyone murdered by another person?"
"No, not in 2007; about 3 years ago, yes. But, during the past year, no."
"How about snakebite? Did anyone die of snakebite in 2007?"
"Yes, two – a woman and a man."
"Well, that's three people who died in 2007. One from illness, tuberculosis; two from snakebite. So, three then?"
"Yes, three people died in 2007." And so on……

During the first few exchanges like this, I would turn to Aurelio and say, "Aurelio, is there something I'm not asking the right way?" "You asked the question in Spanish correctly." "I mean, is there something within Achuar culture that requires that I should be phrasing the question in a different fashion?" "No, the question is being asked appropriately." "And you are repeating the question exactly the same in Achuar?" "Yes, exactly the same." "Then *why* is it that if I ask if there were any deaths they say no, but when I ask for specific causes of death, we turn up one, two, sometimes five or six deaths? Aurelio, what in hell is going on here?" He would reply along the lines of "I have no idea. I'm Achuar and I don't understand why this is happening."

In preparing this chapter, I spoke with several researchers who have had extensive experience working with tribal populations throughout Amazonia regarding the

[7] This plant's scientific name was obtained from Bennett et al. (2002:119–120).

enigma of general questions not working as well as specific questions. Everett's response was typical: "I've had the same experience everywhere I've gone!"(Dan Everett, personal communication, 2010). Chacon also reports encountering similar situations while conducting fieldwork among the Achuar (Shiwiar) of Ecuador (Richard Chacon, personal communication 2010). Everett felt that perhaps the lack of specificity and immediacy in their traditional world might in some fashion contribute to the enigma of general questions not working as well as specific questions.

Shamanism

A shaman is a man or woman who, in any tribal society, intercedes between humans and spirits in the context of health versus sickness. The shaman is often the keeper of tribal traditions and may be thought of as the intermediary between the individual or community and the supernatural world (Chagnon 1974, 1992; Harner 1973; Schultes 1976, 1988; Schultes and Hoffmann 1979; Schultes and Raffauf 1990).

To understand the role of the shaman healer/sorcerer, it is important to appreciate that in traditional tribal societies in the Americas, disease due to natural causes is a foreign concept. Virtually all illness and accidents have a magic origin and occur, for example, as the result of an invisible projectile shot by a sorcerer (or spirit) into a victim's body or because the patient's soul has been kidnapped or has fled.

The shaman, the healer/sorcerer, may work by removing the invisible object that causes the illness or by removing the supernatural projectile, usually while under the influence of a psychoactive plant. In the case of a victim's soul that is lost, the shaman may send his own spirit out to retrieve the victim's soul and put it back in the body of the victim. The shaman accomplishes this feat, for example, by transforming into a jaguar. The jaguar-shaman, like the actual jaguar, is able to see in the dark, go long distances, and roam through the forest in the night to find and retrieve wandering or kidnapped souls (Harner 1972).

Because I have interacted with different tribal populations in several countries in Central and South America, I am often asked if I frequently have conflicts with local shaman. The answer is no. Thus far (and despite the quantity of literature citing hostility between traditional healers and Western trained physicians), it has been a nonissue. My own sense of the matter is that the indigenous peoples I interact with seem to have sorted out what they believe works best using traditional therapies and what works best from Western medicine. On the contrary, when they are desperately ill, when Western medicine is not getting the desired result, or just for the sake of playing it safe on both sides of the healing arts, it is not at all uncommon for indigenous peoples to participate in traditional shamanistic healing rituals along with modern interventions. Some Native American physicians and Ph.Ds I know who live and work in North America routinely combine Western medicine and traditional tribal healing practices when they themselves are the patient.

Thoughts on Psychoactive Plants

> *Hallucinogens permeate nearly every aspect of life in primitive societies. They play roles in health and sickness, peace and war, home life and travel, hunting and agriculture; they affect relations among individuals, villages and tribes. They are believed to influence life before birth and after death*
>
> Schultes (1976):7

Throughout the world, shamans put themselves in a trancelike or altered state in order to see and contact the supernatural through fasting, flagellation, sensory deprivation, meditation, and ritual dancing and drumming. Plant hallucinogens are an easy and fast way to achieve visions and supernatural experiences.

To ignore the ubiquitous use of psychoactive drugs among native Amazonians is to deny a key element in understanding the rich and complex weave of Amerindian life. Powerful drugs, such as *ayahuasca,* (*Banisteriopsis spp.*), *Brugmansia spp.*, the virola snuffs (*epena*), and *yopo* (*Anadenanthera peregrine*), are used by shaman and individuals seeking the truth through visions and a supernatural experience (Walden 2007). In some tribes, only the shaman-healer ingests hallucinogens; in others, both the patient and healer partake. In many Amazonian cultures, psychoactive plants are used by tribal members for various purposes outside the context of physical healing. On a recent trip along the Pastaza River which runs from the Andes of Ecuador deep into Peru, I asked an Indian friend about a particularly lovely specimen of Angel's Trumpet (*Brugmansia spp.*) growing in the yard of a hut. I commented on its beauty, then added, "So, is this the house of a *brujo* (sorcerer)?" "No, just the house of a man and his family." "Well," I asked, "does the local *brujo* drop by to harvest the various parts of the plant to make the concoction for visions?" "Oh, no," my friend replied. "This is just for the family and neighbors." Trying to help me to better understand the purpose of the plant and its effects, he continued (with a splendid turn of phrase, I thought): "Our people sometimes use it, in very small quantities, *just to sort things out.*" Chacon reports that Angel's Trumpet is also used by the Achuar to retrieve misplaced or stolen items (Richard Chacon, personal communication, 2010).

When used within the ethnic cultural context, there appear to be few adverse reactions to these nonaddicting psychoactive plants. There are, however, certain instances in which individuals who consume these hallucinogens may experience significant side effects.

Brugmansia spp. employed by shamans contain high levels of the tropane alkaloids: scopolamine and atropine which can lead to delirium and even death. Shamans using *Culebra Borrachero* (*Methysticodendron amesianum*) occasionally must be restrained and there are accounts of what Westerners would label as permanent "insanity" as a consequence of ingesting *Brugmansia spp*. Fortunately, in experienced hands, concoctions of *Brugmansia spp.* are carefully prepared and titrated to achieve the desired effect, usually without serious consequences.

Used by Yanomamö and other tribes, *Yopo* and *epene* (*ebene*) are powerful hallucinogens that create within the user a state of altered reality in which objects often appear vastly larger than they actually are (macropsia); yopo and epene have been credited by inducing what some Western users describe as a state of temporary insanity. Within the cultural context, a shaman and other experienced members of the community "talk down" a user who is having a bad trip.

Men on occasion become extremely violent after taking ebene. Usually, other tribesmen are able to restrain the individual; at times, when an individual has become uncontrollable and violent, other villagers have had to flee for their lives until the effects wore off. Having observed adult men take yopo or epene in every Yanomami community I have visited, the only time I have seen a significant adverse reaction occurred was when a young Yanomami experienced what can only be described as a "bad trip" and had to be restrained by other villagers. At one point, he broke free and ran throughout the village, eventually slicing a foot on a sharp object such that the skin and subcutaneous tissue of his entire heel were peeled down to the muscle.[8]

It remains to be seen how long a tribe such as the Yanomami will continue to use powerful, reason-altering hallucinogens such as epene and yopo on a regular, sometimes daily, basis and participate in the routine of activities related to gainful employment as they enter the market economy. An interesting development is taking place in that some native peoples are under intense pressure from outsiders to continue taking hallucinogens so as to remain "true to who they are" (confidential personal communication).

A final note on hallucinogens: Should visitors to native lands partake of hallucinogens used by indigenous peoples? It can be argued, with a certain validity, that outsiders cannot possibly acquire insight into the Amerindian's sense of the cosmos without ingesting their mind-altering drugs, and so the case could be made for limited use by anthropologists and others who plan to live and work closely with tribal populations for prolonged periods. Although none of the hallucinogens mentioned in this chapter are known to be addictive, "recreational" use could, in my opinion, have significant adverse consequences for certain individuals, including a lingering blurring of the sense of reality. My advice: These powerful intoxicants should be avoided (Walden 2007).

[8] Of interest, this extremely intelligent young Yanomamö man was well traveled, having flown in and out of the city of Puerto Ayacucho, Venezuela, on a regular basis. On several occasions, he served as a guide for scientific expeditions. On trips over a period of years, I came to know him fairly well and have always felt that he was somewhat lost between his traditional world and the outside world of goods and glitter. Subjectively, he came across to me as a rather tormented individual. Of course, it did not help matters that on the occasion of injuring his foot, he was upset over having ascended a series of difficult rapids in a canoe with the specific goal of pursuing a relationship with a young woman who, alas, had taken up with another man during his absence.

The Role of Culturally Ingrained Belief Systems in Attribution of Causality

> Ah, dios mío, Alexandro said, shaking his head, "there are such things in the jungle and in the darkness as you have never heard of, and on the beaches what things, what things of horror are washed up in the darkness of the winter storms…"
>
> *…Listening to this talk, I felt my own horror as I was allowed to glimpse deep, deep into their minds for just a second, feeling as though I were peering across an immense abyss, realizing that I was not half as close as I had thought.*
>
> Thomsen (1969):63

I suspect we never really understand another culture. It seems that every time I have had the thought cross my mind that I have a solid appreciation for the behaviors of another society (*"we actually are pretty much alike, these tribesmen and me….."*), something comes along that immediately dislodges the notion.[9]

As discussed earlier, indigenous societies in the Americas traditionally consider disease due to natural causes a foreign concept; virtually all illnesses and accidents are thought to have a supernatural origin. These days, however, with schools spreading throughout most regions of Amazonia, exposure to missionaries, the widespread use of battery-operated short wave radios, and travel to frontier towns, children and adults are increasingly aware of (and accepting of) modern scientific explanations for adverse health events. Or so it would seem.

In the summer of 2005, a strange visitation descended upon the Quichua community of Jatum (Jatun) Molino situated on the Rio Bobonaza in the eastern lowlands of Ecuador. First, a dog developed paralysis of its hind legs. Over a period of days, the paralysis spread to the front legs, followed by death. Then, children and adults (and another dog) began to show similar symptoms: first, they developed weakness in the legs which progressed to paralysis of the legs followed by weakness of the upper extremities, breathing difficulty, and vomiting blood; curiously, consciousness remained unclouded until just before death.

After several human deaths, an autopsy was performed and this revealed rabies. Of interest, this form of rabies ("dumb rabies"), characterized by an ascending paralysis, is often transmitted by vampire bats in contrast to the more common "furious rabies" transmitted by dogs, bats (vampire and other bats), and many other animals and characterized by classic rabies symptoms of headache, fever, malaise, excitability, hydrophobia, delirium, convulsions and then death.

After humans and domestic animals in and around Jatum Molino were vaccinated and the deaths ceased, the villagers began to ask how this tragedy came to be. Government health authorities were sent to the community to explain the existence of the infectious virus, the transmission by the bite of vampire bats, and the inexorable march to death in those who were not vaccinated. By all accounts, these explanations were accepted. But, thought the people, *why* did this happen to *us*?

[9] For that matter, I am from Appalachia and I still cannot figure out what *we* are all about!

The answer: a shaman from a neighboring village (which had been on bad terms with Jatum Molino for some time) put a curse on Jatum Molino and that shaman sent the virus and the bats to them. It did not end well for the shaman: he was reportedly captured, bound hands and feet, mutilated, and thrown into the river and drowned (Chacon 2007). I am aware of instances in recent years from the Pastaza River Basin where other shamans have been killed – essentially for "practicing bad medicine."

On numerous occasions, I have personally known tribesmen, including individuals with the equivalent of a middle-school or high school education and a life long experience with the "outside world," attribute the cause of death of a neighbor or relative to witchcraft. There are two common settings in which modern-day Amazonian Indians cite sorcery as a cause of death in patients who are under the care of Western trained physicians:

Scenario I: A native patient is sent to a Western hospital where, despite sophisticated laboratory testing and imaging studies, a diagnosis cannot be made by the medical team as to the cause of the patient's decline and ultimate death. The conclusion reached by the deceased's indigenous family and neighbors: *This individual became ill, wasted away, and died. The trained physicians, who usually are able to make better almost any illness, were unable to figure out what the patient had and why the patient died.…There can only be one logical explanation: sorcery.*

Scenario II: A native patient is sent to a Western hospital where a diagnosis of an incurable illness is made (such as some form of cancer) and the patient dies. Conclusion: *You doctors knew with certainty what this person was suffering from, yet, despite all your modern medicine and treatments, the patient died. As in Scenario I, the conclusion: sorcery.*

How to deal with such conundrums? Some suggest that it may be useful to stress the fallibility and limitations of the human component of Western medicine (Richard Chacon, personal communication, 2010). Thus, a caregiver may attempt to convey to native people that a doctor's failure to cure a patient is similar to a technician's failure to repair an engine; that doctors and mechanics are not omniscient; that some things wear out or break and that nothing can be done to fix them; and that doctors and mechanics both make mistakes. As a treating physician, however, I have not personally found it particularly useful to attempt vigorously to change anyone's mind as to culturally ingrained attribution of cause. I state my rationale for the unfolding of events – and leave it at that.

Throughout Amazonia, it has been my experience that when patients are seriously ill, indigenous family members will almost always enlist the help of a powerful shaman to effect a cure, even as the patient lies in a hospital bed. It is not uncommon for the family to remove patients from hospital for treatment to be performed solely by a respected shaman.

As an aside, and for the record: I am personally aware of several cases over the past 45 years where indigenous patients were declared incurable by competent medical colleagues in well-staffed, modern hospitals, and were taken by family

members back to their home communities where, after ministrations by traditional healers, they survived! Of such things, I am at a loss to explain.

Conclusions

In this chapter, I have addressed the potential ramifications of failing to acknowledge Amerindian warfare, violence, social inequality, and cultural enigmas in the context of optimizing health care among native Amazonian peoples. Suppressing scholarly data on unflattering realities of indigenous life and reliance on bowdlerized accounts undermines the accuracy of needs assessment in project development, which, in turn, compromises the execution of effective healthcare delivery programs.

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References

Anmesty International. (2007). *Maze of Injustice: The Failure to Protect Indigenous Women from Sexual Violence in the USA*. New York: Amnesty International.

Barrett, S.A. (1925). *Indian Notes and Monographs: The Cayapa Indians of Ecuador*. Museum of the American Indian, Heye Foundation vol. 1. New York: Heye Foundation.

Beckerman, Stephen and James Yost. (2007). Upper Amazonian Warfare. In *Latin American Indigenous Warfare and Ritual Violence*, Richard J. Chacon and Ruben G. Mendoza (eds). Pp. 142–179. Tuscon: University of Arizona Press.

Bennett, Bradley, Marc Baker, and Patricia Gomez Andrade. (2002) *Ethnobotany of the Shuar of Eastern Ecuador.* New York: Botanical Garden Press.

Biocca, Ettore. (1970). *Yanoama: The Narrative of a White Girl Kidnapped by Amazonian Indians*. New York: E.P. Button & Co.

Boster, J.S., J. Yost, and C. Peeke. (2004). Rage, Revenge, and Religion: Honest Signaling of Aggression and Non-aggression in Waolerani Coalitional Violence. *Ethnos* 31(4):471–494.

Bridges, E. Lucas. (1963). *Uttermost Part of the Earth*. London: Hodder & Stoughton.

Bureau of Justice Statistics. (1999). *National Crime Victimization Service.* Washington, DC: Census Bureau.

Chacon, Richard. (2007). Seeking the Headhunter's Power: The Quest for Arutam Among the Achuar Indians of the Ecuadorian Amazon and the Development of Ranked Societies. In *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, Pp. 523–546. Richard Chacon and David Dye (eds.). New York: Springer Press.

Chagnon, Napoleon. (1974). *Studying the Yanomamo*. New York: Holt, Rinehart, and Winston.

Chagnon, Napoleon. (1988). Life Histories, Blood Revenge, and Warfare in a Tribal Population. *Science* 239(4843):985–992.

Chagnon, Napoleon A. (1992). *Yanomamo: The Last Days of Eden*. New York: Harcourt Brace Jovanovich.

Chamberlain, A.F. (1896). *The Child and Childhood in Folk-Thought*. New York: Macmillan.

Coimbra, C.E.A., R.V. Santos, C.F.Y Yoshida, and M.L. Baptista. (1996). Hepatitis B Epidemiology and Cultural Practices in Amerindian Populations of Amazonia: The Tupi-Monde and the Xavante from Brazil. *Social Science & Medicine* 42(12):1735–1743.

Corso P.S., et al. (2003). Waterborne Cryptosporidium Outbreak, Milwaukee, Wisconsin. *Emerging Infectious Diseases* 9(4):426–431.

Darling, A. (1998). Mass Inhumation and the Execution of Witches in the American Southwest. *American Anthropologist* 100(3):732–752.

Early, John D. and John F. Peters. (2000). *The Xilixana Yanomami of the Amazon*. Gainesville: University Press of Florida.

Fears, D., Lydersen, K. (April 26, 2007). Native American women face high rape rate, report says. *Washington Post.* P. A14.

Gmelch, G. (1977). *The Irish Tinkers: The Urbanization of an Itinerant People.* Menlo Park CA: Cummings Publishing Company.

Goldman, I. (1963). *The Cubeo: Indians of the Northwest Amazon.* Illinois Studies in Anthropology, No. 2. Urbana: University of Illinois Press.

Good, Kenneth. (1991). *Into the Heart*. New York: Simon & Schuster.

Goulding, Michael, Ronaldo Barthem, Efrem Ferreira. (2003). *Smithsonian Atlas of the Amazon*. Washington: Smithsonian Institution.

Gregor, Thomas. (1985). *Anxious Pleasures: The Sexual Lives of an Amazonian People*. Chicago: University of Chicago Press.

Gregor, Thomas. (1988). *Infants Are Not Precious To Us: The Psychological Impact of Infanticide Among the Mehinaku Indians*. Paper Presented at the Annual American Anthropological Association. Phoenix.

Harner, Michael J. (1972). *The Jivaro: People of the Sacred Waterfalls.* New York: Natural History Press.

Harner, Michael J (ed.). (1973). *Hallucinogens and Shamanism.* London: Oxford University Press.

Hern, W.M. (1976). Knowledge and Use of Herbal Contraceptives in a Peruvian Amazon Village. *Human Organization* 35(1):9–19.

Hern, Warren (1991). Saude e demografia de povos indigenas amazonicos: perspective historica e situacao atual. *Caridernos de Saude Publica* 7(4):451–480.

Hern, W.M. (1992). Family Planning, Amazon Style. *Natural History* 101(12):30–37.

Her Majesty's Inspectorate of Constabulary. (2007). *Without Consent: A Report on the Joint Review of the Investigation and Prosecution of Rape Offences.* London: Central Office of Information.

Hill, K. and A. Magdalena Hurtado. (1996). *Ache Life History*. New York: Aldine De Gruyter.

Hurtado, M., K. Hill, H. Kaplan, J. Lancaster. (2001). The Epidemiology of Infectious Diseases Among South American Indians: A Call for Guidelines for Ethical Research. *Current Anthropology* 42(3):425–432.

Keeley, Lawrence. (1997). *War Before Civilization*. New York: Oxford University Press.

Larrick, J.W., etal. (1979). Patterns of Health and Disease Among the Waorani Indians of Eastern Ecuador. *Medical Anthropology* 3(2):147–189.

Liebow, Elliott. (1967). *Tally's Corner: A Study of Negro Street Corner Men*. Boston: Little, Brown & Co.

Lightman, Stafford. (1977). The Responsibilities of Intervention in Isolated Societies. In *Health and Disease in Tribal Societies*. Ciba Foundation Symposium 49, Katherine Elliott and Julie Whelan (eds.). Pp. 303–314. Amsterdam: Elsevier.

Lizot, J. (1985). *Tales of the Yanamami*. New York:Cambridge University Press.

Mercy, J.A. (1993). Intentional Injuries. In *Injury in Egypt: An Analysis of Injuries as a Health Problem*, A.Y. Mashaly, P.L. Graitcer, Z.M. Youssef (eds). Cario: Rose L. Youssef.

Murra, John. (1963). The Cayapa and Colorado. In *Handbook of South American Indians*, vol 4, Julian H. Stewart (ed). Pp. 277–291. New York: Cooper Square Publishers, Inc.

Neal, J.V. (1977). Health and Disease in Unacculturated Amerindians Populations. In *Health and Disease in Tribal Societies.* Ciba Foundation Symposium 49. Pp. 155–168. Elsevier: Amsterdam.

Peters, J. (1998). Life Among the Yanomami. Toronto. University of Toronto Press.

Polunin, Ivan. (1977). Some Characteristics of Tribal Peoples. In *Health and Disease in Tribal Societies.* Ciba Foundation Symposium 49, Katherine Elliott and Julie Whelan (eds.). Pp. 5–24. Amsterdam: Elsevier.

Purefoy, Christian. (2010). Orphanage Children Abused, Killed As Witches in Nigeria. *CNN World* (Aug 25th online) http://edition.cnn.com/2010/WORLD/Africa/08/25Nigeriachildwitches/indexhpt=c2.

Rennison, C. (2002). Violence by Intimate Partners. In *World Report on Violence and Health*. Geneva: World Health Organization.

Robarchek, Clayton and Carole Robarchek. (1998). *Waorani: The Contexts of Violence and War*. Fort Worth: Harcourt Brace College Publishers.

Santos-Granero, Fernando. (2002). Saint Christopher in the Amazon. *Ethnohistory* 49(3): 507–543.

Santos-Granero, Fernando. (2004). The Enemy Within: Child Sorcery, Revolution, and the Evils of Modernization in Eastern Peru. In *In Darkness and Secrecy: the Anthropology of Assault Sorcery and Witchcraft in Amazonia*, Neil L. Whitehead and Robin Wright (eds). Pp. 272–305. Durham: Duke University Press.

Scheper-Hughes, Nancy. (1992). *Death Without Weeping: The Violence of Everyday Life in Brazil.* Berkley: University of California Press.

Schultes, Richard E. (1976). *Hallucinogenic Plants*. New York: Golden Press.

Schultes, Richard E. (1988). *Where the Gods Reign*. Oracle, AZ: Synergetic Press.

Schultes, Richard E. and Albert Hoffmann. (1979). *Plants of the Gods*. New York: McGraw-Hill.

Schultes, Richard E. and R.F. Raffauf. (1990). *The Healing Forest*. Portland, OR: Dioscorides Press.

Siskind, J. (1973). *To Hunt in the Morning*. New York: Oxford University Press.

Steward, Julian H. (1963). *Handbook of South American Indians*, vol. 3 & 4. New York: Cooper Square Publishers, Inc.

Thomsen, Moritz. (1969). *Living Poor*. Seattle: University of Washington Press.

Walden, J. (2007). Jungle Travel and Survival. In *Wilderness Medicine*, P. Auerbach (ed.) (5th ed) Philadelphia: Mosby.

Wilford, John N. (2008). Trying to Keep the World from Closing In on 'Uncontacted' Tribes. *New York Times* June 9.

Williamson, L. (1978). Infanticide: An Anthropological Analysis. In *Infanticde and the Value of Life*, Marvin Kohl (ed). Pp. 61–75. New York: Prometheus Books.

Woolf, C.M. (2005). Albinism (OCA2) in Amerindians. In *Yearbook of Physical Anthropology* 48:118–140.

World Health Organization. (1999). *Family Planning Perspectives*, vol 25. Geneva: World Health Organization.

Xue, Xinran. (2010). Gendercide: The Worldwide War on Baby Girls. *The Economist.* March 6: 77–80.

Yost, James A. (1981). People of the Forest: The Waorani. In *Ecuador: In the Shadow of the Volcanoes*, Pamela Gordon-Warren and Sarah Curl (eds). Pp. 95–115. Quito. Libri Mundi.

Chapter 16
Ancestral Pueblos and Modern Diatribes: An Interview with Antonio Chavarria of Santa Clara Pueblo, Curator of Ethnology, Museum of Indian Arts and Culture, Santa Fe, New Mexico

Antonio Chavarria and Rubén G. Mendoza

Abstract In an effort to solicit the advice and counsel of an American Indian advocate concerned with addressing the activities of anthropologists and museums, in June of 2010 Mendoza convened an interview with Museum of Indian Arts and Culture Curator of Ethnology Antonio "Tony" Chavarria at the Laboratory of Anthropology in Santa Fe, New Mexico. Antonio expresses an American Indian perspective on how anthropologists and other social scientists should proceed when evidence for prehistoric or recent Amerindian social violence, and or unsound eco-cultural practices are encountered. First, Chavarria advises scholars to share their interpretations of the data with the affected descendant populations well in advance of publishing research findings. He contends that the protocol in question presents native people with the opportunity to offer alternative interpretations and insights into the scholarly interrogation of that evidence recovered. While he acknowledges that Amerindians are fully capable of engaging in unsound environmental practices despite popular characterizations to the contrary; he acknowledges that some instances of natural resource depletion by ancestral Pueblo groups are directly attributable to the imposition of Western strictures regarding private property. He contends that both Hispanic and American systems of land tenure ultimately disrupted longstanding traditional Pueblo patterns that called for the cyclical abandonment of exhausted farmsteads, and the interim (re)settlement of other viable lands and outliers, in a manner essentially constituting a form of shifting cultivation. Ultimately, Chavarria does not condone the obfuscation or censorship of data not in accord with traditional or popular cultural beliefs, but rather, advises anthropologists to establish and maintain open lines of communication with descendant communities.

A. Chavarria, B.A. (✉)
Laboratory of Anthropology, Museum of Indian Arts & Culture, PO Box 2087,
Santa Fe, NM 87504, USA
e-mail: antonio.chavarria@state.nm.us

R.G. Mendoza, Ph.D., RPA
Institute for Archaeological Science, Technology and Visualization
Social, Behavioral, and Global Studies, California State University,
Monterey Bay, 100 Campus Center, Seaside, CA 93955, USA
e-mail: ruben_mendoza@csumb.edu

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Introduction

This transcribed narrative constitutes an effort on the part of the editors of this volume to capture the personal sentiments and anthropological perspectives of one who continues to devote himself to the preservation, protection, and perpetuation of ancestral and modern Pueblo Indian cultures and traditions. With formal academic training in anthropology, an impressive track record safeguarding and preserving American Indian art and culture, and ancestral family ties to Santa Clara Pueblo, the editors sought to capture the perspectives of this guardian of the arts and heritage of New Mexico. In order to achieve this end, Mendoza traveled to the Laboratory of Anthropology, Santa Fe, New Mexico, in June of 2010 so as to conduct this interview of Pueblo Indian leader and Amerindian scholar Antonio Chavarria. In the final analysis, it was determined that only the more salient elements of the extensive transcript produced would be retained, and as such, commentaries by Mendoza have largely been excluded, and those of Chavarria have been significantly pared back in this instance. A preliminary transcript of those digital audio recordings produced was prepared by CSU Monterey Bay graduate student Shari René Harder. Because the interview was conducted over the course of several days, and Mendoza sought to revisit key elements of this narrative repeatedly, the transcript has been significantly reworked to address the essential content conveyed by Antonio Chavarria in this instance (Fig. 16.1).

Fig. 16.1 Antonio Chavarria of Santa Clara Pueblo, Curator of Ethnology, Museum of Indian Arts and Culture, Santa Fe, New Mexico. Photo by Rubén G. Mendoza, 2006

Part 1: Hypothetical Scenarios

Mendoza: We are going to start with a hypothetical scenario posed by fellow anthropologist Richard Chacon. The scenario is as follows: A young graduate student is particularly troubled by what he or she has encountered while conducting field work among an Amerindian group. We will refer to the group as Tribe X. The student has recovered evidence for armed conflict and other forms of social violence among those identified with Tribe X. The student similarly found evidence indicating that the social and cultural behaviors of Tribe X have resulted in the degradation of the natural environment. The first question, therefore, is as follows: How might Tribe X come to be harmed by the reporting of such data?

Chavarria: Basically, it is not necessarily the initial reporting of this data in peer reviewed journals that is problematic, but rather the down the line transmission of that data. By the time it hits the media it takes on a life of its own. There was an example reported on NPR of the so-called Mozart effect. In other words, the initial report noted that when Mozart's creations were played in classroom contexts, student achievement was noticeably improved. This version of the story soon morphed into another that concluded that if you played Mozart to children, their intelligence quotient would increase dramatically, and they would therefore do far better on scholastic achievement tests. Despite the fact that the original one-page story regarding the Mozart effect acknowledged the temporary nature of the improvement in question, the report nevertheless took on a life all its own. Something very similar resulted from initial reports regarding Kennewick Man. All of a sudden, and out of nowhere, the story evolved into one centered on the extreme antiquity of the earliest Caucasian in the Americas. The report intimated that Kennewick Man may represent a race of Caucasians who originally settled this land, but were subsequently exterminated by the latter arrival of Native American populations. This in effect represents for me one of those ways in which a group may be harmed. Such reporting effectively serves to perpetuate stereotypes that are so predominant in the media. American culture continues to perpetuate this "Cowboys and Indians" mentality. Once again, Manifest Destiny and its post-Modern crusaders continue to beat back hostiles, who are soon divested of their respective histories, and therefore, the historical realities in this instance are compromised.

It is as though the media feels entitled to distort and embellish critical scientific findings and information in order to get the story, and so it was with the Turners' *Man Corn* (Turner and Turner 1999). Archaeologists around here have issues with *Man Corn*, particularly given the fact that most of those sites from which key data was taken, and which received the most attention in the media, are less than conclusive where evidence for cannibalism is concerned. Ironically, other Southwestern sites, where the evidence for cannibalism is far more dramatic and clear cut, receive far less attention. The problem, I believe, is once again with media representations of anthropological content. A key problem created by the Turners' concerns the fact that their book presents cannibalism as a cultural practice among the Pueblos. Isolated evidence for cannibalism among ancestral Puebloan peoples is no more conclusive evidence for widespread Southwestern cultural practices than those

interpretations that might be taken from the excavated human remains of the ill-fated Donner party. As far as I know, evidence for cannibalism from the Donner party camp in the Sierras has yet to be interpreted as indicative of mid-nineteenth-century Anglo American subsistence patterns – and clearly falls short of being deemed a cultural practice.

Interpreting some of these human behaviors in terms of concrete cultural practices is particularly problematic when each case is different, and such evidence may be an aberration or other clandestine activity. Presenting such information publicly only serves to ruin bridges to native communities, who might have otherwise discussed such practices as witchcraft as possible explanations. As a result, we may not now be able to talk to native communities about why they believe cannibalism would or would not be practiced. What tribal peoples would never tell them now is out of fear related to witchcraft. Witchcraft is counter to and contradicts acceptable behavior. Discussing witchcraft could well reveal examples of cannibalism which tend to happen in secluded areas where such may well have been the practice. While cannibalism may have served a purpose in such rituals, it was very likely an aberration to the mainstream traditions of the ancestral Pueblo people (Figs. 16.2 and 16.3).

Mendoza: Given your concerns about preserving and accurately representing your ancestral traditions, what was your initial response to the Turners' *Man Corn*?

Chavarria: My first thoughts were that this was more of the same, that again. I thought the Turners' advanced overreaching conclusions, and sought in their findings evidence for widespread cultural practices; and that, with the same body of evidence that I saw as evidence for little more than isolated incidents. I knew the press was going to eat it up, and they did. Cannibalism is one of those American taboos that continue to generate widespread media attention. American culture maintains a morbid fascination with the horror of it all. Perhaps there's a need for such findings, particularly if it is found to exist in all times and places. I suspect, though, that we still see these older, ancient, and ancestral traditions, in a different light. In other words, the ancestral Pueblo, for instance, are seen through an evolutionary lens that renders them more primitive, less complex, and wholly unlike us. Clearly, ethnocentrism is central to such perspectives, and shields us within the cloak of "science" for the simple reason that we embrace science – whereas the other end of the spectrum is shrouded in primitivism and such nefarious practices as cannibalism. Where Americans are concerned, this all goes back to the eighteenth- and nineteenth-century cannibals and headhunters encountered by American and European explorers in the Pacific. It may not have been the Turners' intention to construe what they found in terms of widespread cultural practice among the Pueblos. Nevertheless, that's how the media read the Turners' message, and now, the ancestral Pueblo have been characterized as cannibals.

Mendoza: You repeatedly reference concerns about the emphasis on social violence among such groups as the ancestral Pueblo. Why do you believe that Western scholars in particular are so fascinated with such topics? Are these topics of legitimate scholarly concern despite the potential damage to indigenous communities, and the fallout that may accrue from the same?

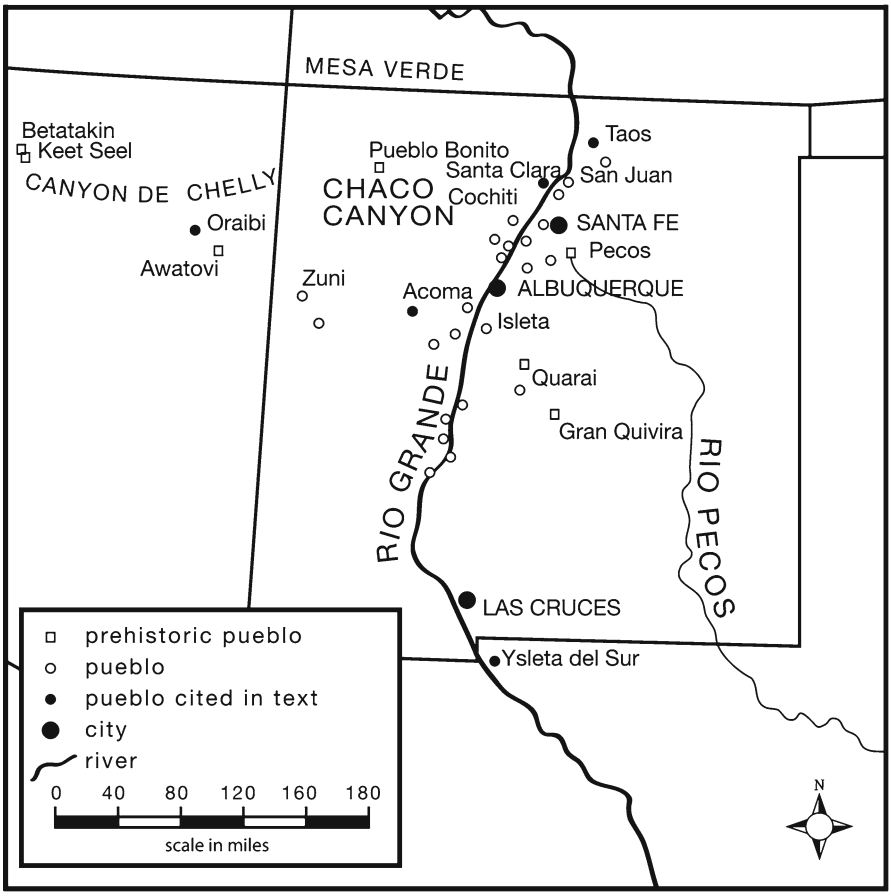

Fig. 16.2 Ancient and modern Pueblos of the Southwest. Note: Only those pueblos and towns cited in text are identified by name. Map drafted by Emily H. Nisbet, 2011

Chavarria: Our fascination, obsession, with social violence is central to how we teach our respective histories. We teach history through the lens of conflict, through warfare. I recall my early grade school fascination with how the history of the United States was taught. First, you start with the Revolutionary War, move on through the sweep of the War of 1812, the Civil War, the Mexican American War, the Spanish American War, and thereafter, World War I, World War II, the Korean conflict, Vietnam, and most recently, the Gulf War, the Gulf War II, and so on and so forth. In one sense this is how we've always taught our history; and that by way of armed conflict. And so I think we have a tendency to look for evidence to support conflict, social violence, and other self destructive pursuits, and that to the detriment of addressing stability and peace in a given region. As such, we create analogies for the present based on the past, and in some cases, such as those pertaining to Mexico, combine archaeology and history in our pursuit of the evidence. We must confront often contradictory streams of evidence, often borne of wholly different cosmologies of social violence. Many of us continue to get a handle on the extent of that

Fig. 16.3 View of the main apartment compound at Taos Pueblo, New Mexico. The Pueblo Indian leader *Popé* planned and launched the decisive Pueblo Revolt from Taos Pueblo in August of 1680. Photo by Rubén G. Mendoza, 2010

social violence documented to this day. How does one understand daily life in a world where literally tens of thousands were sacrificed to placate the gods? Then again, in a few hundred years, it's likely that they'll be asking the same questions about us.

Mendoza: Speaking of Mexico, today, drug-trafficking syndicates and other forms of organized crime are taking a massive toll on the wellbeing of the Mexican Republic and its people; with kidnappings, torture, beheadings, dismemberment, and other forms of social violence now seemingly common place. While I see in today's escalating social violence analogies to the past, particularly as regards Epiclassic Mesoamerica (550–900 AD), do you fear that such perspectives hold the potential to spur ethnocentric and racist characterizations of the Mexican people and the social violence that presently afflicts their country?

Chavarria: As with any people, we don't want to be defined by social violence and warfare, especially we Americans, or for that matter, the Pueblos. If asked whether or not you live in a warlike society, people in the Middle East, for instance, are generally hesitant to be defined as a culture steeped in violence, or violent. I think that's why some people really embrace the notion of the Noble Savage. For once we're not seen as violent aggressors. On the other hand, we're these docile peoples in a paradise ruined by the arrival of the Spaniards. It swings both ways, so I think for the

Pueblos and other American Indians it's a reaction to being portrayed as violent aggressors. Otherwise, I generally don't have a problem with anthropologists studying violence within indigenous communities; for the simple reason that this is done within an academic context. That's part of the process, part of the pattern of academic review, part of the back and forth, particularly in anthropology and archaeology. In the end, we're not a clear cut hard science, and so there's still a lot of gray area to grapple with…we're still very much a part of the humanities. Nevertheless, I know of incidents where scholars have deliberately refrained from reporting results; and that for issues such as social violence, otherwise deemed controversial. In one instance, a kinship study based on genetics found that 20% of people within particular families within a given community had different fathers. So the investigators deliberately withheld that information. They excluded such information from their reporting because of the sheer number of problems it would create in the community, and for the investigators. Publishing such information regarding a community comes with an ethical obligation and responsibility to refrain from harming the community.

Mendoza: Should we as anthropologists resort to presenting our results in generic fashion, or for that matter, within a cultural vacuum, so as to avoid harming our informants and their communities? Where do we draw the line, especially when it comes to addressing issues pertaining to social violence within indigenous communities; and by extension, as this regards museum representations?

Chavarria: One example related to museums is with the use of the term Anasazi. The most common definition for Anasazi is based on the Navajo or *Diné* word meaning "ancient enemy." Publishing such terms despite ongoing interactions and dependence on descendant communities is a real problem, so the term Anasazi has fallen into disuse, particularly within the National Park Service. The NPS use of "ancestral Pueblo" as opposed to Anasazi has begun to trickle down everywhere else, so now you really don't see the earlier usage at Chaco Canyon or Mesa Verde. The new usage has created other problems, particularly as there remain archaeologists who believe that Anasazi is the proper term because it continues to distinguish cultural differences between the ancestral groups, such as Anasazi versus Mogollon, or Sinagua and Salado. The Anasazi were clearly different from the Mogollon, so one could argue that using ancestral Pueblo over Anasazi doesn't make sense as they were all Puebloan groups (Figs. 16.4 and 16.5).

Mendoza: Do you believe that it ultimately took the introduction of the Native American Graves Protection and Repatriation Act to empower descendant communities, particularly as this regards interactions with social scientists and other interested parties who handle native human remains?

Chavarria: Not necessarily, I believe that our sensitivity to human remains existed long before. I do believe that the reverence Pueblos hold for human remains predates Spanish contact, although that mindset may be influenced by Catholicism. Before that time, evidence for secondary burials exists in the Southwest, so apparently ancestral human remains were displaced for a variety of purposes. Exhumed

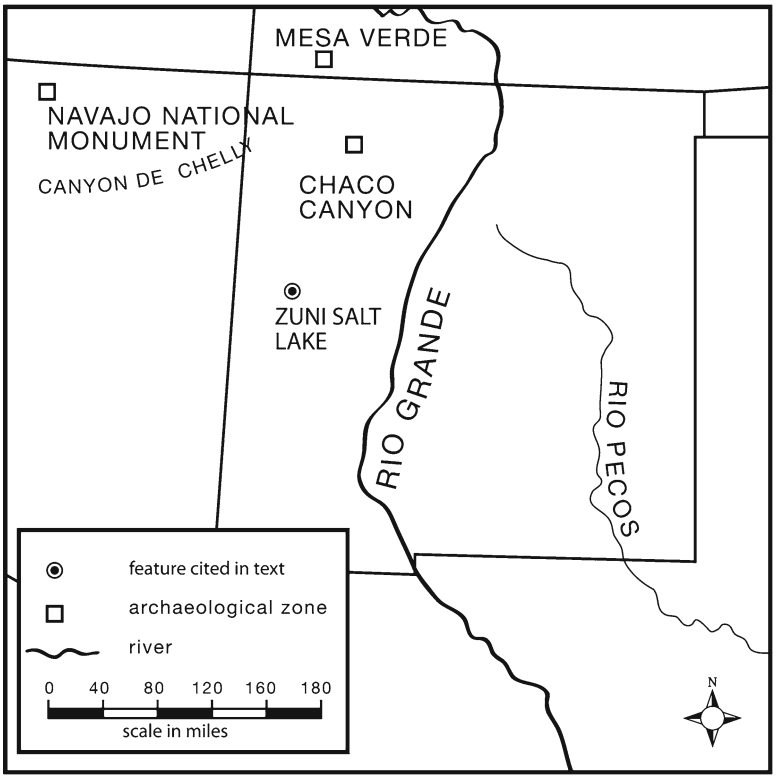

Fig. 16.4 Ancestral Pueblo areas relative to the location of the Zuni Salt Lake. Note: Only those Ancestral Pueblo national parks cited in text are identified by name. Map drafted by Emily H. Nisbet, 2011

long bones and crania were frequently unearthed and re-housed as secondary burials, perhaps of family members. So there were such practices prior to European contact, of secondary burial. Today, we speak of Pueblo taboos against having anything to do with human remains. This Puebloan practice, in which contact with human remains has become something very, very, negative, and something to be avoided, is relatively recent. This recent trend regarding excavated human remains and their display in museums is one that leaves many Pueblos feeling very uncomfortable. Although the Pueblo example is very local in this case, taboos against handling or displaying human remains are not commonplace belief among American Indians in other areas of the United States. Certainly, many indigenous cultures express discomfort with human remains, particularly where their ancestors are concerned. Today, there's clearly sensitivity to remains being displayed, touched, or otherwise left exposed; and that's what NAGPRA ultimately achieved. It was really more about making academics and other outsiders realize the level of native discomfort with human remains and their handling. That's what NAGPRA contributed to building sensitivity to our customs and beliefs.

Fig. 16.5 The Three Turkey Ruin constitutes a pristine and formidable example of those Ancestral Pueblo defensive measures taken to minimize vulnerability to attack in the thirteenth-century Southwest. The site, located in northeast Arizona, is but one of a host of such sites in the Canyon de Chelly National Monument. Photo by Rubén G. Mendoza, 1982

I suspect that Catholicism may have played a role in the Pueblo aversion to contact with human remains; or perhaps, such beliefs and taboos evolved indirectly over time with the influence of Catholicism and its mortuary customs. Even before NAGPRA, there was this Pueblo sensitivity with local burials. Even with the few burial practices that I know of here, there has been this concern with the idea that once something is buried it should stay buried. This is particularly true of funerary items that were buried with the ancestors. Interestingly, whereas funerary objects are seen to belong to the dead, and only to the dead; objects from non-burial contexts are seen as products of the ancestors that one can use again, even if the secondary use is wholly different from the object's original use. Ancient projectile points, for instance, are often used again, but in a different way. These are basically seen as a gift of the ancestors, and are thought to remind one of that past so they can be used in ceremony, and thereby take on a different context and meaning. So, if it's not burial associated, Pueblos can reestablish direct contact with the objects and things of the past. Puebloan visits to prehistoric sites may exclude burial areas, but other areas of these same sites that were used for daily life are not off limits. Ancestral Pueblo descendants can still access these places directly in another sense, through memory, songs, or prayers, especially when talking

Fig. 16.6 After the burning and destruction of seventeenth-century mission churches in the Pueblo Revolt of 1680, the pueblos continued to adopt select Hispanic Catholic customs into their traditional belief system. Ultimately, the revolt had the effect of ousting the Spanish from New Mexico for some 12 years until the re-conquest of 1792. Photo by Rubén G. Mendoza, 2010

about migration histories, or tracing tribal origins or family ties. Elders often mention these older places… each one a center place, and although tradition says that there was only one center place… there are many, and this is not seen as a contradiction (Fig. 16.6).

Part 2: Descendant Communities

Mendoza: Let us say that an investigation into ancient Maya mortuary customs produces evidence for ritual violence, warfare, environmental degradation, or any related host of factors that might lead to a derogatory interpretation of the earlier tradition; how might that fact be addressed when conveying such information to descendant communities?

Chavarria: When such secondary findings are not necessarily related to the original research question, but might be interpreted as significant, despite the potential for other derogatory impressions that may arise, my personal feeling is that such findings warrant reporting. Reporting such finds should serve to open lines to further

research. Even so, it still behooves the researcher to talk to the descendant communities and to communicate information and interpretations regarding what has been found. Soliciting interpretations and the perspectives of members of the descendant communities is very important. Communication may result in the discovery of surviving oral histories regarding relevant practices that might provide avenues for explaining such finds.

Mendoza: For the sake of argument, let's say that an investigator who initially sets out to study ceramics in archaeological contexts uncovers local evidence for social violence, and corroborates this with historical accounts. The descendant community, however, is unwilling to address the issue by cooperating with the investigator. How then does one proceed given such unanticipated findings, particularly as the findings were not identified in advance by way of the original research objective? In effect, should we permit the descendant community to decide whether or not the evidence should be excluded from consideration, or for that matter, published?

Chavarria: No, that depends on how the original project started. If the research was based on a university project, it would behoove the investigators to report the results fully. But in working through issues raised by the descendant community, particularly if the community expresses concerns with the reporting of results, such issues should be documented by way of publication. The investigator should proceed to report original findings, while acknowledging the concerns of the descendant community, particularly if said community does not agree with any of the investigator's conclusions.

Mendoza: So you're saying that we should give descendant communities a voice in articulating concerns and disagreements about what the info means and how it is interpreted?

Chavarria: Affording descendant communities the opportunity to articulate disagreements can lead to new avenues for future research as well. It can be just as sensitive an issue when dealing with other academically-trained people working within the tribes. Such engagements can be emotionally draining, heated, or otherwise contentious, but that's still part of what makes the dialogue. In those instances where a tribal member may have undergone university training, and then returns to the tribe to address problematic findings and evidence for topics otherwise considered taboo; even then problems may arise. In other arenas, particularly those that might offer evidence of community violence against outsiders, it might not bother them. I know of an area tribe that found evidence for the burial of a mutilated Franciscan priest, and the consensus was that it probably dated back to the Pueblo Revolt or another local rebellion (Fig. 16.7).

Mendoza: So, what you are saying is that the community chose to interpret the burial in this instance in that way; as the burial of a priest killed in the Pueblo Revolt?

Chavarria: Yes.

Fig. 16.7 Antonio Chavarria is charged with safeguarding the religious heritage and cultural patrimony of the Pueblo communities of New Mexico in his capacity as Curator of Ethnology of the Museum of Indian Arts and Culture in Santa Fe. Antonio's role has proven instrumental in assuring a proactive and honorable relationship between the Pueblos and the Museum. Photo by Rubén G. Mendoza, 2006

Mendoza: Were there no questions regarding the likelihood of witchcraft or a problematic collaboration with outsiders?

Chavarria: No, in this case red hair was recovered with the remains, making it clear that this was an outsider.

Mendoza: Oh, I see, it was a European in this instance?

Chavarria: Yes, they figured that it was possibly a priest based on other objects recovered with the remains.

Mendoza: Do you believe that perhaps another more appropriate protocol would have permitted the Hopi to address the matter at hand?

Chavarria: When we talk about ethical responsibilities, I think along with that is the need to gain the trust of communities participating in our studies. That's not to say that with trust we should refrain from fully reporting our findings, but rather, that you as the investigator should make every effort to maintain open and honest communication; and that will work both ways. You need to let them know where you stand, and that your studies are based on your training, and that is a big part of one's ethical responsibility to fully report scholarly findings. In the event that you

are working a project on behalf of the tribe, it may be that they don't want drawings or photos from burials included in the final study, so that's something you have to come to agreement with first, and immediately.

Mendoza: So, establishing a mutually acceptable protocol with the descendant community should be done in advance, and this in effect is critical to maintaining open relations with said community?

Chavarria: Yes, so that there are no surprises later on. For instance, if you come across evidence for large-scale social violence, and that is the subject of the study, the means by which you are going to deal with such findings has already been addressed with the descendant community. As part of my ethical responsibility, it has been made clear in advance that I have an ethical responsibility to report my results, but then again, we also have an established protocol and a prior agreement as to whether or not photographs of burials and other like matters can or should be addressed in the final report or monograph. The investigator can then note that out of respect for the tribe photographs of burials were not permitted, and therefore not included in the monograph. In this way, there are no surprises for the parties involved.

Mendoza: So, one could almost say there is a prenuptial agreement of sorts, and that certain conditions and protocols may apply in advance of the study?

Chavarria: Yes, this is especially so if you're working on tribal lands.

Mendoza: Do you believe that research protocols should be distinct for those projects that entail studies on tribal lands versus non-tribal or public lands?

Chavarria: Yes, we need to maintain a distinction, because if it's a tribal project, then you're dealing with a host of other issues; particularly as we then need to negotiate quasi-sovereign relationships and the mandates of tribal governments. While we may not like the need to negotiate research agendas with the tribes, particularly as some may consider this a form of anti-science that serves to compromise our agendas, in the end that is the tradeoff for being able to work on tribal lands. Not publishing photos of burials and such may in the end prove a minor compromise given the goodwill that may result.

Mendoza: I suspect that issues regarding the photography of burials may have complicated Richard Chacon and David Dye's 2007 edition of *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*, particularly given the amount of visual content in the volume (Chacon and Dye 2007). Speaking of human trophies, what was your initial reaction when you first heard about the release of the Chacon and Dye edition in question? Do you believe that the book opened a can of worms regarding such matters, or that it reflects negatively on indigenous communities?

Chavarria: When I first heard about the book, yes, I was concerned that it sought to identify such evidence for an expose. I was also worried that it had the potential to add to existing stereotypes about American Indians, and that the ancestors were largely violent trophy hunters. However, after careful consideration, I understood

that Chacon and Dye's (2007) work was not intended to denigrate the heritage or history of the American Indian. They in fact went to great lengths to review the sources underlying trophy taking and violence on a global scale. It's ironic, because someone at our American Anthropological Association symposium on the ethics of studying indigenous violence cited a World War II memoir of trophy collecting by American soldiers in the South Pacific. I recall reading that book, *Helmet for My Pillow* (Leckie 1957), in high school. The author argued that the trophy collecting was largely the work of rear echelon troops that weren't actively engaged in combat. He mentions one lieutenant in particular who was not respected by his soldiers because he was irresponsible and whatnot. The memoir recalls instances of rear echelon troops collecting gold teeth from dead Japanese soldiers.

Mendoza: Granted that we like to think of American civilization in terms of civility versus barbarity, and are more open to discussing such contentious or disturbing issues where other societies are concerned, why is it that we appear unable or unwilling to come to grips with or acknowledge the taking of human trophies by American soldiers? Do you think that practice, in and of itself, is sufficient to denigrate, demean, or undermine the otherwise heroic efforts of US soldiers in the Pacific?

Chavarria: No, I don't believe that the book was intended to demean US soldiers. The book tries to make the case that such practices were an aberration, and that trophy hunting of human remains in general was an abomination. However, this implies that such aberrations only happen outside of civilization and that when discharged, these soldiers prefer not to admit their role in such behavior. In another sense, whether or not we were talking of gold teeth, samurai swords, Japanese flags, or so many other military objects, all were acquired as war trophies. Of course, knocking out a dead man's teeth with the hilt of a dagger is so much different than collecting other forms of memorabilia. What we need to keep in mind is that for some descendant communities the collecting of human trophies is seen as tradition, not as an aberration, and while not something done today, it was a tradition. But as you say, placing such objects into context provides another basis for understanding such behavior. Rather than asking why a given tradition produced necklaces from human mandibles, perhaps it's better to understand these things as part of the game in its own setting. Even with the exhumation of the remains of Oliver Cromwell, which occurred after the English Commonwealth dissolved and was reborn as a Kingdom, Cromwell's body was decapitated and his head was hung outside of a saloon for three years. For the English, it was a trophy that acknowledged who was now in power, and who specifically was in charge. Co-opting the past in this way is something that happens globally. Beheading captives was essential to creating terror and using ritualized violence to assert power and authority.

Mendoza: So do you think that contextualizing such practices on a global scale would help deflect the potential for findings of social violence to generate denigrating stereotypes about American Indians? By extension, do you believe that globalizing such "cultural" practices is perhaps ingenuous, particularly when we choose to focus on ancestral practices or traditions that perhaps the tribes don't wish to discuss or acknowledge?

Chavarria: I could see where some people would say that's disingenuous, that yes we are dehumanizing them, or simply generating an excuse for showing how violent a given tribe may have been. And therefore, they're no different than any other violent culture or violent history from any other world area. So, I can see where that's coming from, but then again, there's no utopian society on record that I can think of…that managed conflict solely through peaceful means.

Mendoza: So, what you are essentially saying is that there were no peaceable kingdoms, and therefore, no "noble savage" or "nature's gentleman" ala Dryden? (Dryden 1883).

Chavarria: No noble savage in this lot. Every human group has had to contend with conflict. If you talk to the tribes, I mean, really talk to them, especially in informal settings, they will talk about their traditional enemies. When tribal peoples cross paths, especially in areas where they compete for the same resources, there's going to be conflict. Whether between Pueblos or Athapaskans, Pueblos and Plains Indian groups, or later on between the Pueblos and the Spanish, conflict was inevitable. Ironically, after the Spanish *entrada* in the Southwest, the Pueblos enlisted the Spanish government and its soldiers as a buffer against marauding Athapaskan groups entering the area. So, there are those areas of conflict that some Pueblos consider dirty laundry that you don't want to air in public. Also, tribal people can get so caught up in issues of protecting the tenuous sovereignty they hold where land rights are concerned that they seek to minimize those elements of the past thought unflattering to our modern sensibilities. So, I think that's when we see the suppression of anthropological or other social science information related to conflict and social violence. I believe that the effort to avoid such matters is in part a response to that, because of the economic and political realities of the moment. Just trying to hold on to their often tenuous, semi-sovereign, status is often cause enough for avoiding characterizations that labels the tribe as conflict ridden. Besides, what court is going to find for a sovereign or semi-sovereign nation that has a long history of conflict and social violence, particularly where land claims are involved?

Mendoza: The government has been known to invalidate land claims on the basis of the failure of the parties in contest to present all pertinent documentation for ancestral claims, and despite that fact, some tribes are still unwilling to respond to questions that may bring to light traditions of conflict and warfare deemed problematic or inappropriate. Moreover, there's a tendency by outsiders to present the tribes as peaceable kingdoms, or as the unwitting victims of the aggression of outsiders. Do you believe that's really a legitimate stance or characterization of the Pueblos, or just one that patronizes these communities with attempts to create an apologist stance that serves to obscure longstanding patterns for intertribal conflict and social violence?

Chavarria: There's always the risk that by avoiding dialogue on such disturbing issues in tribal histories, we promote an apologist's stance that can go to the other extreme. By painting the Pueblos as only peaceful, we also run the risk of completely stripping them of any type of agency in their respective histories. To portray

us as these peaceful, loving, beings in harmony with the universe is unrealistic. This generates the idea that we were all peaceful farmers. Ask any farmer about what it takes to farm the land, and he or she will tell you that farming relies on schedules; farming generates conflict when you are forced to fight for your land. There are the struggles with attempting to control the environment, or working against the balance of nature when exploiting already stressed resources or ridding the landscape of insects and other parasitic creatures. In the end we can go too far with this apologist stance, and so I completely agree with the dangers of stripping the Pueblos of their role in history by painting them as hapless victims of intruders.

Part 3: Cultural Accommodation

Mendoza: History tells us time and again about the Pueblos' timeless capacity to accommodate change in a rather fluid and organic fashion. Despite this fact, there remains a longstanding essentialist tendency in anthropology and the social sciences to characterize these communities largely in terms of a symbiotic and eco-friendly relationship with the earth. Given the prevalence of essentialist frameworks that continue to paint the Pueblos as societies locked into unchanging eco-friendly traditionalist frameworks, what harm do you believe may accrue when the relationship of these communities to their environments is idealized in such a fashion?

Chavarria: Earlier generations of ethnographers came to the Southwest seeking a pristine Puebloan past free of outside influence; free of Hispanic and other influences. These ethnographers were basically looking for something that never existed; the Southwest has always been a region of continuous change and adaptation. Different peoples populated the Southwest, and they produced many regional pottery traditions. These were then diffused or traded and adopted into a wide range of differing Pueblo traditions. So, the only thing that you can really say for certain is that our traditions are constantly changing. As they say, change is the only constant (Fig. 16.8).

Mendoza: And yet, this perspective of yours flies in the face of arguments by outsiders, particularly anthropologists, who continue to argue that all of this introduced change and accommodation, particularly, that pertaining to Hispanic acculturation, was little more than a form of ethnocide. In other words, these essentialist frameworks continue to promote the view that such introductions ultimately destroyed the Indian way of life; as though the Pueblos were immune and invulnerable to change and accommodation. They continue to argue that the Pueblos are now little more than hapless victims, as opposed to people with agency and self-determination, and control, over their economic and political relationships, and thereby, cultural fate. American Indians are seldom seen as people who accommodated, adapted, selected, and changed. They in fact co-opted, modified, and influenced the Spanish to adapt to their respective ways of life; however hybrid these may appear in the wake of such accommodations and patterns of assimilation. Of course, this latter view flies

Fig. 16.8 Despite a long history of challenges to their political sovereignty, and cultural and religious traditions, the Pueblos continue to maintain key elements of their Ancestral Pueblo past. Acoma Pueblo, located on a promontory or mesa in west-central New Mexico, has seen continuous occupation since the thirteenth century. Photo by Rubén G. Mendoza, 2006

in the face of the idea that the Spanish introduced this pervasive and monolithic cultural tradition itself immune to change. Do you believe that the Spanish were fundamentally changed by way of intercourse with the Puebloan tradition?

Chavarria: I think both of your observations are relevant. Certainly, some aspects of the Pueblo way of like were dramatically changed. Where Catholicism is concerned, most Pueblos certainly didn't have a choice about whether to accept conversion. We also found it necessary to accommodate Spanish forms of government, and that's why we have governors, lieutenant governors, *alcaldes*, and the like. These were essentially Spanish forms of government introduced into traditional Pueblo contexts. On the other hand, despite the Spanish origins of these non-traditional forms of government, accommodating such forms into traditional Pueblo practice, and making it work, was in essence an original indigenous innovation. Before then, *Kiva* societies and other sodalities, whether sacred or secular, dominated traditional practice. These collective and indigenous forms of governance served as the organizational framework for the accommodation of Spanish forms. And while the *Kiva* groups were mainly religious or spiritual, the Pueblos found ways to accommodate Spanish forms of governance and make these work despite the secular nature of these latter forms…and these were then adopted as a blending of the two. While the Spanish forms are still seen as originating with outsiders, the internal mechanisms

Fig. 16.9 Those subterranean structures identified with the Ancestral Pueblo *kiva* remain but one of those dimensions of the Ancestral Pueblo past that continue to play a sacred role in the present. This *kiva,* at Pecos Pueblo, New Mexico, is located within the heart of the ancient Pueblo that saw the construction, and subsequent destruction, of a Spanish mission church. Photo by Rubén G. Mendoza, 1982

that permit this blend to work are still rooted in the traditional Puebloan system (Fig. 16.9).

Mendoza: What you're saying, then, is that the Pueblos accommodated aspects of Spanish custom and belief as deemed appropriate or necessary, and were thereby able to reconcile the two despite continuing tensions arising between these often divergent and polarized cultural systems?

Chavarria: This is particularly true when addressing accommodations related to the intersection of material cultures, with the Pueblo adoption of metal tools ultimately representing one of the more significant accommodations. Of course, the Spanish *casta* or caste system of social stratification, where the Indians were assigned to the bottom of the social hierarchy, was clearly problematic for the Pueblos. Even then, intermarriage was not uncommon between Pueblo and Hispanic peoples. Like New Spain or Mexico, Hispanic and Pueblo intermarriage represents a traditional accommodation quite unlike that practiced by the British colonials of the eastern coast of North America. This difference is made apparent when one compares and contrasts the numbers of indigenous peoples and communities that survive in Latin America versus those areas dominated by the British and early Americans.

Mendoza: It would appear that change swept virtually every dimension of the Pueblo world, yet ethnographic purists nevertheless contend that each accommodation

constitutes yet another denigration of the pristine Puebloan tradition, a form of ethnocide. Was there ever a purely Puebloan tradition recalled by the elders; in the sense of one characterized as uncontaminated by external cultural influences?

Chavarria: No, because again, Pueblo traditional elders speak of many linguistically and ethnically different groups that came together to form our communities. These were groups not necessarily or specifically Anasazi in the sense of those who occupied ancestral places so identified. These were different Puebloan peoples that came together and were able to live near one another, and share resources without major conflict. Even with those conflicts that we can identify, conflict within communities was uncommon. In the past, when conflict or differences became unbearable, individual groups or clans just broke off and migrated to other places where they created new villages; this then started the process all over again. This was the status quo for Puebloan social organization, and despite the fact that each group or clan maintained similar customs and cultural practices their languages were often quite different. Often, these differences were on the level of wholly different language families, and that's not including Zuni. Zuni represents a completely distinct and isolated language all its own, and even now, one of the largest Puebloan populations.

Mendoza: Historians continue to portray the Pueblo Revolt (1680) as a singularly unique incident in the history of the Southwest, and for the Pueblos in particular. Moreover, many continue to believe that the Pueblos were a people pushed by the Spanish to such an extreme that they ultimately resorted to widespread violence to throw off their oppressors. Such apologists argue that social violence was not part of Puebloan character, and that they were not prone to conflict. Despite such arguments, the Pueblos clearly orchestrated a decisive, large-scale, revolt that delivered a severe blow to Spanish imperial ambitions along the Rio Grande. The catastrophic results of the revolt ultimately forced the Spanish out of the region for some 12 years. How then can one explain the fact that such a people, who'd purportedly never taken to the battlefield, managed a coordinated, and decisive, military response if in fact they were the peaceable villagers characterized in most accounts?

Chavarria: The notion that the ancestors were docile, peace-loving, non-violent farmers, flies in the face of our histories, and is to my mind, the result of essentialist thinking in the extreme. Our stories tell of both pre-historic and contact period accounts of cooperation between rival villages against common enemies. Pueblo war societies or sodalities existed then much as today, and included war captains and councils, because part of their responsibility was to build up a force of warriors when needed, whether it was for the purpose of raiding, retaliation, or defense. Yes, they were farmers, but they were no less brave warriors for their people. The tools and weapons of hunting were also the instruments of war, including clubs, bows and arrows, projectiles, and Pueblo shields that appear from the earliest of times in our rock art and *kiva* murals. So, the evidence for war and weaponry is ubiquitous, and although I wouldn't argue that there was a warrior class as such, it does appear that the job of warriors was a part-time occupation.

Mendoza: How does it make you feel when outsiders in particular attempt to pacify the past by painting your ancestors as non-violent, read docile and compliant, victims of superior European and American weapons and warfare? In other words, your ancestors were so enraptured by their love of all things of the earth that they simply rolled over in the face of overwhelming or otherworldly odds, except when absolutely pushed to the extreme as in the case of the Pueblo Revolt of 1680?

Chavarria: Even today people talk about how the Pueblos weren't looking for conflict with outsiders, and that's why our forbearers were so accepting and accommodating to the earliest Spanish and other Euroamerican colonists. They also argue that it wasn't until things turned really ugly that the Pueblos found it necessary to respond with force to the threat in question. Even with the original Spanish colonization near San Juan, when the Spanish established a village there the Pueblos reached out to the settlers and welcomed them to stay, and made offers to help them with their crops. In response to such hospitality the Spanish demanded that the Natives dig a ditch. People say that because of their generous nature, these outsiders took advantage of the Pueblos and pushed them to the extreme. Some people say that's why weaving died out, and the generosity of the Pueblos dwindled to a trickle. That was in large part because the Spanish demanded so much in tribute that it became easier to feign a lack of resources or skills, or for that matter technology and mastery of the environment, with which to assist the Spanish in their efforts to adapt to the new land.

Mendoza: You could say that this in effect constitutes a form of self-imposed ethnocide by default. In other words, do you believe that when challenged by outside interference of a predatory nature, the Pueblos retrenched, and thereby selectively permitted elements of traditional practice to go dormant rather to go on supplying the Spanish in the face of their excessive demands for tribute?

Chavarria: They're always going to grow crops either out of necessity or tradition, but in each instance the costs of cooperating with the Spanish and other Euroamerican groups needed to be weighed in terms of the ultimate costs to the Pueblos themselves.

Mendoza: It's a medieval paradigm of sorts in which vassalage frames the dependency, but in this instance, it would appear that both self-interest and the need to assess the cost–benefit equation of doing business with outsiders were recurrently revisited by the Pueblos? Now you have something here that appears to paint the Pueblos as savvy political economists, as opposed to the victims and pawns of a primitivist paradigm perpetually deployed by scholars who continue in their attempts to account for the dynamics of Puebloan social organization and survival at the most fundamental level of analysis. Invariably, scholars continue to resurrect such primitivist scenarios in an effort to brand the Pueblos as victims of progress. Do you think that this represents an accurate analysis of the Puebloan pattern of interaction with outsiders?

Chavarria: Yes, particularly when faced with weighing the cost–benefit analysis as well. For instance, growing cotton, the sheer amount of land, water and resources, how much of that is required to make one manta as opposed to pottery production

where the resources are readily available. The processing doesn't take as long, or it can be processed much faster, for example, than growing cotton. So with pottery making, you could still continue to produce that, even if you were making other resources for the Spanish. So again it's a decision that could be made. Yes, we will continue to do this, and we can still trade with other villages that don't make pottery in exchange for other crops. Or, with villages further away, trade for bison or other types of material.

Mendoza: But Tony (and I'm playing Devil's Advocate here), I've long held this romantic vision of the American Indian as connected to the earth; all of the people's decisions made in strict harmony and a balance with the earth and its gifts. But what you're telling me here flies in the face of that cherished idea. In fact, now what you're telling me is that the Pueblos sought, and continue to seek, rational decision-making based on prevailing logic and logistics; and that based on observation, experience, and the self-interest or political economy of the moment? That in effect implies that the Pueblos did not base their relations and decisions on a longstanding tradition of "touching the earth," or otherwise respecting Mother Earth…at any and all cost?

Chavarria: I would counter that such practices, however profane they appear, do in fact honor the earth and the ancestors. Our world view permits us to see this all as one seamless continuum. Even where particularly difficult (secular) decisions need to be made about how to best manage the earth's resources, we don't see the need to seek a separation of the sacred and profane, because these two dimensions coexist in the Pueblo world. Each decision ultimately requires that we draw from both worlds, from both the secular and the sacred. We know that for the ancestors the Earth Mother didn't hide in order to avoid exploitation of her clays for pottery making, for the clay remains available to this day. So, they continued to mine the earth as we do today, because they knew, as do we, that her gifts would go far and wide in many other forms. And that's the point, that these were still the original gifts of creation. Even the products of weaving are another such creation. While a whole other process, weaving can be learned, taught, and relearned, and therefore it can never be completely lost to our traditional life ways. Where North America is concerned, I believe that it's only in the Pueblos where indigenous practices might be permitted to lay dormant and go extinct, only to be resurrected and relearned. Perhaps it's curious that the Pueblos can allow an entire tradition to die for the moment, only to go back and revitalize the lost arts of the elders or ancestors. What's perhaps even more amazing is that despite so many different language groups, and slightly different takes on ceremonies and such, whole traditions can be reborn over whole regions. Despite the large-scale abandonment of ancestral Pueblo lands in the thirteenth and fourteenth centuries, whole towns were relocated and entire traditions resurrected, and with stylistic and organizational uniformity, and consistency. I believe that longstanding patterns of responding to the vagaries of the ecology and host of diverse traditions of the region allowed the Pueblos to adapt and morph into new settlements and communities. In sum, I believe that it's still all about our connection to the earth, and to speaking to the earth and to the heavens; while at the same time recognizing that even the supernaturals recognize the need for very practical decision-making where the earth's gifts are concerned (Fig. 16.10).

Fig. 16.10 The Hopi Mesas of northeastern Arizona represent one of the longest continuously inhabited settlements of North America, with the pueblo of *Orayvi* or Oraibi bearing evidence or occupation since shortly before AD/CE 1100. At the end of the thirteenth century, the population grew exponentially after refugees of other area pueblos sought refuge on the Hopi Mesas as the result of the great drought of that time. In 1690, the First Mesa village of Walpi was established here as the result of the relocation of a pre-existing pueblo that sought protection from the Spanish after the Pueblo Revolt. Photo by Rubén G. Mendoza, 1982

Mendoza: Given our constitutional mandates for the separation of church and state, we Americans tend to see things solely in black and white, with no gray areas to blind us to this polarized perspective regarding the separation of the sacred and the secular. What you're implying here is that the Pueblos of the Rio Grande melded the two dimensions into a singular vision, particularly as it would appear that the largely secular or profane transactions of the political economy were seamlessly intermeshed with the sacred realms of the religious system and spiritual world in this instance? In other words, traditional beliefs about the spiritual realm are not necessarily incompatible with the profane worlds of the economic and political, and yet prevailing post-Colonial paradigms and their advocates often contend that this constitutes a conflation of the two that is and was untenable and unacceptable. How do you respond to the notion that this in effect constitutes a misconception or corrupt idealization of the pure faith of the ancestors?

Chavarria: These outsiders may argue that practice based on compromise only serves to corrupt the pure faith, or that participating in the modern market does not represent traditional practice, but for the Pueblos we believe that our actions here do

in fact serve the spirit world. Whatever you do in this life has a very real impact in this other world. Alfonso Ortiz's early studies of the Pueblos revealed a cosmology based on functional parallel opposition; or stated differently, what we do in this life is mirrored in the afterlife, and this is true even if our decisions have an adverse impact on our traditions (Ortiz 1972). For example, permitting basket making or cotton weaving to go dormant or lapse may have consequences for the world of material things; but that's because through both thought and prayer, and other forms of communication with the supernaturals, we still seek to understand what the ancestors and supernaturals are trying to tell us about how best to live in this world. Who knows for sure whether or not permitting basket making or pottery to die was in fact one of their instructions, but it could well be that it was one. Not cooperating with the Spanish in creating such items may foster the death of an old and valued tradition for the moment, but that decision or instruction may have come to us from the spirit world.

Mendoza: And by extension, this cosmology of the Pueblos serves to frame the belief that we have this mirror into the other world. And as such this same cosmology provides a justification in this life that clearly makes it necessary and appropriate to resort to either the abandonment of a tradition, advocacy or contradictory actions, and sometimes violence where deemed necessary. I can now see how one can reconcile these seemingly contradictory decisions in the Puebloan world view, because in the end our actions here are mirrored in the other world. If not dealt with here, then there will be repercussions to be had in the realm of the supernaturals. And, this latter thought provides a direct segue into my next question; that of how the Pueblos now address the perceived costs, benefits, and repercussions that accrue as the result of practices that result in environmental degradation. In other words, how then would the deforestation of areas near Chaco Canyon, for instance, translate in terms of this cosmology of functional parallel opposition? How would the Pueblos have reconciled that fact, or for that matter, how would they have justified warfare with the marauding Athapaskans? Can that be reconciled within the framework of Puebloan cosmology?

Chavarria: Yes! What we're seeing therefore is not a lack of concern for the environment, particularly where the evidence indicates that ancient hunting practices or the clear cutting and deforestation of entire regions resulted in the collapse of the ecology of a given area. Rather, what we are seeing are responses born of the challenges of a marginal environment. In other words, those decisions needed for maintaining a balance with the environment, and that despite perceived excesses that seemingly undermined the delicate ecology of the region in the first place. What is particularly evident is that the Pueblos frequently moved across the landscape, migrated from place to place; and that as the result of growing population densities and demands. This fact required an adaptive strategy centered on their ability to relocate on a moment's notice. Their ability to move from place to place, harvest resources until they were depleted in a given area, and then uproot and move to another place in response to drought, was critical to the survival of the Pueblos. For instance, when the Great Drought swept the region in the thirteenth century the

Fig. 16.11 As with many Ancestral Pueblo settlements of the Four Corners area, both defense and ecology were prime considerations in site selection. The site of Betatakin, now part of the Navajo National Monument in northeastern Arizona, represents a particularly well preserved example of a thirteenth-century cliff shelter. Photo by Rubén G. Mendoza, 1982

people relocated and converged on the Rio Grande rather than return to their defensive mesa-top villages and Pueblos in other widely dispersed areas of the Southwest. So, while the Pueblos maintain a careful, although tenuous relationship to the environment, population densities may permit or restrain our use of available resources. When depleted, we simply uproot and leave such fragile areas, allowing such areas to recover. Upon recovery, we eventually seek a return to these villages that form part of our adaptive pattern; that borne of a cycle of migration and abandonment. Today, archaeology itself has revealed that the Pajarito Plateau is replete with evidence for cycles of settlement, abandonment, and reoccupation by the ancestors (Fig. 16.11).

Mendoza: In *The Pueblo Revolt and the Mythology of Conquest* (2009), Stanford University archaeologist Michael Wilcox relies in part on a rather deterministic explanation predicated on Hispanic violence against the Pueblos as the root cause for the patterns of post-Contact migration and abandonment in the Rio Grande Pueblos (Wilcox 2009). At least this aspect of his argument would appear wholly untenable given what you are now relating to me of your ancestral traditions. In effect, what you're saying here is that such patterns of interaction constitute a traditional adaptive mechanism to a marginal ecology with particularly deep roots in the Southwest urban tradition?

Chavarria: It was a pattern that worked, and what didn't work was what appears to be this disregard for the environment introduced by the Europeans. This disregard for balance with the environment comes into play with the Spanish *entrada* or colonization, and that by way of their system of land tenure. What worked in the past, in other words, that older mechanism of migration and abandonments was curtailed and each Pueblo was forcibly tethered to a singular place. Each Pueblo was granted a single three-league-square plot of land on which to subsist and farm. That pattern continued under the American system, to which were added Indian reservation lands that were ever more marginal. So, the ancient Pueblo adaptive pattern was no longer tenable, and as such you could no longer uproot and move to another place, thereby permitting the land and resources of a given area to recover. What you see is this pattern in which the Pueblos remain in a given area and use all available resources until they are depleted and the local ecology declines. This post-Contact pattern is most evident in nineteenth and early twentieth-century photographs taken at Santa Clara. The photos clearly indicate that the entire village is reduced to a single marginal environment. There's not a single tree in sight, and few cottonwoods remain. Pretty much everything else has been chopped down, denuded, used for architecture, firewood, and everything else imaginable. Eventually, the people of Santa Clara are forced to search an ever-widening area for basic resources, like firewood, and that in large part because they no longer had the mobility and or those options available to the ancestors.

Mendoza: So, what you are in effect saying is that for the Pueblos this was a traditional adaptive response thousands of years in the making? With the arrival of the Europeans and Americans, we see the introduction of the notion of private property with clearly defined and demarcated boundaries, and that in tandem with the introduction of the Spanish *reduccion*; or, reduction of dispersed populations into established sedentary towns. As such, it would appear that the longstanding pattern of adaptive mobility, or the Puebloan system of mass migration and resettlement was akin to that represented in the Mesoamerican "solar system" of market interchange between communities reminiscent of Oaxaca, Mexico (Smith 1974). The Pueblo pattern, therefore, was actually a traditional adaptive response to environmental change and resource scarcity? It would appear then that the arrival of the Europeans, with their tendency to define private property, ultimately abrogated or undermined traditional patterns of resettlement to the extent that it then led to the

collapse of the most ancient aspects of the Puebloan system in question. So, in reality, the European and American predilection for defining property boundaries posed a greater threat, and produced a more devastating pattern of consequences for the Pueblos, than heretofore acknowledged in the literature? I would contend that this idea is relatively new to the mix as we tend to define the Pueblos as fully sedentary agriculturalists with fixed relations to their agriculturally circumscribed land base; a pattern that is better suited to characterizing the Euroamerican occupation of the region.

Chavarria: So, under the European system of land tenure a village that might lie closer to the river, for instance, was now denied access to ponderosa pine forests that were formerly part of their extended land base. This had an immediate impact on the use of the evergreens used in dances and so forth. Therefore, finding a way to access the ponderosa's now proved problematic for maintaining traditional practices of resource exploitation.

Mendoza: In effect, this undermined preexisting Pueblo migratory patterns and traditional practice? Is there a name for these migratory patterns or movements? I'm curious, is there a term that is relevant here, for identifying that dimension of the social system so noted? As previously noted, Wilcox (2009) contends that a fundamental variable underlying the post-Contact Puebloan abandonment of "traditional" towns or *pueblos* was an immediate defensive response to the fact that the Spanish in particular encroached on traditional lands, and thereby, ruined a pristine sedentary pattern thousands of years in the making. What you are saying, then, is that such migratory patterns of Pueblo abandonment and resettlement were in effect but one aspect of a larger Southwestern sociopolitical pattern. A broader pattern based on a long-term or traditional adaptive response to environmental perturbations and conflict in one of the harshest and most unpredictable environments of North America? As such, this would appear to have been an adaptive response, or sociocultural and political pattern, that persisted for over a thousand years. In other words, one reliant on a form of semi-sedentary or cyclically abandoned and reoccupied Pueblo towns or places of refuge and retreat in this instance?

Chavarria: The migrations were dependent on established refugee sites or centers, and some of these could very well have resulted from the reoccupation of earlier sites, such as Puyé at Santa Clara Pueblo. The reoccupation of Puyé in its guise as a place of refuge is known for the period of the Pueblo Revolt, or subsequently during the Spanish *reconquista* in the siege of Black Mesa, when the people occupied the room blocks at the summit of the mesa that forms Puyé. This was a reoccupation of a cyclically abandoned ancestral place formerly occupied prior to the Spanish *entrada*, the revolt, and later, the *reconquista*.

Mendoza: So, you could say that they were the ultimate recyclers, particularly as whole towns figured into the process? Do you think this might have a bearing, for example, on Chaco Canyon? I say this because Chaco maintained these massive road systems connecting distant outliers in the hinterlands to the primate center; and those outliers looked much like Chaco, but only as smaller mirrored images of the

Fig. 16.12 The ancient town of Pueblo Bonito, now part of the Chaco Culture National Historical Park of west-central New Mexico, constitutes one of the largest such Ancestral Pueblo settlement areas of the period spanning the ninth through twelfth centuries. Photo by Rubén G. Mendoza, 1982

center. Could it be that the Puebloan adaptive strategy considered here, in which people responded to resource volatility by way of mass migration, was endemic to recurrent patterns of drought and scarcity in the canyon? Tony, I believe that you've just provided an indigenous model for perhaps how it was that Chaco functioned in reality, and this new model in turn implies that the abandonment of Chaco was not the catastrophic model of abandonment that it has been made out to be in the final analysis. Would you say that were it not for the collapse of the canyon's proximate resource base and the Spanish entrada in the centuries thereafter, some of the outliers, if not the canyon itself, would have remained viable as part of this Chacoan "solar" settlement system (Fig. 16.12)?

Chavarria: Yes, and then you have those settlements of the Gallina wedge near Chaco, with seemingly minimal interaction with the canyon. I've always wondered about Chaco's role in all of this, and particularly about the idea that if Chaco wasn't a permanent settlement, was it used only during different times of the year, or in varying years, as a place of convergence? But then again, maybe it's this earlier practice that was already in place and was revisited at the time of the Pueblo Revolt. In other words, might it be that this pattern of convergence was already in place as a hedge against adversity, and Chaco Canyon was the buffer zone. In all likelihood, regional moieties, local clans, different sodalities, and different headmen bringing

together resources and manpower from the outliers in times of social upheaval or external threat? Interestingly, they date the All Indian Pueblos Council to the planning of the Pueblo Revolt, and if the role of Chaco is any indicator, then it may well be that the All Indian Pueblos Council simply represents the resurgence of an age-old pattern of adaptation with very deep roots in the Southwest.

Mendoza: I would think that some of those who may have converged at Chaco as part of this extended council, or heterarchical arrangement so prevalent in other areas of the Americas, may well have been southerners from as far away as Casas Grandes, northern Chihuahua, Mexico. And, moreover, I would contend that those who seek to minimize the significance of Mesoamerican products and peoples in the Southwest; by arguing for tenuous long-distance trading relationships, may well have overlooked the likelihood of substantive social relationships and a more formidable record of population movements over vast distances in order to buffer against the vagaries of environmental and social change and conflict.

Chavarria: We've already seen with Coronado's *entrada*, that the people were quite capable of communicating over vast expanses of the Southwest via various translators. Therefore, such interactions across diverse cultural zones didn't really pose a barrier, and that irrespective of the fact of the many language groups and dialects to be addressed across the region. Some, for instance, spoke in the Zuni tongue, while others negotiated a host of northern Mexican Indian languages. Such transactions had to have been commonplace, as for instance those groups in northern Mexico who obtained buffalo hides by way of working the crops of the Zuni far to the north. So, clearly, there is a very long history of migration and migrant labor that extends well back into the prehistory of the Southwest.

Mendoza: Well, it would appear that most believe that migrant labor only dates back to the Mexican *Bracero* era of post-World War II agriculture in the United States of America?

Chavarria: No, that's what Kurt and Polly Schaafsma pointed out; that there was one group in northern Mexico that had buffalo hides acquired from the Zuni (Schaafsma 1994). The question then became one of where were the Zuni getting their buffalo hides from…as they would have originated on the Great Plains, and Zuni is one of the westernmost Pueblos located at a considerable distance from the Plains. So, you can argue that people were trading over great distances, whether by down the line forms of trade, or by direct contact with merchants and migrants who brought in the hides from distant regions. As with the northern Mexican site of Casas Grandes, Chihuahua, we again have a major Puebloan trading center, replete with macaws, parrot cages, quantities of turquoise, and such; and all having particularly great importance in this region as well. You also have the Chacoan outlier of Aztec Ruins National Monument whose cultural traditions align closely with those of Chaco itself. So it does make sense that there were places where moieties based in such satellite sites took part in pilgrimages, along with other initiates, because even in the recent past the ancestors trekked from one sacred site to the next leaving behind rock cairns to mark their passage. By extension, the Zuni Salt Lake, located

Fig. 16.13 By the mid-eleventh century the dozens of Great House settlements and Great Kivas of Chaco Canyon were connected to some 150 distant Great House sites by a massive system of roads extending beyond the canyon. The Great Kiva of Chetro Ketl, depicted here, is but one of the many at the epicenter of Chacoan society that served a constellation of distant outliers and regional settlements beyond what is today the Chaco Culture National Historical Park. Photo by Rubén G. Mendoza, 1982

about sixty miles south of Zuni Pueblo, essentially became a demilitarized zone due to salt's importance to the Pueblos (Fig. 16.4). In fact, the Old Salt Woman's spiritual significance mitigated against the possibility of intertribal warfare, particularly as each community understood that they had to share her gifts from the earth. The salt lake became a site of pilgrimage, much like Chaco, but with both religion and resource use as central to the goings-on of that place (Fig. 16.13).

Mendoza: What we're talking about, therefore, centers on these sizeable population movements that formed a traditional dimension of Puebloan patterns of adaptation in which entire towns were seen to uproot and reappear elsewhere on an ongoing basis, and perhaps in a recurring cycle. In this way the Pueblos were able to maintain a relatively harmonious balance with an environment seemingly on the brink of collapse, and this despite the region's marginal character. As such, they managed to accommodate the region's limitations even so, but did so by way of forming regional coalitions and uprooting and relocating entire towns on a regular basis, and in turn, in an orderly fashion. This is virtually unheard of where sedentary agricultural communities and towns are concerned, and yet that is precisely what transpired in the pre-Contact era. This pattern appears to fly in the face of the notion that American

Indians, and the Pueblos in particular, sought to maintain harmony by way of a static and fixed relationship with ancestral lands and their environment, not to mention the broader social landscapes of the Southwest. This sounds rather like shifting cultivation, in which Mesoamerican farmers are seen to crop an area of the rainforest until the soil is depleted of all nutrients, and thereby rendered unsuitable. Once this happens, swidden agriculturalists then uproot and move on to the next patch of ground, and thereby restart the cycle all over again.

Chavarria: A dramatic example of this pattern of resettlement concerns the Tewa community of Hopi. We have always seen that as pre-dating the contact period and colonization by Europeans in the period after 1540. The Pueblos have always seen the Tewa relocation to Hopi as having taken place prior to Spanish contact, while others argue that it was in the post-Contact period when this occurred. The story here is that the Hopi came to the Pueblos and asked for help on three different occasions in order to fend off the invaders in their region, very likely Athapaskan intruders. The Tewa eventually went out there to live among the Hopi. As such, an entire Pueblo uprooted and relocated to support the Hopi, and this as a response by the Hopi call for assistance in their fight against the intruders.

Mendoza: So, while I understand that it was the Hopi who essentially solicited military support, who was it specifically that responded in this instance, and what was the incentive to the Pueblo that joined them in the fray?

Chavarria: It was a Tewa Village that joined the Hopi. Some people say that they came from the Gallisteo Basin south of Hopi, but others claim that they came from the north, near modern-day Chimayo, a Tewa village that basically agreed to go live among the Hopi. In exchange they were permitted to remain at Hopi forever. The offer was that this one place on First Mesa would remain theirs forever. So basically this entire village of men, women, and children uprooted and relocated to join the Hopi. They remain there to this day!

Mendoza: So, the idea that an entire town might uproot and relocate in order to accommodate such an exigency would appear to reinforce the idea that such symbiotic relationships, or systemic linkages, between communities, social networks, and clans or lineages were quite ancient, pervasive, and very powerful. And, these forces would appear to have been so powerful and pervasive that whole towns and populations were prepared to relocate as called upon to do so, and on a moment's notice?

Chavarria: More interesting yet is that these were Tanoan-speaking groups, in other words Tewa, who joined a group of non-Tanoan speakers, the Hopi, in an effort to come to their aid despite the need to completely uproot and relocate their village in the process. For me this is clearly a case where it did not come down to the Pueblos fleeing in advance of the Spanish *entrada*, but rather, an event that pre-dates the *entrada* and the introduction of Spanish and Euroamerican systems of land tenure.

Mendoza: Ultimately, viewed through the lens of the Pueblos world view, it would appear that such practices were little more than the people's response to the vagaries

of resource scarcity in the Southwest. Like swidden agriculture, one could say that the Pueblos responded to the dying earth through a reconciliation borne of migration and resettlement, thereby giving the earth time to heal in the wake of its exploitation and injury. Do you see a contradiction between the notion of American Indians living in harmony with their environment (in other words the idea of Iron Eyes Cody standing on the edge of a polluted river with tears welling up in his eyes), and this Puebloan model for harvesting the resource base through to exhaustion, and then moving on to new sites in order to replenish their resource base?

Chavarria: I would argue that such practices still demonstrate a commitment to working in harmony with the land. It's certainly not an ideal approach, and definitely not one that today we would think of in terms of sustainability, but it's certainly what the Pueblos thought of in terms of sustainability with the ecology of the region. For the Pueblos this was part of a larger effort to strike a balance, and one in concert with the wishes of the supernaturals. Without the benefit of draft animals or metal tools, the Pueblos modified the natural landscapes of the Southwest by clear cutting scrubby trees and junipers, and harvesting the giant Ponderosa pines for use in construction; and thereby building monumental towns and cities like Chaco or Mesa Verde. Later, with the aid of Spanish tools, they continued the same practices, but did so within the context of non-renewable, and fixed and bounded settlement systems based on Euroamerican notions of land tenure first introduced by the Spanish.

Conclusions

A host of particularly salient and relevant Puebloan issues and anthropological observations emerged from this discussion with Antonio Chavarria. Of these, three primary areas of concern were addressed, including (a) Pueblo concerns with the publication of works that address social violence and a less than sustainable relationship with the ecology of the Southwest; (b) engaging the concerns of descendant communities where our studies are concerned with said issues; and (c) cultural adaptation, including Puebloan responses to environmental degradation, and the assimilation or accommodation of external influences emanating from beyond the Puebloan world. Clearly, current understandings within and beyond the scholarly community will require reconsideration in light of some of those dimensions of Puebloan world views addressed here regarding conflict, social violence, and relations with the earth and its resources.

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References

Chacon, Richard J., and David H. Dye. *The Taking and Displaying of Human Body Parts as Trophies by Amerindians* (Interdisciplinary Contributions to Archaeology). New York: Springer Press, 2007.

Dryden, John. *The Conquest of Granada, 1672*. Jean Jacques Rousseau is often mistaken for the source of the concept of the Noble Savage, when in fact Dryden first coined the term, and Charles Dickens popularized its usage in the 19th century. See George Saintsbury and Sir Walter Scott, eds., *The Works of John Dryden*, 4 Volumes, Edinburgh, William Paterson, 1883.

Leckie, Robert. *Helmet for My Pillow: From Parris Island to the Pacific*. New York: Random House, 1957.

Ortiz, Alfonso. *The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society*. Chicago: University of Chicago Press, 1972. See also Edward P. Dozier (1954) for the concept of "compartmentalization" as this pertains to Puebloan acculturation and their ongoing syncretic accommodation of Spanish and non-Puebloan beliefs and ritual practices; cf. Dozier, Edward P. Spanish-Indian Acculturation In the Southwest: Comments. *American Anthropologist* 56 (Aug. 1954), pp. 680–684.

Schaafsma, Polly. *Kachinas in the Pueblo World*. Santa Fe: University of New Mexico Press, 1994.

Smith, C. A. Economics of Marketing Systems: Models from Economic Geography. *Annual Review of Anthropology*, Vol. 3 (October 1974): 167–201.

Turner II, Christy G., and Jacqueline A. Turner. *Man Corn: Cannibalism and Violence in the Prehistoric American Southwest*. Salt Lake City: The University of Utah Press, 1999.

Wilcox, Michael V. *The Pueblo Revolt and the Mythology of Conquest: An Indigenous Archaeology of Contact*. Berkeley: University of California Press, 2009; See Ruben G. Mendoza review of Wilcox in *CHOICE Magazine,* October 2010, American Library Association, http://www.cro2.org/.

Chapter 17
Indigenous Peoples and Environmental Degradation: An Indigenous Perspective

Alberto Esquit-Choy

Abstract This work investigates the relationship between Amerindian-induced environmental degradation and the longstanding legacy of colonialism. Instances of environmental mismanagement should not be seen as taking place in a vacuum but rather, these events should be viewed in their historical and socio-economic contexts. Articulation with capitalism not only resulted in the subordination and exploitation of indigenous peoples but it also eroded many adaptive cultural traditions. As such, the overharvesting of natural resources by native peoples is linked to the effects of global capitalism.

Indigenous peoples and the environment are very closely linked in this era of globalization. This nature of this link has been significantly shaped by colonialism along with the actions and operations of multi-national corporations. It is with this understanding that I begin my discussion on the dilemma that anthropologists and other social scientists face when confronted with data on indigenous environmental mismanagement.

The relationship between the Western world, indigenous peoples, and the environment is a complex one. This complexity includes internal and external forces seeking to exploit natural resources found on indigenous lands. Unfortunately, the powerful influences exerted by outside socio-political and economic factors are not properly addressed in simplistic explanations of indigenous natural resource utilization. For example, the relative scarcity of advanced technology, so typical of modern Western societies, along with the limited integration with capitalist economics, often leads to the interpretation that indigenous peoples, as well as the countries

A. Esquit-Choy, Ph.D. (✉)
Fundación-Kaqchikel, Parcelamiento La Alameda, Sector 1. 2a. Avenida,
Chimaltenango, Guatemala
e-mail: ae7420@yahoo.com

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they inhabit, have been "left behind" while the rest of the world advances. At the other end of the spectrum, many in the ecological movement interpret the paucity of Western technology in many native communities as evidence for the existence of the "ecological Indian" (Krech 1999). These characterizations have led to much debate (Ranco 2007; TallBear 2000; Snow 2001; Orton 1999). In fact, these (and other) views of indigenous natural resource utilization do not necessarily represent reality, as understood by native peoples, nor do they reflect indigenous notions of identity. These characterizations, however, do reflect the theoretical and intellectual views that emanate from the centers of socio-political, economic, and academic power.

These fabricated caricatures of indigenous groups have their genesis in modern-day capitalist economies in which one encounters consumerism, poverty, and environmentalism. Critical to understanding natural resource utilization by native peoples is the fact that capitalist expansion and poverty are linked. Reinert (2007) titled a recent book that exposes this reality: *Globalization and Poverty*. The author reports that poverty is the result of unequal relations between subjects and nations in international business and in the internationalization of capital. This inequality can be seen in the extraction of natural resources from indigenous lands. The effects of these unequal relations are made manifest in various ways, e.g., air pollution, the greenhouse effect, the weakening of the ozone layer, loss of biodiversity, deforestation, soil erosion, the erosion of indigenous culture, values, traditions, and practices in addition to many other effects on human life (Veizaga 2008:12). The relationship between capitalism, environmental degradation, and native peoples has raised concerns about the "ecology" of the market (Meyssan 2010).

The fact is that indigenous groups navigate in a globalized economy and their cultural practices are significantly impacted by this reality in every way. In order to accurately understand the situation of native peoples regarding natural resource utilization and overall development schemes, it is necessary to distinguish the authentically indigenous cultural values and practices from those introduced by outsiders.

In short, in order to avoid the construction of simplistic explanations of indigenous natural resource utilization, one must understand that native peoples and environmental problems do not exist in isolation. In order to accomplish this, one must analyze the indigenous experience from a historical perspective along the following three stages:

1. Pre-modern and pre-industrial societies
2. Colonization and subordination
3. Immersion in national politics and the global economy

Pre-Modern and Pre-Industrial Societies

Indigenous peoples experienced pre-modern and pre-industrial history simultaneous to but independent from Europeans. Frequently, when studying indigenous groups, social scientists fail to understand how European colonialism and imperial expansion

impacted indigenous peoples. This error distorts their understanding of present-day indigenous social relations and natural resource utilization. However, it is also erroneous to assume that everything is determined by global politics and economics thus converting native peoples into passive subjects who are slaves to forces they cannot control. Just as it would be unwise to espouse the "ecological Indian" caricature or the "noble savage," it would also be unwise to espouse a form of political and economic determinism that denies the agency of indigenous peoples. Native peoples are much more than these stereotypes. We operate in a world in accordance to our own values and perspectives.

On the other hand, anthropologists and other social scientists often observe the behaviors of indigenous peoples through a Western, rationalist, and positivistic lens. Moreover, many Western scholars have considered themselves superior to the native peoples they were observing. The ethnocentric explanations put forth by such researchers reflect the values of the dominant society (Said 1990).

However, it is possible for academics (indigenous and non-indigenous alike) to avoid falling into this trap. According to Thorstein Veblen, "the instinct of economists has been contaminated by their education" (Veblen cited in Reinert 2007:27). Therefore, in order to overcome this contamination, one should change one's approach. One should reject any ideology that essentializes indigenous peoples. Additionally, one should be open to the possibility of the existence of what postmodern scholars term "diverse truths." This stance, however, may be rejected by those who are convinced that they alone possess "absolute Truth." Significantly, Western capitalistic society (and many academics) continue to promote monolithic models declaring the arrival at "absolute Truth" to the benefit of some and to the detriment of others.

As such, modern-day indigenous peoples have been mistakenly portrayed as living in isolation without communication with Western societies that developed in other locations during other times. Pre-modern and pre-colonial indigenous peoples related to their respective environments in environmentally sound manners that were informed by their traditional values. Tragically, contact with the West disrupted the transmission of these traditional ways and traditional values. Ignoring this reality not only constitutes a gross misrepresentation of the indigenous experience, it also hampers efforts aimed at shedding light on the plight of modern-day native peoples.

When it came to searching for answers to existential questions relating to life, nature, and death, the pre-modern, pre-industrial indigenous societies of the Americas and Europeans were very much alike. During the fifteenth century, for example, the Aztecs practiced human sacrifice in honor of the gods while Europeans engaged in the Inquisition, which started in France in the late twelfth century and continued until Spain until the first quarter of the nineteenth century (Veizaga 2004). Both among indigenous peoples and Europeans, religious beliefs and institutions took the lives of individuals deemed deserving of this sort of treatment. In both instances, the religious values and principles promoted by those in power justified the killing of human beings. As such, religion and death were important instruments of domination, just as economics and death are today in the capitalist

economic system, which dominates and subjugates all societies and populations it encounters.

From another perspective, the economies of pre-modern native peoples and Europeans both depended on agricultural labor, although it was organized according to different concepts particular to each group. With regards to seventeenth century Europe, Reinert (2007:14) states that "it is possible to contemplate Europe, from another perspective, as a 'backward' continent that did not consolidate its borders until after the siege of Vienna by the Turks in 1683. During the 1,000 years between the period of Mohammad and the siege of Vienna, Europe had to dedicate considerable energies to defend its eastern and meridional borders from the Mongols and Islam."

The social organization among pre-modern indigenous and European societies was quite similar. Hierarchical social structures along with the diligent enforcement of the elite's ideology on the masses operated in both the Old and New Worlds. European colonials placed themselves at the apex of New World social structures by subjugating indigenous peoples and placing them at the lowest rung of the global social structure.

Ineffective attempts at addressing social inequalities such as the models of modern democracy, reveal the inherent inequality found within and between groups. What is often left out is the simple fact that in order to effectively participate in a democracy, one must have access to the resources that make life possible.

History clearly shows us that the indigenous peoples of the Americas and Europeans once inhabited pre-modern and pre-industrial societies. Furthermore, both experienced dramatic changes as the result of the Industrial Revolution. When confronted with this reality, we should ask ourselves the following question: At what moment and with what justification, did the Europeans begin to perceive themselves as being superior to other peoples? Securing the answer to this question is important because it is at this moment that Europeans take on the task of dominating indigenous peoples. As such, securing the answer to this question will provide us with the origins of existing socio-political and economic inequalities.

Colonization and Subordination

The first contact between indigenous peoples and Europeans produced substantial changes in the worldviews of each group. This contact also brought the independent development of both regions to an abrupt end. Additionally, both groups experienced changes in their respective social structures as European models were transferred to America. The internal social inequality characteristic of the newly created nations of the Americas, has its origins in this transfer. Through time, local populations would accept this situation as being natural.

An important aspect of this first contact is that it occurred before the advent of industrialization. It was the genesis of the European intrusion into indigenous America. In the case of Spain, this was an expansionist project that had motives of

ideological and political domination of a religious character, in which the power and jurisdiction of the Christian king spread to newly conquered territories. He and his colonizing subjects benefited from this through the collection of tribute and the exploitation of the dominated indigenous populations of the Americas. This also was the genesis of the appropriation of indigenous natural resources by Europeans.

During the first period of Spanish colonization, Europe found itself in a relatively weak position compared to other groups, particularly the East with its superior military power. However, the accumulation of knowledge through exchange and interaction with the East, allowed Europe to become very powerful by the eighteenth century (Reinert 2007:15). This development lead to many changes in Western society which spurred the development of capitalism along with a new age of expansion and a new form of colonization.

This second stage of colonization was motivated mostly by economic reasons. That is to say, that the desire to spread Christian doctrine was no longer of paramount importance. At this juncture, the desire to extract and accumulate wealth through colonial corporations became prominent. This shift placed Europeans into new positions of political and economic power that proved deleterious to indigenous peoples. Additionally, at this time, a new form of justification appeared for the growing social inequality between the peoples inhabiting the nations of the Western world and the indigenous peoples at the periphery. At this moment, social scientists played a role. Works by Morgan (1975) and Engels (1982) put forth Eurocentric notions which described many native peoples as being members of "primitive" (i.e., uncivilized) societies. For many, this characterization provided cover for the continued domination and oppression of indigenous peoples.

Immersion in National Politics and the Global Economy

In the present era of neoliberal globalization, indigenous peoples find themselves immersed (either voluntarily or involuntarily) in a web of capitalism, as part of the labor force or as residents of regions invaded by capitalist forces. Additionally, lands inhabited by native peoples often contain natural resources that are coveted by Westerners and this situation leads to conflict.

On one side of this conflict is the "green movement" that advocates the need to practice conservation in addition to promoting human rights. While I applaud the efforts of these environmentalists, it is important to ask the following question: Are environmentalists truly aware of the needs and wants of indigenous peoples or are they more interested in preserving some sort of "pristine" wilderness? Moreover, some conservationists have accused indigenous peoples of being "inauthentic" for harvesting natural resources at non-sustainable levels. This complicated situation, if not analyzed properly, could easily lead to a simplistic and ethnocentric understanding of how native peoples harvest natural resources.

Articulation with the capitalist economy not only resulted in the subordination and exploitation of indigenous peoples but it also eroded many adaptive cultural

traditions. As such, the ramifications stemming from the reporting of instances of Amerindian-induced environmental degradation are quite serious. Regarding this matter, one should ask the following questions: What are the motivations of the individuals reporting this sensitive information? Also, did any special interest groups fund such research?

Obtaining the answers to these questions is of paramount importance. In the social sciences, one has the obligation to accurately present one's research findings in a transparent manner. Therefore, I do not condone the obfuscation of data indicating environmental mismanagement among any group (indigenous or otherwise). However, to report the existence of environmental mismanagement among native peoples without taking into consideration the many harmful effects that capitalism has had (and continues to have) on indigenous peoples serves only to perpetuate biases and stereotypes.

In this era of globalization, there are no perfect peoples. All societies have made mistakes with regards to natural resource utilization. Therefore, great care should be taken when reporting instances of environmental degradation among any group (indigenous or otherwise). When reporting such data, scholars should keep in mind that, because of their marginalized status, indigenous peoples are particularly vulnerable. The reason for this concern stems from the possibility that powerful anti-Indian forces may use this type of information to divest native peoples of their natural resources.

Historically, the relationship between indigenous peoples and Westerners has been marked by conflict and exploitation. However, euphemisms have been employed to obfuscate this fact. When describing areas replete with exploitation, injustice, and social inequality, these regions are labeled as being "underdeveloped." This evolutionary classification assumes that this "underdeveloped" area will eventually be transformed into a "developed" region if market forces are allowed to freely operate. This tenet paves the way for multi-national corporations to extract natural resources from indigenous territories. This is particularly problematic for native people as these extractive activities typically, degrade local environments and fail to significantly invest profits in local indigenous communities. In this way, the capitalist economy acts like a religion that sends indigenous peoples to their death.

The criteria for human development, for example, is based on life expectancy, educational level, earnings, and consumerism.[1] Unfortunately, this assessment does not take into consideration the level of cultural development that indigenous people deem necessary for maintaining quality of life. In theory, life expectancy can be a valid indicator of a population's overall health. However, when no other factors, other than life expectancy, educational level, wages, and consumerism, are accepted

[1] Typically, criteria such as life expectancy, educational level, and earnings are used to assess levels of human development. Neoliberal governments have a long history of subjecting indigenous peoples to these measurements.

as measures for assessing quality of life, problems may arise. A case in point can be found among the Maya population of Guatemala in the 1960s and 1970s when educational programs promoted integration into the global economy and also encouraged the consumption products of products from the globalized capitalist market.[2] This type of "education" was detrimental to indigenous peoples because it suppressed the production of indigenous goods.

Presently, with the global expansion of the capitalist economy, indigenous peoples are being integrated by different means; through education, economics, and politics. However, this development is always accompanied by the loss of indigenous cultural values. Therefore, it should be of no surprise that many indigenous groups are threatened with cultural and biological extinction. In short, market integration hurts indigenous peoples.

The transition towards the concepts and beliefs of the dominant society that was usually forced upon indigenous peoples resulted in varying degrees of suffering. Articulation with the globalized society has swollen the ranks of the indigenous poor and unemployed. The globalized capitalist economy degrades, exploits, expropriates, and eventually, annihilates indigenous peoples. Additionally, native peoples who resist multinational corporations are frequently persecuted by local and national governments and also by multi-national corporations operating throughout Latin America.

Conclusions

I do not deny that indigenous peoples, like any other group on the planet, are fully capable of over-exploiting the natural resources at their disposal. However, I agree with Ranco's understanding of the relationship between indigenous groups and the United States government. In many ways, this asymmetrical relationship is very similar to that experienced by the indigenous peoples of Latin America. Ranco affirms that the cases of indigenous environmental management are artifacts of "the structural conditions of intense poverty and hundreds of years of colonization that precipitated these activities" (Ranco 2007:34). In brief, I concur with Ranco that modern-day examples of environmental degradation caused by native peoples are the result of the historical and ongoing aspects of colonization that indigenous peoples have been and, continue to be, subjected to.

Moreover, Ranco (2007) points out that the United States forcibly relocated many indigenous populations from their ancestral homelands on to fragmented reservations, where they were forced to live under marginalized conditions. In these settings, traditional natural resource utilization strategies were replaced with

[2] Additionally, governments have been known to force various "development" projects on indigenous populations. Starting in 1871, liberal Guatemalan governments used force to implement such "development" projects (Samper 1994:56–57).

Western harvesting strategies and ideologies. Additionally, in order to facilitate the removal coveted natural resources from tribal lands, the government often supported tribal leaders and/or tribal factions which were amenable to opening up reservations to exploitation by capitalist enterprises.

In conclusion, for research on Amerindian patterns of natural resource utilization to be truly valid, I believe that all of the historical, political, and economic factors influencing harvesting activities should be taken into consideration and properly reported by anthropologists and other social scientists.

References

Engels, Frederick. 1982 *El Origen de la Familia, la propiedad privada y el Estado*. Mexico City: Editores Mexicanos Unidos S.A.

Krech, Shepard. 1999 *The Ecological Indian: Myth and History*. New York and London: W.W. Norton.

Meyssan, Thierry. 2010 1982–1996: La ecología de Mercado. El Pretexto Climático. http://www.voltairenet.org/article165149.html.

Morgan, Lewis. 1975 *La Sociedad Primitiva*. Madrid: Editorial Ayuso.

Orton, David. 1999 Book Review: Going Deeper. *The Reviewer*. http://members.rediff.com/thereviewer/24101999p.htm.

Ranco, Darren J. 2007 The Ecological Indian and the Politics of Representation: Critiquing the Ecological Indian in the Age of Ecocide. In: *Native Americans and the Environment. Perspectives on the Ecological Indian*. Michael E. Harkin and David Rich Lewis (eds). pp. 32–51 Lincoln and London: University of Nebraska Press.

Reinert, Erik S. 2007 *La Globalización de la Pobreza. Cómo se enriquecieron los países ricos… y por qué los países pobres siguen siendo pobres*. Barcelona: Editorial Crítica.

Said, Edward W. 1990 *Orientalismo*. Madrid: Librerias.

Samper K., Mario. 1994 Café, Trabajo y Sociedad en Centroamérica (1870–1930): Una Historia Común y Divergente. En: Historia General de Centroamérica. IV. Víctor Hugo Acuña Ortega. Editor. San José Costa Rica: FLACSO.

Snow, Dean R. 2001. Book Review. *Human Ecology Review*: 8(1):72–73.

TallBear, Kimberly. 2000 Shepard Krech's The Ecological Indian: One Indian´s Perspective. The Ecological Indian Review, IIIRM PUBLICATIONS.

Veizaga R., Jorge Miguel. 2004 *La Enciclopedia*. Vol. 11. Madrid: Salvat Editores S.A.

Veizaga R., Jorge Miguel. 2008 *Poblamiento y medio ambiente en el Trópico de Cochabmba*. Mexico City: FLACSO.

Chapter 18
The Logic of Indigenous Voice

M. Gregory Oakes

Abstract I analyze the logic of certain arguments from the aboriginal rights movement ("aboriginalism") directed against the Western academy. Some emphasis is placed on the New Zealand Maori who drove many megafauna species into extinction well before the advent of European colonialism in the islands. I argue that the efforts of the indigenous oppressed there and elsewhere to preserve and advance indigenous culture are hindered by the idealization of native life ways, particularly as they existed prehistorically. Further damage to the aboriginal rights movement, I maintain, is done by the representation of Westerners as monolithic and inhuman oppressors. While grievous errors of both thought and deed have been committed by the West, I caution against confusing these errors for a present incapacity for clear, objective study. I argue that in fact efforts of the indigenous oppressed to preserve and advance their cultures stand to gain valuable assistance from the Western academy. At the same time, following Mill, I repeat the call to ensure that the voices of oppressed indigenous peoples are heard. Lastly, I urge all concerned parties to observe a principle of good faith. Academics and activists alike should recognize the humanity in each other and work to promote and preserve it in both.

> *What, then, is to be done? Must societies be totally abolished? Must* meum *and* tuum *be annihilated, and must we return again to the forests to live among bears?* (Rousseau 1973: 112)
>
> *We have met the enemy, and he is us* (Kelly 1972).

M.G. Oakes, Ph.D. (✉)
Department of Philosophy and Religious Studies, Winthrop University,
Rock Hill, SC 29733, USA
e-mail: oakesm@winthrop.edu

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Introduction

This discussion was occasioned by a colleague's questions concerning certain fallacies of reason. Could a philosopher cast clearer light on arguments that the editors of the present volume found troubling? As we read in the Introduction, the editors of this volume are concerned that an idealized representation of an indigenous people's past along with an attitude dismissive of the Western academy may run counter to that people's best interests. I agree that these concerns are well founded, and agreed to formulate a philosopher's expression of them. What originally presented itself as a relatively simple exercise in logic, however, has become a more complex study of the logic of human being.

It is well known that many indigenous nations and cultures have suffered oppression, degradation, and even elimination at the hands of others, and in particular at the hands of what may be termed Western, capitalist, colonial powers. The expansionist, mercantile activities of Belgium, France, Germany, Great Britain, Holland, Italy, Portugal, Spain, and the USA over the past half a millennium have had a grievous effect on native peoples and ecosystems across the planet. It is perhaps less well known that the great industrial nations of the West are not alone in such depredations, though in terms of scale their effect is perhaps unmatched. One intention of the present volume is to contribute to a better understanding of that scale and of the darker effect not simply of the colonial West but of all peoples everywhere. For it seems clear to me that humans are essentially alike in all cultures in certain fundamental respects. Neither are the forces that make possible the devastation of a Belgian Congo or an American West unique to modern, colonial, capitalist peoples, nor are these peoples, as a whole, blind to these forces and their deplorable effects. Indeed, we find among the civilized peoples of the West an on-going and highly developed effort to understand and master these forces, even as they persist.[1]

In the eyes of some, however, the West represents a more monolithic, inhumane force of oppression and destruction. In particular, for some seeking to preserve or protect threatened forms of indigenous life, the West is a perfectly demonic force that "eschews spirituality" and seeks the very reduction of humanity to the "materialistic and capitalistic" (Kunnie 2006: 259). Politically, the West is seen not as an advocate for human rights, but as an instrument of their violation. So far from promoting human rights, the West advances a cynical program to undermine them:

> [T]he individualistic, competitive, elitist, male-dominated, Judeo-Christian biased, and capitalistic-grounded notions of human rights for the world's people have serious problems and ironically have functioned to deprive human rights while simultaneously calling for the preservation of such rights (Kunnie 2006: 259).

On this view, the Western academy has played the role of apologist and, worse, facilitator with respect to this soul-grinding machine. The academy actively "suppresses" the indigenous voice, depriving it of "legitimacy" (Goduka 2006: ix).

[1] For an extensive discussion of the many commonalities in human experience, see (Brown 1991).

"Since the philosophical foundations of Western education are steeped in the European tradition and culture, Indigenous wisdoms and ways of knowing have been ignored and devalued in education the world over" (Goduka 2006: xiii). The Western education system "has attempted to remove" the identities of indigenous peoples (Goduka 2006: xiii).

There is, regrettably, not a little truth to such charges. Derogatory characterizations of "primitive" peoples encountered by the expanding West are all too easily found. Many such writings, of course, derive from a past whose perspective is rightly regarded as limited if not misguided. Thus, for instance, Lamartine finds in the Orient, "nations without territory, *patrie*, rights, laws or security … waiting anxiously for the shelter" of European rule (cited in Said 1979: 179). Or again, Chateaubriand states:

> Of liberty, they know nothing; of propriety, they have none: force is their God. When they go for long periods without seeing conquerors who do heavenly justice, they have the air of soldiers without a leader, citizens without legislators, and a family without a father (cited in Said 1979: 172).[2]

It is not true, in any case, that such writings are representative of the whole of the Western academy, neither is the characterization of the West as a monolithic, materialistic force of dehumanization true or even particularly fair.[3] Worse, and more to the point where the interests of the indigenous oppressed are concerned, the demonization of the West, like the idealization of the oppressed, tends to detract from their

[2] Compare the view advanced more recently by Henry Kissinger, who represents our cultural and political world in polar terms of the developed and the undeveloped. The developed West, on this account, "is deeply committed to the notion that the real world is external to the observer, that knowledge consists of recording and classifying data – the more accurately the better." This notion, deriving for Kissinger from Newton, is to be contrasted with that characterizing the undeveloped cultures of the world: "Cultures which escaped the early impact of Newtonian thinking have retained the essentially pre-Newtonian view that the real world is almost completely *internal* to the observer." This entails that "empirical reality has a much different significance for many of the new countries than for the West because in a certain sense they never went through the process of discovering it" (Said 1979: 46–47).

[3] Consider, here, observations such as that of George Orwell, who describes a more visceral response to the foreign other, a response contributing to colonialist chauvinism: "When you walk through a town like this – 200,000 inhabitants, of whom at least 20,000 own literally nothing except the rags they stand up in – when you see how the people live, and still more, how easily they die, it is always difficult to believe that you are walking among human beings. All colonial empires are in reality founded upon that fact. The people have brown faces – besides they have so many of them! Are they really the same flesh as yourself? Do they even have names? Or are they merely a kind of undifferentiated brown stuff, about as individual as bees or coral insects? They arise out of the earth, they sweat and starve for a few years, and then they sink back into the nameless mounds of the graveyard and nobody notices that they are gone. And even the graves themselves soon fade back into the soil" (quoted in Said 1979: 252–3).

stated goals of self-expression, self-preservation, and relief from oppression. Accordingly, in this essay, I shall argue for the following two claims:

1. The efforts of the indigenous oppressed to preserve and advance their cultures are hindered by the idealization of those cultures, particularly as they existed originally, and by the representation of their putative Western oppressors as an inhuman, monolithic, force of evil.
2. The efforts of the indigenous oppressed to preserve and advance their cultures stand to gain valuable assistance from the Western academy.

Corollary to these claims, I shall also seek to establish (or in any case, assert) the following:

- That we should ensure that the voice of an oppressed indigenous people is heard;
- That we should not confuse errors of the past for a present incapacity for clear, objective study;
- That we should preserve a univocal, objective understanding of truth and reason;
- That we must observe a principle of good faith: we should assume humanity in each other, as in ourselves, and work to promote and preserve it in both.

Finally, a further, overarching theme informs these remarks, which is the fact of what I shall call the complexity of human being. Humans are complex, insofar as they comprise biological, psychological, sociological, existential, moral, and other forces and phenomena. A consequence of our complexity is what Plato and others have observed to be our perpetual failure to embody perfection. I will not attempt here an account of this failure beyond reference to it in its various and many-times hurtful expressions. I believe, however, that a first and chief step toward realization of the higher aspirations of humanity – freedom, dignity, autonomy – is the recognition of the fact that just as each of us is capable of love, courage, and beauty, we also continually fall into error and fear, harming the things that we may love.[4]

False Demons

I begin with the first of the above central claims and, in particular, with its second conjunct. Plainly, the demonization of the oppressor constitutes a form of straw-man, too readily dismissed, falsely accused, and ill-understood. The representation of the West as a uniform force of evil is demonstrably false. Western civilization is not a monolithic force of oppression. On the contrary, the West has developed articulate, powerful expressions of the value of the human individual and of the political importance of democracy and of the rule of law. Jefferson's words in the *Declaration of Independence* can scarcely be improved upon:

[4] For a detailed account of the problem of "Aboriginalism" in the context of contemporary archaeology, see the excellent (McGhee 2008). R. Hansen, in Chap. 8 of this volume offers related remarks in the context of the anthropology of contemporary film.

> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. – That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, …[5]

To a considerable extent, these ideals are realized in the daily lives of Westerners, even as our rights and freedoms themselves undergo continual assault from the materialistic and the lesser instincts, and even as they remain built upon the oppression of labor and the despoilment of nature throughout the world.

The fact is that the truth is complex. It is the thousands of actions of billions of individuals that make up our political world, and these actions are influenced by a host of forces many of which exist at or below the peripheries of conscious thought. Only against this context should we consider the intentions and decisions of nations and their leaders. Consider, for instance, the American war in Vietnam, to which a critic may point as paradigmatic of the Western colonial disregard for the will of an indigenous nation. In fact, the two U.S. Presidents arguably most responsible for our involvement in Vietnam, Franklin D. Roosevelt and John F. Kennedy were alike in their sympathies for the Vietnamese cause. Roosevelt himself was ahead of his time in his anticolonialist views. The notes from a March 15, 1945 meeting recorded by a State Department official are revealing:

> The President said he is much concerned about the brown people in the East. He said that there are 1,100,000,000 brown people. In many eastern countries they are ruled by a handful of whites and they resent it. Our goal must be to help them achieve independence – 1,100,000,000 potential enemies are dangerous (Halberstam 1969: 81).

To be sure, Roosevelt's position is not a disinterested one. But the sincerity of his conviction that "independence [is] the ultimate goal" cannot be doubted. Roosevelt, however, was in the decided minority within his administration in this respect, and it is likely only his untimely death of a few weeks later that freed the U.S. State Department to endorse the return of French colonial rule in Vietnam at the conclusion of the Second World War. Kennedy, too, faced major obstacles to the expression of his own support for Vietnamese nationalism. As a senator, Kennedy spoke critically of French colonialism, at a time when an important premise of mid-century American foreign policy was uncritical support of our battered but oldest international ally. As President, however, Kennedy was unable to overcome the overarching motion of the times, generally accepted throughout the American government, that communism was itself a monolithic force of evil and to be halted at all costs. A significant cost, in this case, was Kennedy's "intuitive feeling" for the rights of the indigenous

[5] It is notorious, of course, that for all of his eloquent expression of the human right to dignified self-determination, Jefferson himself kept slaves and our society today still struggles to apply this principle equitably and universally. These facts, however, speak precisely to my point that the complexity of human being cannot be ignored, and that our testaments and pilgrimages toward our ideals are not thereby to be discounted.

Also noteworthy in this context is Bartolome de Las Casas' *History of the Indies*. Written in 1527, this review of Columbus' discovery and the subsequent Spanish conquest of America contains a passionate defense of the rights of the indigenous peoples of the New World and a scathing condemnation of their brutal treatment by their Spanish conquerors (Las Casas, 1971).

Vietnamese (Halberstam 1969: 94). A far greater cost, of course, was borne by the peoples of Vietnam, Laos, and Cambodia. Vietnam is a tragedy because like all such tragedies it was avoidable, a result of repeated intellectual errors. We should have known better.

Similarly, neither is the Western academy a mindless apologist for the forces of oppression, nor is it itself a monolithic force of oppression. To dispel the notion of a monolithic Western academy, we need look no further than the writings of Mill and Rousseau, of Heidegger and Adorno, and indeed those mentioned above of critics such as Goduka (2006) and Kunnie (2006). The academies of the West always have been primarily *critical* institutions, reflecting the primary basis of the Western intellectual tradition generally. Marx is taught alongside Milton Friedman, Russell alongside Heidegger, and Arendt alongside Kissinger.

Not only, then, is the claim false that the West is a monolithic force oppressive of human rights, but also the representation of the West as a uniform force of evil, to the extent that it succeeds, brings results running counter to the interests of the oppressed people. First, speaking in a general, psychological vein, it alienates a potentially valuable ally. There is a significant air of possessiveness surrounding the more strident advocacy of indigenous nationalism. Indeed, it is to be expected in the fight for survival, one in which the conceptual terrain is a significant part of the battlefield, that people should resist being co-opted by a noxious, external perspective, academic or otherwise. It is precisely talk of "our China" or "our Vietnam" being "lost to the communists" that perpetuates the notion of an aggressive, all-consuming West, even as it facilitates that aggression. On the other hand, however, the demonization of the West cannot but diminish the prospects of help from that quarter. One need not be told very often that one's well-intended attention is unwelcome. Neither must such interest come in the form of condescension toward a lesser folk, as Roosevelt's remarks, for instance, clearly demonstrate.

Second, it tends to perpetuate the image of the oppressed people as intellectually deficient. If we have learned anything in the West, we have learned as above that human affairs are much fraught by competing and complex forces, some deriving from within us and some falling upon us from without. The tale of Western Civilization is the tale of the rise of individual rights alongside the brutalities of slavery, the development of democracy alongside tyranny and the articulate definition of equality and autonomy alongside the ongoing struggle for – and against – their recognition in and extension to all. Failure to acknowledge the efforts of Western humans to realize their lofty goals even as we fall short of them constitutes the sort of simplistic, overly generalized, and unnuanced thought that academicians seek to discourage in their underclassmen.

We also see here a tendency to a form of *ad hominem* fallacy, and this is perhaps the most dangerous aspect of these errors. The monolithic evil attributed to the West is an evil attributed to its people. As such, the Western political leader or theorist is him- or herself dehumanized, demonized, and no longer a thinking, passionate, well- or misguided human being, but an object, a force, a thing. Such things are incapable of compassion, of intelligent benevolence, just as they are incapable of grief or regret at opportunities lost, ventures failed and harms done. They are the

mere instruments of some intrinsic or antecedent evil force. The danger in such thought, however, is the implicit impossibility of communicating with such beings. Nonhuman forces of evil exist simply to be evaded or destroyed. They cannot be reasoned with, brought to the table, enlightened, or joined. Evil exists only to be feared, and where we find the fear of evil, we find the impossibility of brotherhood.

False Idols

The representation of the West as a monolith of evil is false, repellent, and destructive of the intellectual ground required for a beneficial relationship between the indigenous and the peoples of the West. At the same time, the idealization of the oppressed, both in its current state and in that of its past, amounts to the creation of a false idol, whose worship entails at once a failure of self-understanding and the almost certain perpetuation of injustice. No human people, at any time or place, has lived in perfect harmony either with itself or with its surroundings. To think otherwise is to mistake our mythic, sacred ideals for the finite means of their expression.[6]

Yet this is precisely what we find in the more parochial of voices lauding the indigenous. Some express a desire to join with or recapture ancestors of the past who were imbued with superior wisdoms; some claim already to have "joined with our parents, uncles and aunts in the field or around the homestead working, singing, dancing and eating together in harmony" (Goduka 2006: ix). In fact, however, a more objective view of indigenous peoples of the past reveals a more complex moral and spiritual life. The pre-colonial Maori culture of New Zealand, for instance, was socially stratified, the differing rights of its individual persons strictly defined. The Maori familial unit, the *whanau*, "also includes captives from other nations who were employed as servants or slaves. These persons had no rights" (Pere 2006: 150). A similarly uncritical egocentrism may be found in the Maori attitude toward its environment. On the one hand, Maori cosmology includes an earth goddess, *Papatuanuku*, who makes sacred all the land, as well as an unconditional love that infuses and joins together all earthly things: "Our mountains, our rivers, our lakes, our glaciers, our hot pools, our forest lands, everything that uplifts the oneness of all

[6] As Paul Tillich has observed, "[t]hat which is the true ultimate transcends the realm of infinite reality infinitely. Therefore, no finite reality can express it directly and properly. Religiously speaking, God transcends his own name. This is why the use of his name easily becomes an abuse or a blasphemy. Whatever we say about that which concerns us ultimately, whether or not we call it God, has a symbolic meaning. It points beyond itself while participating in that to which it points. In no other way can faith express itself adequately" (Tillich 1957: 44–45). That is, while human cultures employ their various myths to express their religious beliefs, it is a blasphemy – as well as an intellectual error – to suppose that the sacred thus expressed exists in this world, taking a finite physical, temporal form. The capacity for critical understanding of one's religion is yet another hallmark of a sophisticated culture; in this instance, one of the great products of the Western intellectual tradition.

things … extend their greetings … to everyone who is present" (Goduka 2006: 155). On the other hand, while Maori institutions "have survived the ferocity of colonization," such proud declarations are rarely accompanied by reference to the ferocious impact of the Maori on their environment (Goduka 2006: 143).[7]

The extent to which aboriginal humans have exerted a less-than-stewardly influence on their natural environment is increasingly well known. Apart from humans' longer-term co-existence with a surrounding environment, aboriginal history frequently exhibits a ruthless disregard for local flora and, especially, fauna. This attitude has resulted in extinction "spasms" in which whole species are hunted to extinction. The Maori incursion into New Zealand, for example, beginning in the late thirteenth century CE, resulted in the mass extinction of 11 species of moa and the giant eagle, *Harpagornis moorei,* which was their primary predator. Huge piles of bones have been uncovered at Maori hunting sites, hardly a sign of an ideal respect for the former inhabitants. A Maori population of fewer than 1,000 humans killed an estimated 160,000 moas over the span of several decades, completely wiping them out (Wilson 2002: 94–97). Similarly sorry tales may be told about the arrival of aboriginal peoples in what is now Australia, Polynesia, and the island of Madagascar.[8]

Worse, it is precisely mistaking the real for the ideal that enables the worst of our imperfections – moral failing. No less a figure than Socrates, perhaps the conscience of the West, warns against hubris for precisely this reason. In failing to recognize our imperfection, we make possible the one thing that can truly harm us, namely, injustice. Unable or unwilling to admit the possibility of error, we rob, torture, enslave, rape, and murder each other, the ultimate effect of which is the degradation of the soul – not that of the oppressed, but that of the *oppressor*.

> You may be sure that if you put me to death – a man of the sort I said I was just now – you won't harm me more than you harm yourselves. Certainly, [my accusers] couldn't harm me in any way: that's not possible. For I don't think it's lawful for a better man to be harmed by a worse. He may, of course, kill me, or perhaps banish or disenfranchise me. And these *he* believes to be very bad things, and others no doubt agree. But *I* don't believe this. Rather, I believe that doing what he's doing now – attempting to kill a man unjustly – is far worse (Plato 2005: 129).

If the Western intellectual tradition has a single basis, it is Socrates' invocation against hubris, against believing ourselves possessed of "superhuman wisdom"

[7] Cf. also Kunnie: "In terms of environmental rights, Indigenous cultures are instructive for understanding and practicing the harmonization of human beings and the rest of creation" (Kunnie 2006: 264).

[8] The cases of the African and Asian continents, including Europe, are evidently different. Here, we find little archaeological evidence of mass exterminations of species, in accordance with a "filter principle": "the farther back in time the first human-induced wave of extinction struck, the lower the extinction rate today" (Wilson 2002: 96). Biologists speculate not that the prevailing human attitude toward the environment was in these places more beneficent, but that the more prolonged presence of humans in the evolving ecosystem produced a more balanced relationship between humans and the local megafauna (Wilson 2002: 98).

(Plato 2005: 119). It is the invocation to criticism. Human wisdom consists in the recognition of our intellectual limits: "That one among you is wisest, mortals, who like Socrates, has recognized that he's truly worthless where wisdom is concerned" (Plato 2005: 121). This is why "the unexamined life isn't worth living for a human being" – because without careful self-examination, we may well fail to recognize the extent to which we degrade our own existence (Plato 2005: 136). Some claim that indigenous peoples are exemplary for the "infinite value" that they place on human life: "human beings can never be a means to an ends [sic.], but are the ends, can never be objects for exploitation and commodification, but are always creative subjects" (Kunnie 2006: 266). The facts, however, are otherwise, and it is a further injustice against those previously wronged that the wrongs should be denied. If our world's oppressed have taught us anything, it is that.

A Word About Logic

Among the assertions sometimes heard decrying a Western academic chauvinism, and among the most important, are those concerning objectivity and logic. The Western intellectual tradition is most notable, epistemologically speaking, for its insistence upon the ideal of science and knowledge generally as revealing logical truth that obtains independently of human thought. This may be understood as *rationalism*, the conviction that the logical forms of human thought are precisely those of reality.[9] This congruence of reality with reason makes human knowledge of the world around us possible.

Expressions of rationalism abound in Western thought; here are several:

> In every line of inquiry into something that has principles or causes or elements, we achieve knowledge – that is, scientific knowledge – by cognizing them; for we think we cognize a thing when we know its primary causes and primary principles, all the way to its elements. Clearly, then, it is also true in the science of nature that our first task is to determine the principles (Aristotle 2005: 694).

> The great book of the universe cannot be understood unless one can read the language in which it is written – the language of mathematics (Cottingham 1988: 5).[10]

> [M]odern logic's quantificational apparatus mirrors the structure of reality… [T]here is a single, objective correct account of what things there are (Sider 2001: xvi).

It is well known, too, that Western intellectual history includes critical examination of its rationalism. Thus the poetry of Parmenides, Plato's *Theaetetus*, Kant's *Critique of Pure Reason*, Nietzsche's *The Gay Science*, and the more recent work of

[9] This concept is to be distinguished from the more narrow sense of rationalism as opposed to empiricism. The latter two doctrines concern the dispute over the primary means by which we acquire knowledge. Both may be said to assume the truth of rationalism in the broader sense that there are truths to be known by the reasoning mind.

[10] The remark is Galileo's.

philosophers such as Derrida, in one tradition, and Hilary Putnam and Richard Rorty, in another – thus, indeed, the entire field of epistemology, the collective, continuing, acute, monumental project of human intellectual self-examination. The extent to which the thesis that "man is the measure of all things" may coherently be advanced is perhaps the single most important question in Western thought. It is axiomatic, however, that a clear limit on human thought is its own intelligibility. Whether construed in theoretical or pragmatical terms, human thought is either meaningful or it is nonsensical, and the difference is profound.[11] A linguistic or conceptual form either expresses a proposition, a coherent "thought," or it does not. Philosophers disagree on the means and form of logic, but we generally agree that there is such a thing. To disagree, evidently, would appear to be impossible.

In the context of the dispute over the authority of Western academics to pronounce on matters indigenous, such claims to the absolute integrity of reason are sometimes regarded as a form of intellectual chauvinism.

> Many Indigenous people may feel that Indigenous knowledge systems need neither be justified by reference to anything external to our societies and need not explain itself to anyone, nor be compared to or contrasted with the standards of Western European science. Yet until Indigenous scholars participate in the knowledge-building that occurs in white mainstream educational institutions, we will always be the objects of study in the 'them v. us' dichotomy of difference, and we will remain disempowered and be the fringe-dwellers once again, letting others become the 'experts' on our cultural domains (Torres 2006: 23).

These claims, I believe, are true, but they require careful parsing. In one sense, the knowledge systems of the indigenous do not require external justification – in the sense, that is, that they exist to serve and perpetuate a particular form of human life. That is, no people requires the permission of another to act and exist as it will. This is an application of a principle of autonomy that is generally shared by indigenous peoples and those of the West. On the contrary, where larger questions of justice and morality are concerned, a general set of principles would seem to apply universally – not *because* they have been articulated in the West, but simply because they appear to be true. The moral principles that some advocates of the indigenous appeal to are not special to those peoples.[12] And if they are true in the

[11] That there exists a borderline between sense and nonsense serves only to illustrate the point, and to provide the occasion for some of our most delightful amusement, such as that found in the work of Lewis Carroll:

> `Twas brillig, and the slithy toves
> Did gyre and gimble in the wabe:
> All mimsy were the borogoves,
> And the mome raths outgrabe.
> … (Carroll 1946: 18)

[12] Again, Kunnie: "The Akan of Ghana say, 'All human beings are children of God; no one is a child of the earth,' substantiating the view that human value is immeasurable and that human beings can never be a means to an ends [sic.], but are the ends, can never be objects for exploitation and commodification, but are always creative subjects" (Kunnie 2006: 266). No less than in the West do we find well-developed recognition of the moral status of human individuals, even as that moral status is continually violated.

given indigenous context, they are no less true in others. I refer of course to the most general principles of morality – e.g., the principle of autonomy, the principle of equality of personal rights, etc. The form that these principles take in a given culture varies; and philosophers of course differ on their exact general form, even as they argue their ultimate grounding and truth. However, as above, human thought appears to be logically univocal. What counts as a contradiction, what constitutes a valid inference, which sets of assertions are consistent, and which statements are general and which particular – these matters admit of little or no variation. There is no special logic of the West, one seeking hegemony over the different logics of the indigenous. It is for this reason that the second assertion in the above passage is also true, even if regrettable. Western academic institutions offer a highly developed account of the logic of human being. It is not the only possible such account, but its central principles are highly refined and unlikely to see significant change. What is regrettable in Torres' statement is the "them v. us" mentality alluded to. Western anthropologists, sociologists, archaeologists, historians, linguists, philologists, and philosophers do not exist to co-opt the cultures that they study. They exist to offer the best possible insight into those cultures and the peoples inhabiting them.

The "us vs. them" mentality is perhaps unavoidable to some degree, and there are delicate issues concerning the effect of a study on its subjects, issues to be carefully negotiated. Nevertheless, where a people has broken its own mythos, and entered the intellectually more mature state of objective self-scrutiny, there is no principled basis for combativeness with respect to Western science.

Toward a Moral: Recognition of Humanity

I believe that there are several lessons to draw where there exists a tension between the struggle of the indigenous to escape oppression and the efforts of Westerners to study the indigenous and to assist in their struggle. First and foremost we find again an occasion on which to observe the general likeness of humans throughout the world which entails both the essential values that we must attribute to each along with our persistent, agonizing failures to do so. The experiences of the world's oppressed indigenous peoples remind us that in all cases of oppression, we find an intellectual failure, the failure to recognize humanity in each human person. We hear a great cry from the world's oppressed, a call for the recognition of their humanity and for the moral and political standing that their humanity demands. The same cry is evident throughout Western culture. It is precisely the carelessness of Plato's Cephalus and the immoralism of his Thrasymachus, for instance, that give dramatic expression to the notion that it is ignorance that drives injustice. Thus the inspiration for countless Western efforts to dispel ignorance and to raise humanity to the level at which it may avoid moral failure. For Plato, knowledge of the moral good above all is essential to moral life. Thus, where Thrasymachus asserts his *Realpolitik* in *Republic* – "justice is nothing other than the advantage of the stronger" (Plato 1992: 14) – and where

Cephalus, in his comfortable old age, expresses moral indifference even as he lies to his friends, Plato's brothers appeal to Socrates for an answer:

> Why, then, should we still choose justice over the greatest injustice? Many eminent authorities agree that, if we practice such injustice with a false façade, we'll do well at the hands of gods and humans, living and dying as we've a mind to. So, given all that has been said, Socrates, how is it possible for anyone of any power – whether of mind, wealth, body, or birth – to be willing to honor justice and not laugh aloud when he hears it praised? (Plato 1992: 41).

Plato's solution, of course, is to place society in the hands of its best educated, the Philosopher-Kings. A more egalitarian note is sounded by Spinoza:

> I pass on finally to that part of the *Ethics* which concerns the method, or way, leading to freedom. In this part, then, I shall be dealing with the power of reason, pointing out the degree of control reason has over the emotions, and then what is freedom of mind, or blessedness, from which we shall see how much to be preferred is the life of the wise man to the life of the ignorant man (Spinoza 1992: 201).

Second, as we pursue our efforts to recognize the humanity in all, it is vital that we recognize as our ultimate goal *community* with each other. One Western expression of this ideal is that of Schiller. In his *Ode to Joy*, the first joy that Schiller names is human brotherhood, a theme repeated throughout the poem:

> Joy, thou beauteous godly lightning,
> Daughter of Elysium,
> Fire drunken we are ent'ring
> Heavenly, thy holy home!
>
> Thy enchantments bind together,
> What did custom's sword divide,
> Beggars are a prince's brother,
> Where thy gentle wings abide.
>
> Be embrac'd, ye millions yonder!
> Take this kiss throughout the world!
> Brothers – o'er the stars unfurl'd
> Must reside a loving father (Schiller 2005).

Where we go wrong is where the humanity of each other is obscured or forgotten. Where our political and economical activities become malevolent, it is in pursuits neglectful of this ideal. Where we see only a terrorist, a rag head, a skin head, a nigger, a savage, an enemy, or an evil, we deprive ourselves of the opportunity for that creative event that brings us the greatest joy, the creation of community with another. No less is this the case from the perspective of the indigenous, so far is it a principle of humanity. Humans are political animals, and the extent to which we dehumanize each other, is the extent to which we fail in our own humanity and fail in our capacity for the joy of community. Recalling the first great poet of the West, Aristotle gives expression to this notion of our political nature and its significance:

> [T]herefore it is clear that the city-state is a natural growth, and that man is by nature a political animal, and a man that is by nature and not merely by fortune citiless is either low in the scale of humanity or above it (like the 'clanless, lawless, hearthless' man reviled by

> Homer…) … [F]or it is the special property of man in distinction from the other animals that he alone has perception of good and bad and right and wrong and the other moral qualities and it is partnership in these things that makes a household and a city-state (Aristotle 1977: 9–11).

Where we have community, we have the realization of human nature, and community is predicated on moral sensibility, for Aristotle. Moral behavior with respect to the members of the community itself entails recognition of the humanity of the community member, both in oneself and in the other. To conceive of justice is to conceive of the status of community members as human, as value laden – not instrumentally, but intrinsically.

To be human, then, requires recognition of humanity wherever it exists, both in oneself and in others. This is an intellectual act, which is why morality and reason are linked by Western thinkers. Perhaps no greater expression of this relationship exists than that advanced by Kant:

> If then there is to be a supreme practical principle and, as far as the human will is concerned, a categorical imperative, then it must be such that from the conception of what is necessarily an end for everyone because this end is an end in itself it constitutes an objective principle of the will and can hence serve as a practical law. The ground of such a principle is this: rational nature exists as an end in itself. In this way man necessarily thinks of his own existence; thus far it is a subjective principle of human actions. But in this way also does every other rational being think of his existence on the same rational ground that holds also for me; hence it is at the same time an objective principle, from which, as a supreme practical ground, all laws of the will must be able to be derived. The practical imperative will therefore be the following: Act in such a way that you treat humanity, whether in your own person or in the person of another, always at the same time as an end and never simply as a means (Kant 1981: 429).

"Rational beings," declares Kant, "are called persons inasmuch as their nature already marks them out as ends in themselves." As ends, persons may not be used "merely as means," and "are thus objects of respect" (Kant 1981: 428). If humans are objects worthy of moral respect, and if, as Kant asserts, it is their status as rational, autonomous beings that so defines them, then the conditions warranting respect of the autonomy for one person are the same as those requiring respect of any other.

We find the same sentiment expressed in another great Western political thinker, Karl Marx:

> A direct consequence of the estrangement of the humans from the product of their labor, from their life-activity, from their species-being, is the *estrangement of humans* from *humans*. When a human confronts himself as a stranger, so he confronts another human as a stranger. The relationship of humans to their labor, to the product of their labor, and to themselves, is also the relationship of humans to each other, and to the labor of others and the objects of others (Marx 1978: 77).

As Aristotle observes, it is only humans who are capable of the perception of good and evil. Equally, it is only we who are capable of good and evil themselves. Thus again the vital importance of self-scrutiny. We are error prone, which gives our goodness all the greater glory as an achievement, a blessing, a delicate opportunity decided, an evil avoided. But as error-prone, we must continually guard against evil, which requires the vigilant, piercing, and reasoned self-scrutiny of a Socrates.

A Final Word from the West

John Stuart Mill was a product of one of the great nations of the modern era, himself one of its greatest products. His upbringing reflected the most advanced social theory of the time. He read Classical Greek at age 3 years and Latin at 8 years. By the age of 14 years, he had completed a comprehensive world history as well as advanced works in logic, mathematics, and economics. His mature work comprises development of an empirical moral theory; important work in logic, epistemology, the scientific method, mathematics, and psychology; and significant contributions to political theory. He was an active correspondent and contributor to the public press; an unflagging advocate of social, political, and educational reform; and a Member of Parliament. But like his nation, Mill embodied infirmity alongside greatness. At the age of 23 years, Mill suffered the first of many episodes of emotional collapse. He was prone to depression. The training that helped to produce one of the West's great minds also brutalized that fragile organ (Wilson 2007).

My theme has been the complexity of human affairs. Where we find greatness, we find tragedy; stupidity accompanies wisdom; sorrow, joy. Even as Great Britain oversaw a colonial empire on whose inequities the sun never set, she gave rise to some of our finest expressions of humanity and wisdom. Among the observations that we receive from Mill comes reflection on the logic of the minority voice. Where a voice seeks expression amid an evidently hostile or unreceptive majority, where a voice perceives its freedom or very existence threatened, Mill cautions us against prescribing the manner in which the minority may express its opinion.

> Undoubtedly the manner of asserting an opinion, even though it be a true one, may be very objectionable, and may justly incur severe censure. But the principal offences of the kind are such as it is mostly impossible, unless by accidental self-betrayal, to bring home a conviction. The gravest of them is, to argue sophistically, to suppress facts or arguments, to misstate the elements of the case, or misrepresent the opposite opinion. But all this, even to the most aggravated degree, is so continually done in perfect good faith, by persons who are not considered, and in many other respects may not deserve to be considered, ignorant or incompetent, that it is rarely possible on adequate grounds conscientiously to stamp the misrepresentation as morally culpable … (Mill 1967: 990).

Not only should we place no logical limits on the expression of an unpopular view, but we should also not require the minority to voice its complaints in language that is pleasing to the ear or respectful to the person.

> With regard to what is commonly meant by intemperate discussion, namely invective, sarcasm, personality, and the like, the denunciation of these weapons would deserve more sympathy if it were ever proposed to interdict them equally to both sides; … Yet whatever mischief arises from their use is greatest when they are employed against the comparatively defenseless; and whatever unfair advantage can be derived by any opinion from this mode of asserting it accrues almost exclusively to received opinions. The worst offence of this kind, which can be committed by a polemic, is to stigmatize those who hold the contrary opinion as bad and immoral men. To calumny of this sort, those who hold any unpopular opinion are peculiarly exposed, because they are in general few and uninfluential, and nobody but themselves feels much interested in seeing justice done them … (Mill 1967: 990–991).

Aside from the risk of silencing a legitimate voice, Mill's warnings reflect his perception of the complexity of our world. Even where the majority opinion may be highly developed and sophisticated, it is unlikely to capture the whole of truth.[13] Consequently, for Mill, we should seek out and welcome the dissenting voice in the general pursuit of truth. This is, again, an expression of the fundamentally critical attitude of the Western intellectual tradition:

> Such being the partial character of prevailing opinions, even when resting on a true foundation, every opinion which embodies somewhat of the portion of truth which the common opinion omits, ought to be considered precious, with whatever amount of error and confusion that truth may be blended. No sober judge of human affairs will feel bound to be indignant because those who force on our notice truths which we should otherwise have overlooked, overlook some of those which we see. Rather, he will think that so long as popular truth is one-sided, it is more desirable than otherwise that unpopular truth should have one-sided assertors too; such being usually the most energetic, and the most likely to compel reluctant attention to the fragment of wisdom which they proclaim as if it were the whole (Mill 1967: 984–5).

I have suggested that the zealotry with which some promote the rights and welfare of indigenous peoples may disserve those ends. Demonizing the West and idealizing the indigenous detract, I have argued, from the shared goals of communication and free human being. I believe these propositions generally to be true. We in the West remain, however, in a privileged political and heuristic position with respect to the ambitions of the indigenous. Therefore, I suggest that Mill's reminders remain valuable as we consider how best to help secure for the marginalized a flourishing and dignified existence, as it is the intention of this volume to do.

References

Aristotle. (2005). *Physics.* In: *Readings in Ancient Greek Philosophy*. S. Cohen et al (eds.). 694–726. Indianapolis: Hackett Publishing Co.

Aristotle. (1977). *Aristotle in Twenty-Three Volumes: XXI: Politics*. Cambridge: Harvard University Press.

Brown, D. (1991). *Human Universals*. New York: McGraw Hill, Inc.

Carroll, L. (1946). *Through the Looking Glass*. New York: Random House.

Cottingham, J. (1988). *The Rationalists*. Oxford: Oxford University Press.

Goduka, N. (2006). Prologue. In: *Indigenous Peoples' Wisdom and Power: Affirming Our Knowledge Through Narratives*. J. Kunnie and N. Goduka (eds.). Pp. *ix-xvii*. Burlington: Ashgate Press.

Halberstam, D. (1969). *The Best and the Brightest.* New York: Random House.

Kant, I. (1981). *Grounding for the Metaphysics of Morals*. J. Ellington (trans.). Indianapolis: Hackett Publishing Co. (Page references are to the standard Menzer edition.)

Kelly, W. (1972). *Pogo: We Have Met the Enemy and He is Us*. New York: Simon and Schuster.

[13] Where Mill writes of the majority opinion, I here of course have in mind the opinion and actions of the geo-politically superior West with respect to the world's indigenous, the subject of this essay.

Kunnie, J. (2006). Indigenous African Knowledge : Human Rights and Globalization. In: *Indigenous Peoples' Wisdom and Power: Affirming Our Knowledge Through Narratives*. J. Kunnie and N. Goduka (eds.). Pp. 257–270. Burlington: Ashgate Press.

Las Casas, B. de. (1971). *History of the Indies*. A. Collard (ed.). New York: Harper & Row Publishers.

Marx, K. (1978). Estranged Labor. In: Tucker R (ed.). *The Marx-Engels Reader*, 2nd ed. Pp. 70–81. New York: W.W. Norton and Co.

McGhee, R. (2008). Aboriginalism and the Problems of Indigenous Archaeology. *American Antiquity* 73 (4). Pp. 579–597.

Mill, J. (1967). *On Liberty.* In: *The English Philosophers from Bacon to Mill.* E. Burtt (ed.). Pp. 949–1041. New York: Modern Library.

Pere, R. (2006). A Celebration of Maori Sacred and Spiritual Wisdom. In: *Indigenous Peoples' Wisdom and Power: Affirming Our Knowledge Through Narratives*. J. Kunnie and N. Goduka (eds.). Pp. 143–160. Burlington: Ashgate Press.

Plato. (1992). *Republic,* 2nd ed. G. Grube and C. Reeve (eds.). Indianapolis: Hackett Publishing Co.

Plato. (2005). *Apology*. In: *Readings in Ancient Greek Philosophy*. S. Cohen et al (eds.). Pp. 115–140. Indianapolis: Hackett Publishing Co.

Rousseau, J. (1973). A Discourse on the Origin of Inequality. *The Social Contract and Discourses*. J. Brumfitt and J. Hall (revs.). Pp. 27–113. London: J.M. Dent & Sons.

Said, E. (1979). *Orientalism.* New York: Vintage Books.

Schiller, F. (2005). Schiller's Ode to Joy. http://www.schillerinstitute.org/fid_91-96/931_Schiller_Ode.html. Accessed 5/10/2011. Washington, D.C.: The Schiller Institute.

Sider, T. (2001). *Four-Dimensionalism: An Ontology of Persistence and Time.* Oxford: Oxford University Press.

Spinoza, B. (1992). *Ethics.* In: *Ethics, Treatise on the Emendation of the Intellect, and Selected Letters*. S. Seymour (ed.). Pp. 31–223. Indianapolis: Hackett Publishing Co.

Tillich, P. (1957). *The Dynamics of Faith*. New York: Harper and Row.

Torres, P. (2006). Nila.Ngany – Possessing/Belonging to Knowledge: Indigenous Knowledge Systems in Yawuru Aboriginal Australia. In: *Indigenous Peoples' Wisdom and Power: Affirming Our Knowledge Through Narratives*. J. Kunnie and N. Goduka (eds.). Pp. 19–31. Burlington: Ashgate Press.

Wilson, E. (2002). *The Future of Life*. New York: Alfred A. Knopf.

Wilson, F. (2007). John Stuart Mill. *The Stanford Encyclopedia of Philosophy*. (Spring 2009 edition.) E. Zalta (ed.). http://plato.stanford.edu/entries/mill/. Accessed 5/11/2011.

Chapter 19
Discussion and Conclusions

Richard J. Chacon and Rubén G. Mendoza

The findings advanced by contributors to this volume collectively agree that the publication of data regarding native environmental mismanagement, warfare, and violence are essential to the accurate production of knowledge in the disciplines of anthropology and the social sciences more generally. We believe that the judicious reporting of indigenous conflict and environmental degradation may well prove beneficial to Amerindians. Most significantly, we collectively agree that the censorship or suppression of such findings may prove deleterious to native communities. Furthermore, we find that current trends in the academy in fact demonstrate just how the obfuscation of archaeological or ethnographic data pertaining to the concerns in question ultimately serves to compromise the scientific merits and ethical standards of the anthropological enterprise.

The insights and conclusions put forth by contributors to this volume are reviewed here in the following order: (1) The folly of promoting the myth of ecological indigeneity, (2) the myth of pristine wilderness, (3) justification for the reporting of Amerindian-induced environmental impacts, (4) justification for the reporting of Amerindian warfare and violence, (5) nexus of Amerindian warfare and environmental impacts, (6) why suppression of ecological and warfare data hurts Amerindians, (7) why suppression of Amerindian ecological and warfare data is detrimental to anthropology, and (8) concluding remarks.

R.J. Chacon, Ph.D. (✉)
Department of Sociology and Anthropology, Winthrop University, Rock Hill, SC 29733, USA
e-mail: chaconr@winthrop.edu

R.G. Mendoza, Ph.D., RPA
Institute for Archaeological Science, Technology and Visualization
Social, Behavioral, and Global Studies, California State University,
Monterey Bay Seaside, CA 93955, USA
e-mail: ruben_mendoza@csumb.edu

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The Folly of Promoting the Myth of Ecological Indigeneity

The editors recognize that native peoples are fully capable of engaging in long-term sustainable harvests (Borrie et al. 1957; Campbell and Butler 2010; Firth 1983; Kirch 1997; Kirch and Yen 1982; Langdon 2007). However, it is a mistake to assume that native peoples will always choose conservation over short-term gain.[1] As such, it is erroneous to assume and defend essentializing notions with regard to Amerindian natural resource use. Instead, the editors advocate a dispassionate analysis of the pertinent environmental data on a case-by-case, resource-by-resource, basis.[2] Our perspectives are informed by the fact that current research demonstrates that native subsistence hunters will opt to harvest particular types of wild game at sustainable levels, while at the same time overharvesting other species (see Chap. 13).

Moreover, the assessment of Amerindian harvests should take into consideration the fact that a group's behavior may change through time. For example, it goes without saying that the ancient Maya were quite capable of harvesting natural resources sustainably. However, ongoing analysis reveals that the present-day Maya also have a tendency to overharvest local environments (see Chap. 6). In order to illustrate the folly of promoting romanticized notions of ecological indigeneity, we offer the following examples of natural resource utilization among two native groups: Kuna and Aché.

Respect for the Natural World

In June 2000, Chacon conducted a field reconnaissance of a possible future research locality among the Kuna of Panama. During the said visit, he accompanied a shaman to collect wild medicinal plants in the San Blass Mountains of the Kuna Yala Reserve. On the night before their departure for the jungle, the shaman, by way of various chants, communicated with the medicinal herbs in the forest that he wished to collect them. The medicine man explained to Chacon that plants are in fact supernatural beings, and as such it was only fitting that "permission" be obtained from these entities before harvesting. The shaman also explained that the healing properties of these medicinal plants would not be effective unless such "permission" had been granted.[3] Whether or not one believes that plants are capable of granting "permission" for their respective harvest, it is not difficult to admire this man's deep reverence for the plant/spirit world.

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[1] Vickers (1994:331) points out that conservation "is not a state of being. It is a response to people's perceptions about the state of their environment and its resources, and a willingness to modify their behaviors to adjust to new realities."

[2] Rather than assuming that indigenous peoples operate as innate conservationists, the editors call for the documentation of the particular environmental, political, and socioeconomic conditions that may foster sustainable harvests among Amerindians.

[3] Richard Chacon, unpublished field notes, June 2000.

Harming the Natural World

The longstanding traditions, practiced by some Amerindian groups, of respecting nature do not necessarily preclude individuals within these groups from effecting environmental degradation. The Kuna currently control a thriving ecotourism industry that maintains a sizeable number of lodges for housing tourists that need be provisioned with food and supplies on an ongoing basis. According to Doggett (1999:329), "[w]hen Kuna divers want to catch squid [to feed tourists], they dump chlorine bleach into the animals' hiding places to force them out. They catch other marine animals the same way, although the chemicals vary." Doggett (1999) similarly reports that lobster stocks near Kuna (ecotourism) lodges are so depleted that these animals are either rarely available or they are quite small.[4] The same situation holds for the squid and crab inventories. Additionally, sea turtle populations have of late experienced considerable reductions in the Kuna Yala Reserve (Ventocilla et al. 1996).

Aché Natural Resource Utilization

An example that serves to illustrate the complexity of indigenous natural resource utilization derives from one of many South American contexts. In 1987, Aché foragers of the Chupa Pou community of eastern Paraguay sold off local old-growth hardwood forests to outsiders. Within the span of a few months, nearly all marketable trees were harvested with most of the profits spent on parties, clothes, canned goods, radios, gambling, and other luxury items. By mid-1988, there was no evidence of the year's previous earnings since no investments had been made toward improving the living conditions of the Aché (Borgerhoff and Coppolillo 2005; Dowie 2009; Hill 1996).

It remains important to acknowledge that Amerindian mismanagement of natural resources is not inevitable. In 1980, an Aché group broke with the Chupa Pou to form the Arroyo Bandera settlement. In 1990, the Arroyo Bandera community determined that only a limited number of valuable old-growth hardwoods would be sold, and the proceeds would be used to build a schoolhouse. Once the wood and brick structure was completed, the Arroyo Bandera Aché placed a moratorium on further timber sales from their territory (Borgerhoff and Coppolillo 2005; Dowie 2009; Hill 1996). In so doing, this Aché community "initiated a carefully planned and controlled sustainable forestry program, which remains in effect" (Dowie 2009:111).

[4] Ventocilla et al. (1996) also report that the Kuna harvest lobster indiscriminately.

The Kuna and Aché cases exemplify just how native peoples have in the past acted wisely and respectfully as stewards of the natural environment. These examples also illustrate the fact that these same groups are also quite capable of contributing to the degradation of their respective environments. Such findings should give pause to those who naively assume that Amerindians, by virtue of their alleged ecological indigeneity, will always act with beneficence toward the environment.[5]

Failing to Act Like an "Ecological Amerindian"

Despite growing evidence to the contrary, many scholars continue to claim that Amerindians invariably act as wise stewards of the environment. Moreover, Conklin and Graham (1995) report how some Amazonian Indians allow themselves to be temporarily adopted by Western conservationist organizations as protectors of the rainforest. Additionally, indigenous practices deemed objectionable to Westerners are often deliberately minimized, while cultural traits deemed acceptable to contemporary Western sensibilities are emphasized (see Chap. 7; Jackson 1991).

While the construction of an ecological indigeneity may serve to secure strategic allies in the environmental and political realms, the portrayal of Amerindians as quintessential conservationists places them in an extremely dangerous situation when it is shown that they fail to live up to the Western expectation of the "ecologically noble savage" (Conklin 2003; Redford 1991). The characterization of native peoples as innate conservationists, in turn, generates a particularly onerous burden for Amerindians, as they are expected, by non-Indians, to conform to essentialized caricatures and stereotypes that no other human community is expected to abide by in the final analysis (Krech 2005).

Haley makes clear that "while this kind of ecological identifying may provide short-term dividends, it can backfire if the general public and policy makers learn the truth (i.e., native peoples do not always behave in ways that could be considered as being eco-friendly). Whereas I am fully supportive of indigenous rights and autonomy, I do not think it is wise for anthropologists to prop up essentialist constructions of fellow human beings" (Brian Haley, personal communication to Chacon, 2010).

The potential harm that may befall Amerindians subjected to the myth of ecological indigeneity is great. A few such cases include those of the Xavante of Brazil, the Makah of the Northwest Coast, and the Yuquí of Bolivia.

The Xavante of Brazil: The potential for complications that may accrue from adopting essentialist associations linking nature with native peoples can be seen in how some conservationists summarily abandon Amerindian groups that do not live up to outsiders' expectations with regard to natural resource utilization. For instance, throughout the 1970s and 1980s, environmental organizations upheld the Xavante

[5] Conklin and Graham state that "[t]he assumption that Indians will always opt for long-term environmental conservation rather than short-term profits is untenable" (1995:703).

as wise custodians of the natural environment. Eventually, however, environmentalists dropped their endorsement when Xavante tribal leaders failed to adhere to contemporary Western expectations of just how Amerindians were expected to act (Conklin and Graham 1995).

The Makah of the Northwest Coast: In the Treaty of Neah Bay (1855), the US Government granted rights to the Makah to hunt whales in perpetuity. However in 1920, the tribe voluntarily ceased harvesting these animals when stocks became depleted due to industrialized overharvesting by white whalers. In 1999, as part of what the Makah consider a sacred tradition dating back thousands of years, the tribe reasserted their right to hunt by successfully killing a gray whale (Dennis 1999; Moss 1999).[6]

The tribe's actions sparked an international uproar pitting animal rights proponents against those who advocated cultural rights (Editor 1999).[7] In fact, according to Walker (1999: 9), "some anti-whaling activists have behaved atrociously, turning their anger against whaling into personal or even racial attacks against the Makah." As a result, the Makah tribal authority was inundated with death threats and bomb scares that forced the evacuation of local schools (Tizon 1999).[8] Indeed, there have been "[c]alls for a return to the killing of Indians like in the Old Wild West" (cf., Tizon 1999:11). Here is a sampling of the vitriol directed at tribal members as the result of their decision to reactivate their native whaling tradition: "Hey, I think we should also be able to take their land if they can take our whales…I am anxious to know where I may apply for a license to kill Indians" (cf., Tizon 1999:11).[9]

The Yuquí of Bolivia: In 1992, Bolivian President Paz Zamora signed a Presidential Decree granting 115,000 ha of land to the Yuquí people of the Amazon Basin. A little more than a year later, Zamora was defeated in an election and was replaced by a pro-development-oriented administration. After assuming power, officials of the new government determined that "the territories granted to the Yuquí and other lowland Bolivian groups should be rescinded" (Stearman 1994:351). Stearman believes that a portion of "the rationale behind these efforts is an increasing awareness that these indigenous peoples do not fit the widely publicized image of Indians as conservationists, a convenient excuse to divest them of their homelands" (1994:351).[10]

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[6] The hunt, which was sanctioned by the International Whaling Commission, permitted the Makah to harvest 20 whales over a 5-year period (Editor 1999).

[7] Soon after the first whale hunt, various environmentalist and animal rights groups pursued litigation against the Makah (Wagner 2009).

[8] For documentation of racist attacks targeting the Chippewa for their decision to harvest walleye salmon, see (Buege 1996).

[9] On September 7, 2007, a small group of Makah killed another whale and these individuals received death threats as a result of their actions (Wagner 2009).

[10] This backlash came as the result of the Yuquí losing their status as "guardians of the natural world" and this development provided non-Indians with justification for the usurping of tribal lands. Conklin and Graham (1995) warned that the promotion of native peoples as innate conservationists could result in just such harmful outcomes.

Groups like the Yuquí are vulnerable to this sort of government-sanctioned land grab precisely because Amerindians are routinely lauded by many academics and activists as "natural conservationists" and/or as "natural keepers" of the forest.[11]

The Hazards of Becoming an Ecological Stereotype

The Xavante, Makah, and Yuquí experiences serve as sobering examples of the potential harm inflicted on Amerindian peoples as a result of essentialist characterizations. The myth of ecological indigeneity exacerbates such harm when non-Indians come to believe that a specific native group does not conform to environmentalist expectations. According to Kerasote (cf., Tizon 1999:12):

> The reaction to the Makah hunt reveals a particular hypocrisy in American culture. Many Americans publicly espouse diversity and multiculturalism, and even mouth support for the renaissance of indigenous cultures. But the moment a native community does something that doesn't fit into our preconceived notions of who we want them to be, we threaten our wrath, the wrath of the majority.

Accordingly, Adam contends that the hazards identified with Amerindian stereotypes and myths permit individual activists and government policy makers "to lump all native people together and penalize communities that do not exhibit 'proper' behavior associated with their personal perceptions of 'Indianness' " (Adam 2009:15).[12]

Additionally, Stearman points out that there is great danger if "native peoples must demonstrate their stewardship abilities in order to 'qualify' for land entitlements from their respective governments."[13] Stearman (1994: 352) adds that "[w]e are losing sight of the important fact that indigenous peoples have a basic human right to a home territory regardless of how they manage this land or what their future patterns may entail."[14] To deny that Amerindians are fully capable of environmental mismanagement reveals more about Western bias than it does about the stewardship practices of native peoples.

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[11] There is great hypocrisy at play whenever land tenure becomes linked to sustainable natural resource use. No Western country (that we are aware of) mandates sustainable harvesting of natural resources as a condition for the continued ownership of lands. However, when native peoples are involved, some Western governments insist that indigenous groups harvest natural resources at sustainable levels as a condition for continued land ownership, as indicated in the Yuquí case.

[12] Along these lines, Buege (1996) holds that claims of ecological indigeneity actually serve to oppress Amerindians.

[13] Amerindians are shackled by the expectation that that they should be ecologically noble people. According to Buege (1996: 86) "[i]f they do anything that might bring this nobility into question, they risk losing their rights…" This double standard is particularly insidious because Westerners are typically unwilling to discard modern technologies, but they often insist that native peoples forgo the use of modern devices so as to remain ecologically noble (Buege 1996).

[14] For additional examples of how Amerindian groups are severely criticized for failing to live up to Western expectations of eco-nobility, see Buege (1996).

Colonial Artifact Explanation

Ranco (2007) acknowledges the fact that as with all of humanity, Amerindians are fully capable of fomenting environmental degradation. However, he attributes those actions that exacerbate the degradation of the environment to the corrupting influences of the Western world. Ranco further contends that it is unfair to analyze contemporary Amerindian patterns of natural resource utilization without first recognizing the profoundly destructive effects that Euro-American colonization has had, and continues to have, on the ability of native people to manage local flora and fauna wisely (see also Chaps. 16 and 17). Ranco (2007) asserts that any analysis of natural resource utilization by contemporary Amerindians should take into consideration just how the United States pursued colonization by relocating Indians from their native homelands onto fragmented and often ecologically marginal reservations. Then, in an effort to foster the creation of neo-colonial arrangements, government policy promoted the advancement of those tribal leaders most amenable to supporting the unmitigated extraction of natural resources from reservation lands.

Ultimately, Ranco (2007: 34) contends that modern-day cases pertaining to the Amerindian mismanagement of natural resources constitute artifacts of "the structural conditions of intense poverty and hundreds of years of colonization that precipitated these activities."[15] In sum, Ranco attributes the contemporary mismanagement of environmental resources by Amerindians to the aspects of historical and contemporary dimensions of Western colonization that continue to hold consequences for indigenous communities.[16]

Contesting the Colonial Artifact Explanation

The editors acknowledge that Amerindian interactions with agents of Western political economies have played a major role in generating a host of catastrophic consequences for the human ecology of native peoples throughout the Americas.

[15] Along these lines, Buege asks if it is reasonable to assume that "ecologically noble" people would maintain their conservationist traditions given their devastating encounter with the Western world: "Since the industrial revolution, colonialism has left indelible marks upon all indigenous peoples. South and North American Indians, Pacific Islanders, Australian aborigines, Arctic peoples, and African peoples occupied lands, who were at one time relatively distant from European influence, have seen their land bases reduced in size by the encroachment of Western 'civilization'…Colonialism intrudes upon nearly every facet of native peoples' lives. Because of these intrusions, the practice of traditional agriculture, maintaining healthy relationships with the land, is now rare. In the face of several 100 years of colonialism, how could we expect people to preserve in pristine fashion their traditional ways of life, especially when Euro-Americans have practically pounded their economics, politics, and morals into these peoples?" (Buege 1996: 81–83).

[16] Calvin Martin (1978) also claims that the well-documented overharvesting of fauna by Amerindians during the Fur Trade was attributable to Western influences.

To that end, we further acknowledge that consequences continue to be felt in Amerindian communities where environmental degradation has been exacerbated by such historic patterns of social interaction.[17] However, we believe that attributing the native mismanagement of natural resources to exploitative colonial arrangements fails to account for why many *pre-contact* Amerindian populations degraded their respective environments (Broughton 1994a, b, 1997; Chacon and Kay 2005; Janetski 1997; Kay and Simmons 2002; Lopinot and Woods 1993; MacPhee et al. 2007; Mann 2005; Perkins 2005; Raab and Jones 2004; Smith et al. 2010; Steadman et al. 2005; Webster 2002; Woods 2004).[18] Additionally, invoking colonialism as the cause of native environmental mismanagement fails to account adequately for the overharvesting of natural resources documented among present-day egalitarian and autonomous Amerindian peoples not identified with reservation systems or preserves (Chacon 2001, 2005, 2009, Chapter 13, this volume).

Moreover, some groups implicated in such ecological unsound practices *maintain traditional beliefs* about wildlife population dynamics. Such an example may be found among the Achuar (Shiwiar) of Alto Corrientes, who, despite living as relatively isolated subsistence hunter–horticulturalists in the Ecuadorian Amazon, are presently overharvesting several species of Neotropical wildlife (Chacon 2001, 2005, 2009, Chap. 13).[19]

We, therefore, believe that continued belief in the existence of an ecological indigeneity is untenable, given the fact that Amerindians adhering to traditional concepts of wildlife regeneration are known to overharvest natural resources. We now turn attention to illustrating not only how the concept of "pristine" wilderness is misguided, but also how it can potentially harm Amerindian peoples.

The Myth of Pristine Wilderness

As acknowledged in the introduction to this volume, archaeologist William Ritche made the following statement: "We must say, in sharp contrast to the white man's way, that the Indian trod lightly through his natural environment, merging himself sympathetically into the world of living and non-living things" (Ritche 1956:27).

[17] It is important to note that contact with the West can, under certain circumstances, actually promote conservation, as the following case involving a Labradorian tribe indicates: According to Ellickson (2001:49), "[i]n earlier [pre-contact] times, the tribe's norms had supported community hunting rights within its forests, a system that creates few incentives for an individual hunter to conserve the stock of game. Once the European traders had come on the scene, the tribe shifted to a system of exclusive hunting territories…This system is more efficient when game is scarce because the sole owner of a territory inhabited by non-migratory wild animals has a much sharper incentive than a communal hunter to avoid overhunting."

[18] For data indicating that native peoples of New Zealand, Australia, and North America played a key role in the demise of megafauna, see Gillespie (2008).

[19] For other examples of Amerindian egalitarian subsistence hunters harvesting Neotropical game at non-sustainable levels, see Alvard (1993, 1994, 1995, 1998a, b).

While sharing Ritchie's sense of admiration and respect for Amerindian peoples, the editors contend that it is in fact a mistake to assume that Amerindians at all levels of analysis always trod lightly through the natural environment. According to Balée (1989), in order to understand American ecosystems properly, one must first realize that these environments are the result of a complex interplay of nature and indigenous culture (see also Chap. 10). The following example highlights the tendency of some scientists to mistakenly adhere to the belief in the myth of pristine wilderness:

Alvard notes that during the course of fieldwork in and around Peru's Manu National Park, a biologist conducting research on the nesting behavior among birds of the area was irate at the fact that a band of Yora Indian foragers had "disturbed" his study. According to Alvard (1997: 610), "[t]he researcher was angered that the project was ruined when the Yora collected the bird eggs on the study site. Implicit in the anger was the view that humans were not part of the natural ecology of the area. Since humans have probably inhabited the area for several thousand years, human predation has potentially been an important selective force on these birds." Such an example vividly illustrates the need for scientists to "broaden their perspective to include Native Americans as key ecosystem components" (Kay 2010: 28).

Along these lines, Kirch (2007: 86) points out that "[h]uman societies do not passively 'adapt' to their environments, they are actively engaged with those environments in a constant process of reciprocal feedback. As such, landscapes are socially constructed as well as physically modified." Therefore, attempts to understand American ecosystem functions, and/or their management, should be informed by the fact that "nature" is in effect made up of a "historicized, politicized, and humanized ecology" (Erickson 2006: 265). Clearly, Amerindians not only modified local ecosystems, but they were also involved in the creation of the very substrate on which they lived. Recent discoveries in the Amazon illustrate such propensities on the part of Amerindian peoples.

Amazonian Dark Earth

An example of the profound effects that Amerindians had on the pre-contact American hemisphere can be seen in the correlation of Amazonian Dark Earth (ADE) with native sedentary agricultural villages (Erickson 2003). According to Erickson (2003: 463), "[t]he densest distribution and largest ADE are associated with archaeological settlement sites along the middle and lower courses of the major [Amazonian] rivers…or on the margins or confluence of streams and rivers or falls." Balée (1987:14) notes that this soil "is a loam rich in phosphorous, nitrogen, carbon and other materials essential for plant growth…[and]…the high fertility of this soil is a direct result of small home fires and the long accumulation of organic waste products, such as game-animal and fish bone, and human excreta." The working assumption held by most experts is that "the size and depth of ADE are directly associated with population size of the settlement and settlement duration" (Erickson 2003: 466).

Such findings serve to clarify that Amerindian cultural behaviors contributed significantly to the modification of local landscapes and ecologies through the creation of ADE zones. Erickson (2003: 493) thereby contends that "Amazonian peoples took soils that are generally considered marginal in terms of nutrient availability, texture, drainage, and depth and turned them into productive farmland through their management of organic matter from urban settlements."[20]

The truth is that indigenous peoples were and remain instrumental and dynamic agents in the modification and humanization of the natural world. Therefore, native peoples are fully capable of being "radical transformers" of local and regional ecosystems (Kirch 1997: 30). As such, indigenous peoples have been shaping the environment of the American hemisphere for well over 12,000 years (Kay 1998). Moreover, Amerindians generated settlements of high population density (Coe and Koontz 2008; Erickson and Balée 2006; Lopinot and Woods 1993; Trimborn 1949; Woods 2004), and out of necessity, such sizeable centers would have had a significant impact on the local environment (see Chap. 10).

The failure to acknowledge the significant accomplishments and ecological impacts of pre-contact Amerindian cities remains a serious problem. It can be argued, therefore, that those who adhere to a belief in the existence of a pre-contact, pristine American wilderness ultimately engage in an act of "immense condescension" (White 1995:175).[21]

The belief that Christopher Columbus encountered a "pristine" wilderness in the American hemisphere is woefully naïve, condescending, and untenable, particularly given the research findings advanced in this work and elsewhere (see Chap. 10). The following discussion frames arguments that serve to justify the accurate and transparent reporting of Amerindian environmental impacts as such.

Justification for the Reporting of Amerindian-Induced Environmental Impacts

The documentation of the significant environmental impacts set in motion by indigenous peoples, we believe, is worthwhile as it sheds new light on the complex realities of the Amerindian experience.

[20] Thus, "present-day Amazonian landscapes were shaped by a complex history of past human activities and sudden demographic collapse" (Erickson 2006: 235–236).

[21] Those who insist on believing that pre-contact America was a pristine wilderness fail to understand the complex interplay of nature and indigenous culture that shaped and continues to shape ecosystems throughout the Americas (Balée 1989; Erickson 2006). Research indicates that native peoples modified, and continue to modify, plant and animal communities "for human benefit and to increase productivity" (Kay 1998: 492).

Reporting Ecological Data Bolsters Amerindian Land Claims

Research clearly indicates that the very concept of a "pristine" wilderness threatens long-term efforts to secure and maintain indigenous land titles and rights. According to Kay (1998: 490), "the idea that North America was a 'wilderness' untouched by the hand of man before 1492 is a myth, a myth that may have been created, in part, to justify appropriation of aboriginal lands and the genocide that befell native peoples."[22]

It was precisely the myth of a pre-contact pristine wilderness that provided a convenient justification for the removal of indigenous peoples from traditional lands for the purpose of creating national parks and preserves intended to protect allegedly pristine environments (Newmann 1998).[23] In short, promoting the notion that pre-contact America was an untouched wilderness provides cover for the implementation and continuance of "fortress conservation" efforts (Brockington 2002).[24] This form of environmentalism is based on the premise that the most effective way to protect endangered flora and fauna is to remove indigenous populations forcibly from the affected areas (Igoe 2004).[25] To date, millions of peoples around the globe have been forcibly removed, often at gunpoint, from traditional homelands so as to maintain a purported "wilderness area" in its pristine state (Dowie 2009).[26]

Thus, accurate reporting of the Amerindian impact on the environment provides incontrovertible evidence of the long-term presence of native peoples in a given region. Such information may in the final analysis prove useful to Amerindians in land claims proceedings.

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[22] US President Lyndon B. Johnson signed the 1964 Wilderness Act into Law and this decree included the following statement: "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and the community of life are untrammeled by man, where man himself is a visitor who does not remain" (Wilderness Act, Public Law 88–577, September 3, 1964). For the origins of the concept of wilderness, see Newmann (1998).

[23] One of the justifications put forth for the forced relocation of San and Bakgalagadi peoples from Botswana's Central Kalahari Game Reserve was that the refuge would have greater tourist value if the area was "pristine" (i.e., devoid of people living in the preserve) (Hitchcock et al. (2011).

[24] The creation of Yellowstone National Park is the quintessential example of fortress conservation as the US Cavalry forcibly removed Shoshone Indians from the Park in the 1880s (Igoe 2004).

[25] An example of this top–down, exclusionary policy that removes human beings from nature can be seen in Terborgh's call for the "political courage" to establish "a carefully constructed and voluntary relocation program" for "contacted indigenous groups" (Terborgh 1999: 56).

[26] Dowie (2009) refers to the victims of such policies as "conservation refugees."

Reporting Ecological Data Sheds Light on Amerindian Beliefs and Sociopolitical Dynamics

The ancient inhabitants of California's Coso Range created one of the largest aggregations of prehistoric rock art or petroglyphs in North America. According to Gold, "out of a total estimated 100,000 images found in the Cosos, approximately 50,000 individual depictions consist of bighorn sheep in an area smaller than 100 square miles" (Alan Gold, personal communication to Chacon 2010). Garfinkle et al. (2010), in turn, argue that these bighorn petroglyphs were the product of rituals intended to ensure a hunter's success in felling this particular prey species. Archaeological research indicates that Coso foragers overhunted local bighorn populations in concert with the introduction of the bow and arrow, which replaced the less efficient atlatl in the region at circa AD 200–300. Significantly, Garfinkle et al. (2010) also report a dramatic correlation between bighorn depletion and an increase in depictions of the said species in the Coso Range at this critical juncture.

Garfinkle et al. (2010) posit that the following religious and societal changes occurred as a consequence of the Amerindian overharvesting of said fauna: As bighorn populations were depleted, the value of this prey species increased, and as such, successful hunters enjoyed heightened prestige.[27] In an attempt to improve their chances of bagging the increasingly rare bighorn, individual hunters likely intensified their participation in various forms of hunting magic and rituals in order to promote success on the hunt.

Evidence for this intensification of predation can be found in the inverse relationship between Coso bighorn population fluctuations and the relative number of Bighorn petroglyphs created at this time.[28] As Bighorn populations diminished, proficient hunters experienced an increase in their social standing. This, in turn, motivated them to intensify predation. Thus, indigenous "prestige hunting" resulted in a significant depression of the natural resource base (Garfinkle et al. 2010). Clearly, the *accurate* documentation of Amerindian subsistence strategies may shed new light on the relationship between native beliefs, sociopolitical dynamics, and environmental degradation.[29]

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[27] According to Stearman (1994: 348), a Yuquí hunter would never pass up an opportunity to give meat to another Yuquí because "prestige among men is based on hunting success."

[28] However, see Whitley (1998a, b) who stresses the shamanic aspects of Coso Range rock art.

[29] For more on the important role that prestige and status seeking play in hunting, consult. (Bliege Bird and Smith 2005; Bliege Bird et al. 2001; Gurven and Hill 2009; Hawkes 1991; Hawkes and Bliege Bird 2002; Raven 1990; Smith 2004).

Reporting Ecological Data May Prove Beneficial to Conservation Efforts

Despite mounting evidence for the major role that native peoples played in shaping local environments, many policy makers persist in managing national parks, national forests, and nature preserves with the expressed goal of maintaining and/or restoring the land to its supposed pristine wilderness condition (Kay 1998).[30] Such management strategies "seldom consider the impact that prehistoric human populations had on their resource base or how aboriginal activities may have structured entire ecosystems [through predation activities]" (Kay 1994: 384). Kay holds that "the failure to acknowledge the keystone predator role that Amerindians played in the ecosystem prevents park and reserve planners from effectively preserving and protecting wildlife" (Charles Kay, personal communication to Chacon 2009).[31]

Additionally, since aboriginal burning was a fire management technique employed by indigenous peoples throughout the Americas in order to enhance biodiversity, it may be that habitat restoration plans should reintroduce the kinds of disturbances that mimic burning and harvesting practices that native peoples regularly conducted (Anderson 2005).[32] Until planners recognize the significant impacts that native peoples continue to have on micro-environmental and regional species diversity, and modern management practices change accordingly, ecosystems will continue to suffer the loss of essential biodiversity (Kay 1998).

Anthropologists, sociologists, historical ecologists, and land-use planners seeking to understand aboriginal land-use patterns accurately should be aware that Amerindians actively modified landscapes (see Chap. 10). Thus, the accurate reporting of the significant environmental impacts had by native peoples will aid in the development, implementation, and maintenance of effective conservation strategies. Conversely, we believe that the suppression and misrepresentation of data regarding Amerindian-induced environmental impacts will continue to deprive researchers and their subjects of essential information deemed critical for the design of effective conservation protocols. As such, we feel that anthropologists and other social scientists bear an ethical responsibility to report data regarding indigenous natural resource utilization fully and accurately.

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[30] As previously reported, the 1964 Federal Wilderness Act was based on the premise that the most effective way to preserve biodiversity is to create and maintain large expanses of intact (i.e., unoccupied) lands (Dowie 2009).

[31] Likewise, Gold states, "In order to create successful wildlife restoration programs, anthropologists need to accurately describe the intersection between native people and the landscape" (Alan Gold, personal communication to Chacon, 2010).

[32] Lightfoot and Parrish (2009: 96) refer to the effect of Amerindian fire management as "pyrodiversity."

Reporting of Ecological Data Is Useful in the Fight Against Colonialism

Non-Indians have a long history of failing to understand the complex relationships that accrue between Amerindians and their respective environments. Proponents of ecological indigeneity make it easy for non-Indians to ignore the otherwise marginalized living conditions that afflict many indigenous populations. The truth is that many "native peoples must violate the [ecological indigeneity] stereotype simply to survive…Those…who believe in the stereotypes of 'ecological nobility' are likely to remain ignorant of the actual experiences of native peoples and, thus, are bound to perpetuate colonial actions upon them" (Buege 1996: 83). We, therefore, believe that the accurate reporting of Amerindian-induced environmental degradation necessarily serves to combat colonialism by generating an awareness about the marginalized conditions endured by many native peoples.

Suggestion on How to Proceed with Sensitive Ecological Data

The editors hold that the suppression of data pertinent to the overharvesting of natural resources by native peoples should not take place. Any obfuscation of legitimate ecological data denies anthropologists, sociologists, wildlife biologists, historical ecologists, and policymakers access to that information necessary for the development of sustainable indigenous harvesting strategies. How then should one proceed when confronted by data bearing on the Amerindian mismanagement of natural resources? Anthropologists and other social scientists should work closely with native leaders, ecologists, wildlife biologists, land-use planners, economists, and policy makers in order to forge community-based sustainable harvesting protocols. Potential solutions may involve (1) setting harvesting quotas, (2) establishing specified harvesting seasons, and\or (3) establishing temporary moratoriums for vulnerable prey species within the affected catchment areas (Chap. 13).[33]

Ultimately, it is of paramount importance that policies regarding natural resource utilization be created in consultation with native representatives. Moreover, it is imperative that indigenous populations be permitted to retain rights to traditional lands, irrespective of how they manage the natural resources contained therein. Having addressed the reporting of data bearing on the human ecology of Amerindian populations, we now move to a consideration of arguments that serve to justify the accurate and transparent reporting of Amerindian warfare and violence.

[33] See also Sirén et al. (2004) for similar recommendations involving the Amazonian Quichua of Sarayacu.

Justification for the Reporting of Amerindian Warfare and Violence

The evidence for indigenous warfare and violence should be fully reported, as failure to do so necessarily diminishes our understanding of the Amerindian experience.

Reporting Native Warfare Data Sheds Light on Settlement Patterns and Architecture

Prior to incorporation into the Inka Empire at circa AD 1460, the Wanka of Peru's Mantaro Valley lived in a perpetual state of warfare as regional elites vied for supremacy against one other. In response, period populations crowded into fortified settlements defensively located atop hills and ridges. These fortifications were designed to be impregnable, and incorporated features such as perimeter defensive walls, constricted access gateways, and compartmentalized housing (Earle 1997; Johnson and Earle 2000).[34]

Defensive considerations may have been in play when the prehistoric Marajoara of the Lower Amazon River constructed some 400 large mounds. The area is subject to seasonal flooding, but these sites were built on much higher elevations than necessary if the avoidance of flooding had been the prime goal (Roosevelt 1989).[35] Thus, given the important influence that warfare had (has) in settlement patterns and architectural design, anthropologists and other social scientists should report data on Amerindian conflicts (see Chap. 3).[36]

[34] The settlement patterns of other indigenous peoples such as the pastoralist Turkana of Kenya are also greatly affected by warfare. According to Lienard, "ideally, the Turkana prefer to reside in small independent herding groups in their lowland homeland. However, as part of their annual transhumance, many Turkana relocate to mountain camps that are dangerously close to the territory of their traditional enemies. At these highland locations, the Turkana coalesce into large settlements of over 1,000 people for defensive reasons. The atmosphere in these mountain camps is very tense and people will only start relaxing when it is time to leave these hazardous mountain areas to travel back to the Turkana lowlands" (Pierre Lienard, personal communication to Chacon, 2010).

[35] See Redmond et al. (1999) for how pre-contact Venezuelan chiefdoms constructed 8-m-tall causeways that were likely designed with defensive purposes in mind.

[36] Likewise, Ferguson (1990:34) notes that "[b]y forcing relocations, war can result in reapportionment of resource territories to the size (and so military strength) of groups; and to weaker groups being forced to leave an area entirely."

Reporting Warfare Data Sheds Light on Native Diet, Life Expectancy, and Demographics

Since Wanka elites engaged in warfare, relatively poor diets and foreshortened life expectancies were the norm. However, under the *Pax Incaica*, the Wanka diet improved and life expectancy rose dramatically (Earle 1997; Johnson and Earle 2000; Owen and Norconk 1987).[37] Such research findings indicate that indigenous warfare, in fact, had a significant impact on the diet and life expectancy of pre-contact Amerindian populations (see Chap. 3). Moreover, Ferguson (1990) argues that Amerindian warfare may have had both direct and indirect demographic consequences. He contends that warfare can slow or even reverse a population's growth, whereas the taking of captives may replenish a dwindling population base. As such, the reporting of data on indigenous warfare may accrue benefits to those seeking to understand Amerindian diet, life expectancy, and demographic patterning.

Reporting Warfare Data Sheds Light on Amerindian Class Structures and Social Mobility

A cursory review of the pertinent literature reveals that success in battle was (is) an effective pathway for Amerindian social mobility and political standing. According to Trigger (1993: 61):

> Among the Aztecs, for example, commoners who had captured at least four prisoners in battle were promoted to the lowest level of the nobility. They no longer had to perform manual labor, could live in stone houses, and were allowed to wear fine clothing and special insignia. They were also permitted to marry women from the hereditary nobility, which assured that the children of such marriages became full members of that class.[38]

Additionally, an Aztec commoner whose leg was scarred in battle was permitted to wear a long and prestigious cloak, while anyone who had captured several prisoners was granted the right to wear ornaments made of gold and precious stones.[39] For the Inka, bravery on the battlefield similarly afforded commoners the possibility of status enhancement. Conscripted peasants who excelled in battle were rewarded with luxury items, special insignia, land, and wives. Such warriors were sometimes

[37] These improvements came about because the *Pax Incaica* permitted Wanka populations to move down from their agriculturally marginal hilltop locations and safely occupy the fertile bottomlands (Earle 1997; Johnson and Earle 2000).

[38] Moreover, Trigger (2003: 629) reports that "[f]or [Aztec] commoners, the only legitimate way to advance was by capturing enemy warriors in battle."

[39] According to Trigger (1993: 67), "[a]ny [Aztec] man who was caught wearing clothes or ornaments above his station was subject to punishments, including the death penalty."

privileged with administrative posts, including those that entailed leadership of between 10 and 50 families (Trigger 1993, 2003).[40]

In these and related ways, the reporting of Amerindian warfare serves to illuminate aboriginal class structures and social mobility.[41] In so doing, anthropologists and other social scientists may facilitate a greater understanding of, and appreciation for, the social complexity and inherent dynamism of Amerindian societies.

Reporting Warfare Data Honors Amerindian Warriors

Trigger (2003) has noted that all Aztec males were expected to be willing to give up their lives on the field of battle. Cobo (1990), in turn, reported that military service was construed as the most important and noble endeavor that any Inka male could undertake. As such, we contend that the judicious and non-sensationalistic reporting of indigenous warfare honors those Amerindian warriors who fought (and who continue to fight) in defense of their respective communities.

The documentation of indigenous combat abilities, we believe, is appropriate as modern-day Amerindians are rightfully proud of their ancestors' determination to defend their native ways of life (Chaps. 4, 5, 9, 11, and 12). A particularly notable example of the exploits of the Amerinidan warfare tradition is that pertaining to the 300 years during which the Mapuche successfully repelled Spanish imperial forces, and avoided subjugation by European armies (see Chap. 9). The Mapuche maintained active resistance until the 1880s when they were subjugated by the Chilean military (Cruz 2010; Steward and Faron 1959). In an effort to preserve their autonomy, Maya fighters expelled Mexican forces from major portions of the Yucatan Peninsula and set up an indigenous capital at Chan Santa Cruz during the course of the Caste War of Yucatan that spanned the period of 1847–1901 (Reed 1964).[42] In 1925, the Kuna of Panama organized an armed rebellion against the government that culminated when Panamanian authorities signed a treaty granting the Kuna "a degree of autonomy in their internal affairs that is unprecedented among the indigenous peoples of Central America" (Chapin 2000: 5; Howe 1998).

We wish to point out that contemporary Mapuche, Maya, and Kuna leaders often embrace with pride the bellicose actions of their ancestors. In the context of ethnographic interviews by Chacon, native leaders from each of these groups noted their considerable pride in recounting their forefathers' exploits in having waged war against non-Indians in order to defend indigenous rights and privileges.[43] Moreover, ethnohistoric and ethnographic research indicates that Amerindians have a long his-

[40] See Yamilette Chacon (2009) for a detailed analysis of Inka social mobility.

[41] See Chacon (2007) and Chagnon (1997) for ethnographic examples of how the possession of military prowess enhances the social standing of individuals in egalitarian Amazonian groups.

[42] This location is known today as Felipe Carrillo Puerto (Reed 1964).

[43] Cited from Chacon's unpublished field notes.

Fig. 19.1 *Chuji*, an Achuar warrior of great renown

tory of readily defending themselves when attacked by fellow Amerindians (Chacon 2007; Chacon and Dye 2007; Chacon and Mendoza 2007a, b; Chagnon 1997).

In Chacon's fieldwork experience among the Yanomamö of Venezuela, the Yora of Peru, and the Achuar (Shiwiar) of Ecuador, warriors who have proven themselves in battle are held in high esteem by their fellow villagers (Chacon 2007; Chacon and Mendoza 2007b). Amazonian men who kill alleged sorcerers are similarly treated with great respect for performing a "public service." A case in point may be found in the case of *Chuji.* This Achuar male was proclaimed a particularly brave fighter by fellow villagers for having had the courage to kill a feared shaman believed to be the cause of sickness in the region. As such, *Chuji* is a greatly admired war hero or *kakaram* who enjoys considerable prestige for having eliminated an individual thought malevolent to villagers (Chacon 2007) (Fig. 19.1).

Indigenous peoples believe, as do most Westerners, that there is absolutely nothing savage or degrading about a warrior or soldier who fights courageously in defense of his people (Chacon 2007; Chacon and Mendoza 2007a, b). Indeed, Amerindian groups have long maintained "warrior societies" through which the strength and valor of combatants are celebrated (Chacon and Mendoza 2007a, b; Moore 1996; Shaafsma 2000; Taylor 1975, 2001). Therefore, the respectful documentation of Amerindian armed conflict by anthropologists necessarily serves to honor the warrior tradition so noted, and as exemplified by the aforementioned *Chuji* (Chacon 2007).

Shuar Head Hunting and Head Shrinking

The Shuar of the Ecuadorian Amazon do not express shame when considering an ancestral practice of conducting headhunting raids on their Achuar neighbors. Successful Shuar raiders would shrink their victims' heads, thereby transforming them into powerful *tsantsas*. Far from consternation about their past, many Shuar express a sense of admiration and awe toward these disarticulated human remains. In fact, Rubenstein recorded the reaction of some Shuar leaders to encountering a human trophies exhibit at the American Museum of Natural History that contained shrunken heads. Rubenstein noted that "they were clearly pleased to see the *tsantsas* on display for others to admire" (2007:375). One indigenous leader made the following comment regarding the shrunken heads currently housed at the Shuar Federation headquarters: "For us, it is more than a heritage, it is something sacred" (Rubenstein 2007: 378).

The aforementioned declarations reveal that ritual violence is not a source of shame for native Amazonians, and this observation was ultimately corroborated when Rubenstein asked Shuar leaders about what would eventually happen to the *tsantsas* in the organization's possession. The Shuar responded by stating that "the Federation should build a museum in which to place them" (Rubenstein 2007: 382).[44] Rubenstein's work, therefore, illustrates the error in assuming that all Amerindians wish to suppress data regarding ancestral forms of ritual violence. As such, any argument claiming that the reporting of indigenous warfare invariably denigrates Amerindians is, in our view, woefully misguided.

Reporting Amerindian Warfare and Ritual Violence Honors Amerindian Religion

Ethnohistoric and ethnographic data clearly indicate that for many Amerindians, "warfare was a spiritual act" (Engelbrecht 2003: 37), and the antiquity of such a worldview finds support in the analysis of Amerindian mythology and religion. Even a cursory review of the literature reveals the pervasive character of warfare and ritual violence in Amerindian myths. For the Iroquois, the sacrificed body of Sky Woman was believed to have given rise to maize, beans, and squash, and as such, the shedding of blood was deemed necessary to the maintenance of agricultural fertility (Engelbrecht 2003).[45]

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[44] According to Rubenstein (2007), the very act of possessing *tsantsas* serves to confirm the legitimacy of modern-day Shuar Federation leaders.

[45] Violent acts are also common among Fueguian myths. According to Prieto and Cardenas (2007: 220), "[a]bout 30% of the 59 Selk'nam myths and about 27% of the 26 Yámana myths describe episodes of violence." See also Beckerman and Yost (2007).

A number of Amerindian groups believed that the practice of human trophy-taking in battle was originally instigated by mythological beings and culture heroes, who mandated that native peoples do likewise. Therefore, native myths often sanctioned diverse forms of ritual violence (Chacon and Dye 2007). For the Puebloan peoples of the American. Southwest, the origins of scalping were traced to mythological times when, according to White (1942: 304).

> Masewi and Oyoyewi [twin war gods], full of zest, go about the country killing people for nothing. This angers the gods and they decide to teach the twins a lesson. They cause a hideous corpse woman (a ko'ok'o) to pursue them to the four corners of the earth. At last the boys are spared. The gods now lay down the rules for killing and scalping people. They instruct Masewi and Oyoyewi in all that pertains to war: how the scalping is to be done, how to fast and observe continence, how to dance for the scalps and how to take care of them. Chastened, the war gods organize the Opi (Warriors) society and teach the people how to take scalps, how to fast and observe continence, how to take care of the scalps and how to dance for them. In this way Keresan war customs were established.

Similarly, the analysis of Mesoamerican beliefs invariably reveals that ritual violence figures prominently in indigenous mythology. One only need consider how it was that Coatlicue gave birth to a fully armed Huitzilopochtli, who proceeded to kill the moon goddess Coyolxauhqui and subsequently proceeded to slay his many half-brothers (Taube 1993). It is important to note that the story of Huitzilopochtli's birth "provided the mythic charter for the political expansion of the Aztec and the right to rule over their defeated enemies" (Taube 1993: 47). Accordingly, Trigger (2003: 633) acknowledges that "Aztec values, which were grounded in a belief that war and bloodshed were required to sustain the cosmic order, appear to have been of great antiquity in Mesoamerica." The sacred nature of warfare was thereby inculcated into Aztec youth, who were led to believe that the house in which they were born was not one's true home, but only a resting place. The warrior's mission was "to give the sun the blood of enemies to drink, and to feed Tlaltecuhtli, the earth, with their bodies" (Coe and Koontz 2008:197).[46]

Ritual violence also played an important role in Inka religious life as seen in the practice of *capa cocha*. This ritual, involving human sacrifice, was conducted in order to ensure the well-being of the Inka ruler and the empire more generally. Spanish accounts of such Andean practices have been corroborated via the in situ archaeological recovery of mummified human remains (Ceruti 2003; Wilson 1999).[47] Today, bloody ritual battles take place among the Cotacachi and Otavalo of Highland Ecuador. These sometimes lethal encounters are associated with Inka Inti Raymi celebrations and Pachamama worship (Chacon et al. 2007).[48] Therefore, we contend that the accurate, non-sensationalistic, and properly contextualized reporting

[46] See Demarest and Woodfill (Chap. 7, this volume) for documentation of the important role that blood sacrifice continues to play among contemporary Mesoamericans.

[47] Chacon et al. (2007:123) report that to date, "…the remains of approximately 25 individuals who were most likely sacrificial victims have been recovered at pre-contact high-altitude locations throughout Andean south America."

[48] For further documentation of the relationship between Amerindian religion and warfare, consult (Chacon and Dye 2007; Chacon and Mendoza 2007a, b).

of Amerindian warfare and ritual violence on the part of anthropologists and other social scientists in effect honors Amerindian belief systems (see Chap. 7). Conversely, the failure on the part of anthropologists and other social scientists to document properly the role that native religion holds in warfare and ritual violence constitutes a violation of the integrity of authentic Amerindian belief systems.

Reporting Warfare Data Sheds Light on Amerindian Ethnogenesis and Self-Identity

Native armed conflict clearly played a key role in the formation of various Amerindian societies. In point of fact, tribal warfare ultimately forced many ethnically diverse societies to unite. For example, during North America's Coalescent Period (AD 1716–1759), diverse indigenous peoples of the Southeast sought refuge within militarily powerful Catawba/Esaw settlements.[49] These refugees included the Cheraws, Congarees, Peedees, Sugarees, Waterees, and Wahaws (Davis and Riggs 2004; Heath 2004). Under Catawba leadership, this native coalition judiciously employed fighting skills in their capacity as "ethnic soldiers" (Ferguson and Whitehead 1999). By the Late Colonial Period (AD 1760–1775), the distinct identities of these allied peoples dissolved with descendents incorporated into the "Catawba Nation." In this way, tribal warfare played a key role in the formation of new tribal identities (Davis and Riggs 2004; Heath 2004). Therefore, the proper documentation of Amerindian warfare sheds light on significant dimensions and sources of indigenous identity that were forged in the crucible of armed conflict. Conversely, our failure to document properly the role of warfare in native societies constitutes an affront to the integrity of Amerindian ethnogenesis and self-identity.

Reporting Warfare, Captive Taking, and Slavery Sheds Light on Group Composition

Defeat in battle sometimes resulted in the vanquished relocating to victorious societies.[50] Some of the conquered were (are) fully incorporated into militarily successful groups as wives or as adopted children.[51] However, for other native peoples, defeat

[49] Catawba warriors were considered as being among the most accomplished fighters in the Southeast (Heath 2004).

[50] For example, Lewis and Clark's Shoshone guide named Sacagawea was captured by a Hidatsa raiding party. Eventually, she was taken as a wife by the French trapper named Charbonneau, who had won her in a bet with the warriors who had captured her (Ambrose 1996).

[51] On August 29, 1991, Chacon interviewed Helena Valero, who was captured by the Yanomamö at the age of 11 years. This Brazilian woman lived among this Amazonian group for 20 years before her escape. For a detailed account of her ordeal, see Biocca (1970) and Cocco (1972).

in battle resulted in enslavement. Among certain Northwest Coast groups, slavery constituted a permanent status that was inherited. Additionally, slaves could be killed to accompany the deceased into the afterlife, and they were sometimes slain during important ceremonies (Ambrose 1996; Ames and Maschner 1999; Bailey 1966; Biocca 1970; Bourguignon and Greenbaum 1973; Carneiro 1990; Chagnon 1997; Cocco 1972; Garbarino 1976; Darling 1998; Drimmer 1961; Driver 1969; Donald 1997; Edgerton 1992; Fienup-Riordan 1990; Heath 2004; Kroeber 1951; Legros 1985; Lovisek 2007; Melody 1989; Murphy 1960; Musters 1969; Perdue 1979; Redmond 1998; Santos-Granero 1992, 2009; Snow 2007; Stearman 1984, 1994; Steward and Faron 1959; Stratton 1983; Thurman 1983; Trigger 1993; Trimborn 1949; Wolf 1982).

The significance of captive taking becomes apparent when one considers the fact that among some Northwest Coast groups, slaves comprised 25% of the total population (Boxberger 1997). As such, proper documentation of warfare and its concomitant captive taking elucidates the group composition of many pre- and post-contact Amerindian groups.

Reporting Warfare and Slavery Sheds Light on Amerindian Political Economy

Amerindian slaves in North America were often exchanged for trade goods. According to Hudson Bay Company personnel, Tlingit chiefs bartered slaves for firearms, blankets, and/or canoes. Additionally, slaves were often charged with performing drudge labor. For example, Tlingit chiefs were known to assign slaves to the arduous task of drying and stretching sea otter pelts (Wolf 1982). Slaves maintained fish weirs at the mouth of the Klawock River, Little Salt Lake, and Deshuan. At these sites, the Tlingit constructed wooden-stake structures and rock wall alignments for the harvesting of salmon. During the 1750s, "[a]ccording to oral tradition, *slaves* were sent out to repair the wooden stake weirs in the estuaries of the nearby streams by replacing stakes broken or washed away during the previous winter so the structures would be in working order for the return of the honored salmon…" (Langdon 2007: 236, italics added).[52]

Native slaves of South America played major roles in the support of indigenous economies. According to Spanish sources, among the Cauca Valley chiefdoms of Colombia, war captives were inducted into slavery and performed subsistence tasks and/or toiled in the mines (Trimborn 1949).[53] In the late 1500s, the hunting and

[52] Enormous concentrations of stake remnants have been identified throughout southeastern Alaska. According to Langdon, "it is likely that more than 10,000 buried wooden stakes are found in Little Salt Lake" (Langdon 2007: 245).

[53] According to Trimborn (1949), some Cauca Valley slaves were subjected to the removal of one of their incisors as a sign of their subjugated status.

gathering Guaicurú (Mbayá) of Paraguay adopted the horse, and thereby augmented their warring capabilities. As such, the Guaicurú employed cavalry-enhanced tactical abilities to subdue the neighboring Guaná. The Guaicurú's dominant position permitted them to extract tribute in the form of cultivated foodstuffs (including maize, manioc, and other domesticated plants) from the Guaná (Santos-Granero 2009).[54] Again, we contend that the accurate reporting of Amerindian conflict further illuminates the important relationship between warfare, slavery, and indigenous political economies.

Reporting Amerindian Warfare and Violence Promotes Indigenous Sovereignty

Inuit Land Claims

According to Burch, ethnographic data regarding Amerindian warfare can be of considerable benefit to the indigenous struggle to secure land rights, as indicated by the following:

> Data on land usage patterns that included information on natural resource acquisition locations in addition to traditional Inuit battle sites and ambush locations were successfully employed by native Alaskans in their efforts to secure their land base in various state and federal land claims proceedings. That is to say that Alaska Natives successfully pursued their land claims before the federal and state governments using data on traditional settlements, hunting and fishing grounds and methods, travel routes, and locations where native battles and raids are known to have occurred. This information formed a significant part of the evidentiary basis for the Alaska Native Claims Settlement Act (ANCSA) of 1971 and the Alaska National Interest Lands Conservation Act (ANILCA) of 1980 (Ernest S. Burch, Jr., personal communication to Chacon, 2008).[55]

As such, the accurate documentation of native battle sites, defensive positions, and ambush locations may prove beneficial to Amerindians in resolving land disputes.

Andean Cotacachi and Otavalo Ritual Fighting

As previously mentioned, modern-day Cotacachi and Otavalo Highland Indians engage in bloody and sometimes lethal ritual battles as part of their annual Inti Raymi festivities. These violent encounters serve as ethnic markers by which blood

[54] There are reports of some Guaicurú keeping captives in their service as late as 1892 (Santos-Granero 2009).

[55] Remarkably, some contemporary Yup'ik leaders claim that homicide never occurred among Eskimos until the advent of whites (Fienup-Riordan 1990).

sacrifice is thought to promote agricultural fertility. Most significantly, the "willingness on the part of native people to go into battle serves as a clear signal to the surrounding mestizo society that indigenous peoples are to be respected" (Chacon et al. 2007:138). The fact is that "participation in the ritual fighting concomitant with Inti Raymi celebrations creates and reinforces indigenous identity and also serves as a reminder to the nonindigenous population that the rights of the Cotacachi and Otavalo people are not to be violated" (Chacon et al. 2007:139). As such, the properly contextualized documentation of that form of ritual violence openly practiced by Cotacachi and Otavalen peoples during Inti Raymi necessarily proffers support for this native Andean resistance strategy.

Kayapo Eco-Warriors

The Kayapo of Brazil provide yet another example of just how lethal conflict can serve to safeguard native rights and also to protect the local ecology. According to Dowie (2009:205), the Kayapo have been "ferocious defenders of their territory. Until the late 1980s, encroaching soy farmers, cattle ranchers, and gold miners were often killed." Igoe (2004) reports that the Kayapo effectively defended themselves by unleashing a series of military actions targeting anyone attempting to usurp indigenous lands.[56]

When confronted with the prospect of having their tribal homelands inundated by way of the construction of a hydroelectric dam funded by the World Bank, the Kayapo tapped into their warrior tradition by organizing a series of strident high-profile protests that successfully led to the project's termination.[57] Dowie (2009: 205) observes that this environmental victory was due in large part to the "undying ferocity of the Kayapo."[58]

Significantly, other indigenous communities of the region learned from the Kayapo's experiences and have similarly and aggressively asserted their land claims as they have observed how it is that "ferocity can be a valuable asset" (Dowie 2009: 206). Therefore, we contend that the accurate reporting of the formidable fighting abilities of Amerindians may dissuade outsiders from engaging in activities deemed detrimental to native peoples.

[56] Igoe (2004) documents that after a 15-year-long campaign resulting in 15 deaths and no Indian casualties, Kayapo territory was free of outsiders.

[57] The Kayapo received critical support in their efforts to stop this proposed hydroelectric dam from Conservation International (Dowie 2009).

[58] The Kayapo's success in halting the construction of the dam has been tinged by reports of indigenous leaders personally benefiting from signing contracts granting outsiders permission to log and mine reservation lands (Borgerhoff and Coppolillo 2005; Dowie 2009).

Bakairí of Brazil

Another example of how the use of force may be an integral part of a group's long-term survival strategy is instructive. Beginning in the 1950s through the 1960s, the Bakairí of Brazil contend that a section of their reservation (called Paixola) was illegally occupied by Brazilian colonists who claimed the land as theirs. After protracted negotiations and expensive litigation, most intruders agreed to abandon the Paixola region peacefully. However, some Brazilian colonists refused to vacate the disputed area. In response to the interlopers' obdurate behavior, "[o]ne night a group of Bakairí went to Paixola and burned down their farms,…After Paixola was made secure, about 40 Bakairí founded a village and moved there" (Picchi 2006: 48).[59] It is important to note that after repeated efforts to resolve this dispute peaceably, the Bakairí were compelled to violence in order to defend their homeland.[60] As such, the non-sensationalistic and properly contextualized reporting of Amerindian courage and fighting abilities will do much to promote indigenous rights and tribal sovereignty.

Reporting Amerindian Warfare and Violence Shows Respect for Victims

If anthropologists fail to report the fate of those vanquished in Amerindian conflicts fully and accurately, who will tell their story? We therefore honor the memory of those casualties of warfare and violence by way of the accurate and respectful documentation of their fate. Conversely, the failure to report the existence of Amerindian victims of violence dishonors their memory.

Our example in this instance draws upon the Mississippian site of Cahokia, one of the largest pre-contact Amerindian settlements north of Mesoamerica. Well known for its monumental grandeur, Cahokia was the site of violence that encompassed the practice of human sacrifice. Such evidence was recovered at Cahokia's Mound 72. According to Snow (2010: 203), "[t]wo high-ranking males were buried there, accompanied by strings of thousands of marine shell beads. There were five pits nearby that contained the remains of dozens of sacrificed adults. Elsewhere nearby in the mound there were four men laid out together. Their heads and hands were missing, and they too appear to have been sacrificed." Sadly, the site's didactic panels and interpretive program avoid discussion

[59] Fortunately, no Bakairí or illegal colonists were killed in the Paixola raid (Debra Picchi, personal communication to Chacon, 2010).

[60] The editors do not believe that the Bakairí should be denounced as "savages" for having defended their territory. Moreover, we do not feel that the anthropologist who documented these actions is guilty of denigrating Amerindians.

of those sacrificial victims interred at Cahokia. As such, visitors to the Cahokia Mounds State Historic Site remain oblivious to the suffering endured by those individuals and their surviving kin.[61]

Contextualized Reporting of Amerindian Warfare Data Combats Ethnocentrism

Westerners have a long history of failing to appreciate fully the complexity and diversity of the Amerindian experience. Those who promote pacifist Amerindian stereotypes obscure the underlying dynamics that fostered conflict. A dispassionate analysis of the sociocultural, historical, political, economic, and religious variables relating to native conflict will likely render these bellicose actions intelligible. Therefore, we contend that the appropriately contextualized recounting of that data bearing on the causes and consequences of Amerindian warfare will serve as a hedge to otherwise sensationalistic reports authored by those hostile to Amerindian peoples and cultures.[62]

Suggestions on How to Proceed with Sensitive Data on Indigenous Warfare and Violence

Suppression of data on inter- and intra-tribal conflict is not advisable, as this would hamper attempts at preventing injuries or deaths among contemporary Amerindian groups engaged in warfare and/or violence. How then should one proceed with data indicating Amerindian conflict? Every effort should be made to contextualize properly the warfare and violence being reported (see Chaps. 4 and 15). Anthropologists and other social scientists should exercise great care in providing the sociocultural, historic, political, economic, and/or religious underpinnings for those conflicts documented. Appropriate reporting will demonstrate that native peoples do in fact react to sociocultural, historic, political, economic, and/or religious stressors in ways that are understandable and predictable.[63] The information provided in the next section documents the intersectionality of warfare and environmental impacts.

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[61] Chacon and Mendoza have recently visited the site on two separate occasions. There is still no mention (either along one of the location's many trails or in the site's visitor center) of these sacrificial victims at Cahokia.

[62] See Caplan (2010) for discussion of how the Western media may sensationalize reports of native violence.

[63] See Picchi (2006) and Santos-Granero (2009, 2000) for examples of contextualized reporting of violence among Amerindians.

Nexus of Amerindian Warfare and Environmental Impacts

In order to gain an accurate understanding of indigenous life ways, there is a need to recognize and document the relationship between native warfare and environmental impacts as the following cases illustrate:

Mississippian Warfare and Deforestation: Etowah, Toqua, and Cahokia

Mississippian mound-building peoples of southeastern North America provide a host of examples of warfare's impact on local and regional ecologies. The Mississippian propensity for felling trees for the construction of timber palisades and other such defensive features provides evidence for one such impact (Davis 2000).[64]

According to Davis (2000: 30), "[t]he palisade surrounding the Mississippian town of Etowah, for example, stretched for more than half a mile along the edge of the Etowah River. At Toqua, a Mississippian town located on the Little Tennessee River in southeastern Tennessee, palisade walls extended around the entire length of the village, a distance of more than 5,000 feet…A total of three different palisades were constructed during the entire Mississippian occupation there, which means that over several centuries, 20,000 trees were removed from the surrounding forest."

The palisaded Mississippian site of Cahokia, with an estimated 15–25,000 inhabitants, would have consumed enormous quantities of wood in order to meet its defensive, dwelling construction, food, and fuel needs. The intense harvesting of local forests to meet the heavy demands of this city led to deforestation. The loss of forest cover resulted in soil erosion which may have contributed to Cahokia's eventual demise (Lopinot and Woods 1993; Woods 2004). According to Woods (2004: 259),

> major changes in the local hydraulic situation would have been brought about by overexploitation of wood resources in bottom land, slope, and bluff-top settings. More rapid runoff would have…produced major flooding after each heavy summer rain. The results of such summer flooding would have been catastrophic for bottom land maize fields.

Classic Maya: Environmental Degradation and Warfare

In his work on the ancient Maya, Webster documents the role of demographic expansion on environmental degradation, predominantly arising from deforestation and accompanying soil erosion. According to Webster (2002: 330), "[t]he Late

[64] Additional harvesting of trees was conducted to meet dwelling construction, food, and fuel needs of Mississippian peoples (Davis 2000).

Classic times took place on landscapes that were no longer "natural" in any sense of the word, because they had already been "humanized" (which usually means degraded) by generations of heavy use." Moreover, evidence gathered from lake sediments "reveals abundant chemical and sediment signatures of environmental degradation" (Webster 2002: 256).

Additionally, analysis of skeletal remains indicates that Maya life expectancy was short, mortality high, and illness rampant as a result of dietary deficiencies. Given the deterioration of the region's ecology, it should come as no surprise that inter-city and dynastic warfare was exacerbated during the Late Classic (Webster 2002).[65]

Deerskin Trade and Warfare

In order to acquire Western trade goods, Southeast Indians participated in the "Deerskin Trade" (Davis 2000; Drake 2001). According to Drake (2001: 30), "[t]he basic commodities supplied to the Indians through the fur trade were guns, powder, and traps." As a result of their nearly century-long participation in this exchange, the Cherokee and related groups acquired a wealth of imported goods from the British. With the founding of Charleston in 1760, the Cherokee secured a steady supply of guns (Davis 2000; Drake 2001).

Davis (2000: 63) reports that "[t]he Cherokee eventually became fascinated by manufactured goods,…Hunting for deer and trapping for beaver soon became a preoccupation for Cherokee men, who initially believed that European guns would give them an advantage over neighboring tribes." For the Amerindians of this period, obtaining firearms was of critical importance because by the mid-eighteenth century, virtually all Southeastern and Northeastern tribes were using guns in warfare (Davis 2000; Drake 2001).

The sizeable ecological impact of the deerskin trade is made apparent by documentary record. Accordingly, period records indicated that an average of 54,000 deerskins per year were shipped from Charleston to Europe from 1699 to 1715. In 1707 alone, over 121,000 deerskins were traded to the British (Drake 2001). According to Davis (2000: 66), in 1751, an estimated "100,000 pounds of deerskins were obtained by no fewer than 2000 Cherokee hunters." During the height of the deerskin trade (1739–1761), the Cherokee slaughtered more than 500,000 deer (Davis 2000).[66] According to an exhibit located in the Museum of the Cherokee Indian at Cherokee, North Carolina (2010), "[a]s the deer population became

[65] A formidable body of scholarship has been assembled to document indigenous environmental impacts in the Maya region (Abrams and Rue 1988; Beach et al. 2006; Demarest et al. 2004; Earle 1997; Emery et al. 2000; Foias and Bishop 1997; Hodell et al. 1995; Santley et al. 1986; Sabloff 1990; Sharer 1994; Shaw 2003; Wright and White 1987).

[66] Other tribes involved in this trade included the Creeks who exchanged furs at New Orleans and the Shawnee who traded skins with the Ohio Valley Company (Davis 2000).

depleted, the Cherokees, and other Southeastern Indians were forced to go further to hunt. These hunting parties began to compete for the deer and violence was often the result."[67]

Keystone Predators, Amerindian Warfare, and Buffer Zones

Kay (1998, 2007) and Terborgh (1992) contend that keystone (top) predators shape entire ecosystems by their ability to influence the abundance and distribution of various species. Kay (1998, 2007) notes that through wild game harvesting practices, native peoples functioned as keystone predators in the Americas.[68] As such, the significant impacts that Amerindians had on wildlife abundance and distribution are reflected in Lewis and Clark's 1804 through 1806 observations in the region of the Louisiana Purchase. Kay notes that the explorers' observations exhibit an inverse relationship between wild game and native people. In short, wildlife was largely abundant only in buffer zones located between warring tribes where Amerindians were largely absent (Kay 2007).[69]

Miwok: Burning for Subsistence and Military Needs

In the 1850s, Westerners entered California's Yosemite Valley for the first time, and noted that the region was inhabited by Amerindians who regularly burned and hunted the area. Yosemite Valley's seemingly pristine landscape, featuring large open meadows, oak groves, and mixed conifer forests, was not the product of nature, but rather the result of Amerindian disturbance via the judicious use of fire. California Indians regularly set fires in order to remove senescent vegetation and unwanted plant species so as to make way for specific types of vegetation that produced edible fruits, seeds, and nuts. Additionally, underbrush was deliberately burned to enhance feed for various forms of wildlife that were hunted by native peoples, thereby enhancing the pyrodiversity of the region (Anderson 2005; Lightfoot and Parrish 2009).[70] As such it was the repeated "…burning, pruning, and

[67] Hudson notes that by the late eighteenth century, deer were scarce in parts of the Southeast (1981).

[68] Likewise, Hames (2000) points out that native peoples have been part of the environment for thousands of years in their role as keystone predators. As such, they are as much of an integral part of the ecosystem "as the endangered jaguar and puma" (Hames 2000: 226).

[69] Ferguson (1990: 34) also notes that "[h]ostilities can create buffer zones where natural resources may be replenished, free from human exploitation."

[70] Likewise, Tanzania's plains that are so famous for harboring large numbers of East African wildlife are, in fact, the product of regular burning by local Maasai peoples (Igoe 2004).

foraging by Miwok Indians that helped shape the mosaic habitat of Yosemite, the crown jewel of American wilderness preservationists" (Smith and Wishnie 2000: 499).

While the aboriginal inhabitants of the Yosemite Valley set fires with the aim of assuring habitat enhancement, they also burned vegetation for *defensive* purposes as documented in a letter (dated 1894) written by Galen Clark (who had lived among the Southern Sierra Miwok):

> My first visit to Yosemite was in the summer of 1855. At that time there was no undergrowth of young trees to obstruct clear open views in any part of the Valley from one side of the Merced River across to the base of the opposite wall…The Valley had then been exclusively under the care and management of the Indians, probably for many centuries. Their policy of management for their own protection and self-interests,…was to annually set fires and let them spread over the whole valley to kill young trees just sprouted and keep forest groves open and clear of all underbrush, *so as to have no obscure thickets for a hiding place, or an ambush for any invading hostile foe,* and to have clear grounds for hunting and gathering acorns (Clark, cf., Anderson 2005:157, italics added).[71]

Therefore, the pristine appearance of the Yosemite Valley was in effect the result of many years of Amerindian fire management. The area was not, therefore, an untouched wilderness when Euro-Americans first set foot in the region, but, rather, it was a heavily modified cultural landscape transformed to meet the economic and *defensive* needs of Native Californians.[72] Yosemite Valley thereby illustrates the important nexus linking native warfare with environmental impacts.[73]

Waorani Wayomo Gardens

Traditionally, the Waorani of the Ecuadorian Amazon maintained two to three households, along with associated gardens that were located up to 1 day's walk from one another. Additionally, the Waorani cultivated a network of "hidden gardens" (called *wayomo*) reserved for use in times of war. For example, after engaging the enemy, members of the raiding party would seek refuge in these remotely located plots where they erected temporary shelters. Warriors would not leave these refuges until they are certain that retaliation was no longer a threat. According to Beckerman and Yost (2007:174), the exact location of *wayomo* gardens "was kept secret from all but the closest relatives, and the gardens were planted well away from anyone else's hunting grounds and in a direction opposite of enemy groups."[74]

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[71] The Mono Lake Paiutes were known to raid the Miwok (Kroeber 1921; Merriam 1917).

[72] Although forcibly removed in 1851 by the Californian volunteer Mariposa Battalion, some Miwok later returned to Yosemite Valley and remained there as late as 1898 (Kroeber 1921; Merriam 1917).

[73] See Robarchek (1990) for an association between warfare and environmental degradation among pre-contact Puebloans.

[74] See Chap. 13 for a similar association between Amazonian warfare and secretive foraging (i.e., Achuar hunting camp) distributions.

In sum, the archaeological record indicates that warring Mississippian peoples deforested their environs and also that Mayan environmental degradation and warfare intensified during the Late Classic. Colonial era documents report how Southeastern tribes overhunted local deer populations in order to trade deerskins for firearms for use in battle against other tribes. Lewis and Clark's journal illustrates how indigenous warfare resulted in the creation of buffer zones that served as wildlife refugia. Ethnohistorical data also show how the Miwok of Yosemite regularly burned underbrush in the Valley to make way for desirable plant species and to reduce the possibility of being ambushed by tribal enemies. Lastly, the enthographic record demonstrates the salient role that Amazonian armed conflict plays in the distribution of *wayomo* (hidden) gardens among the Waorani.

The examples cited in the foregoing narrative serve to underscore the need for anthropologists and other social scientists to assess carefully the relationship between native warfare and the management or modification of the environment. Thus, the documentation of pre- and post-contact warfare patterns holds the potential to shed new light on native resource utilization. This information may, in turn, assist wildlife biologists, historical ecologists, and environmental planners with designing ecologically sound game and land management programs. Conversely, the refusal to acknowledge the nexus of Amerindian warfare and environmental impacts may hamper efforts at generating effective wildlife and habitat management protocols. The next section addresses how and why the failure to report ecological and warfare data fully is detrimental to native peoples.

Why Suppression of Ecological and Warfare Data Hurts Amerindians

Obfuscation of Data Is Tantamount to Lying to Native Peoples

Anthropologists and other social scientists are ethically obliged to produce ethnographies and site reports that fully and truthfully represent the facts under consideration in a manner that is respectful of native peoples. As Johnson states, "we have an obligation to the people we study to provide them with accurate information about what our research has uncovered" (John Johnson, personal communication to Chacon, 2008). Kirch adds that "it would be unethical to suppress the publication of data on native warfare and environmental degradation caused by indigenous peoples. As scientists, we have an obligation to report our findings in a way that is honest, and yet, also sensitive to descendent populations" (Patrick Kirch, personal communication to Chacon, 2010). Along these lines, Earl contends that "anthropologists should endeavor to form partnerships with native scholars. However, if these collaborative efforts are to be effective, they must permit the unfettered access of information to and from all parties" (Timothy Earle, personal communication

to Chacon, 2010).[75] As such, the editors maintain that the withholding of ecological and warfare data is unethical because the concealment of information is misleading to native peoples (see also Chaps. 2, 4, and 16).

Suppression of Data Negates Amerindian Agency

The failure on the part of anthropologists and other social scientists to document pre- and post-contact Amerindian environmental impacts and/or the refusal to acknowledge their formidable military capabilities is to deny the abilities and accomplishments of indigenous peoples (see Chaps. 9, 10, and 16). Earle endorses this position with the following statement: "The assertion that native peoples lacked the capability of overharvesting natural resources and to engage in lethal conflict is akin to saying that Amerindians were not strong enough to modify their local environments and that they were indifferent towards defending their homelands" (Timothy Earle, personal communication to Chacon, 2010). Thus, the denial and/or suppression of ecological and warfare data denies the agency of Amerindians.

Suppression of Data Is Detrimental to Authentic Amerindian Self-Esteem

The myth of the "ecological Indian" has become an important component in the self-image of many Native Americans. Haley contends that "there can be no doubt that many Amerindians have embraced environmentalism as forming part of their identity.[76] This can be a productive and powerful force in people's lives, and anthropologists have to understand this" (Brian Haley, personal communication to Chacon, 2010).[77] However, the findings put forth in this volume clearly indicate that an "eco-pacifist Amerindian" stereotype can be harmful to native peoples. Along these lines, Scheffel makes the following observation:

> When young native people wish to reconnect with their tribal heritage, they are offered distorted revisionist idyllic representations of the past in the hope that this will bolster their self-esteem. I doubt, however, that the promotion of an Edenic pre-contact world will be helpful to young Amerindians because they will eventually realize that no native human

[75] Indeed, Native American scholars Roger Echo-Hawk (2000) and David Wildcat (2009) call for the creation of honest and respectful collaborations between scientists and indigenous communities.

[76] Bodley's writings reinforce this notion. In an attempt to create a general definition for indigenous people that can be applied globally, he characterizes native peoples as being "united in their opposition to technologies and development projects that they consider destructive and unnecessary" (Bodley 1999:147). In fact, modern-day Amerindian leaders often disagree with regard to what constitutes acceptable types of development (Krech 2005; Niezen 2009).

[77] For further discussion of Native American identity and environmentalism, see Krech (2005).

> being that they have ever encountered has ever lived up to this romanticized revisionist ideal. I argue that the promotion of an "all-wise, all-knowing and perpetually peaceful past" may actually hurt young Amerindians in the long run, particularly when they comprehend that they cannot live up to that unrealistic ideal; no human being could for that matter. Healthy self-esteem is predicated on personal accomplishments; it should not be based on claims to a utopic past (David Scheffel, personal communication to Chacon, 2010).[78]

Ultimately, the suppression of findings pertaining to Amerindian-induced environmental impacts and warfare data is detrimental to the cultivation of authentic forms of native self-identity and esteem, not to mention traditional cultural values.[79]

Suppression of Data Robs Amerindians of Valuable Information

Contemporary indigenous peoples may learn valuable lessons from ancestral traditions that exemplify the wise use of natural resources, as well as from episodes of environmental mismanagement (Chap. 6). Emery notes that "the reporting of pre-contact environmental degradation such as regional deforestation [as documented by Webster (2002)] may help prevent modern day native groups (such as the contemporary Maya) from repeating this behavior. Thus, the availability of this type of information may promote Amerindian wellbeing" (Kitty Emery, personal communication to Chacon, 2009).[80] According to Santos-Granero,

> if contemporary indigenous peoples become aware that other Amerindians or even their own ancestors were at some time involved in situations that led them to deplete their environments, they might be more conscious of the need to adhere to the conservation principles that they already possess and use their resources in a more sustainable way. This is particularly important today when many native groups have seen important portions of their lands occupied by colonists or given away to oil and mining companies and are experiencing serious demographic pressures on whatever amount of land they have been able to retain. In such circumstances, the temptation to overexploit the environment is great and may lead to the depletion of Amerindian lands (Fernando Santos-Granero, personal communication to Chacon 2009).[81]

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[78] According to Santos-Granero, "the denial of Amerindian-induced environmental degradation may cause harm insofar as it may reinforce the essentialist conviction that native peoples are sage and benevolent 'guardians of the forest' regardless of the historical situation in which they are immersed" (Fernando Santos-Granero, personal communication to Chacon 2009).

[79] According to Oakes, "laudable efforts towards the preservation of indigenous cultures and values should not be confused with the search for truth" (Gregory Oakes, personal communication to Chacon 2009).

[80] According to Gowdy (2006: 349), "[w]e can learn much from an examination of what worked and did not work in past societies in achievement of longrun sustainability."

[81] This is significant as Western governments often favor indigenous leaders who are willing to allow the extraction of natural resources from tribal lands regardless of environmental consequences (Ranco 2007).

We believe, therefore, that it is unethical to suppress data on pre- and post-contact environmental mismanagement simply because some activists and scholars may find this information disturbing. The obfuscation of ecological data similarly denies Amerindians, and other affected parties, of information deemed critical to the development of sustainable natural resource utilization protocols. Sustainability is of critical importance, particularly as traditional Amerindians often believe that wildlife is an infinitely renewable resource. As such, many native peoples hold that hunting activity does not affect the population levels of locally available wild game, only its accessibility (Chaps. 6 and 13; Brightman 1983, 1993; Fienup-Riordan 1990). Nowhere is the need for transparency in reporting the pertinent data more urgent than among Amerindian groups experiencing the anchoring effect, as reported in the next section.

Suppression of Data Hampers Efforts at Dealing with the "Anchoring Effect"

Anthropologists bear an ethical obligation to native peoples with whom they work to notify them about some of the long-term consequences of their non-sustainable natural resource practices.[82] This is especially critical due to the "anchoring effect" that many indigenous peoples presently experience (Ferguson 1992: 205). This effect refers to how it is that native peoples are prone to settle near government base stations, missionary establishments, and trading outposts in order to acquire sustained access to trade goods and medical care.[83] For example, in order to secure a steady supply of manufactured goods and services, the Bakairí of Amazonia have remained in the same area since 1930. Their presence as such has exacted a heavy toll on locally available natural resources. Overexploitation of the important *burutí* palm, for instance, has significantly diminished its availability. The *burutí* palm is essential to the Bakairí, not only because it is employed in the construction of roofs for traditional houses, but also because it is used in the fabrication of native masks used in rituals (Picchi 2006). Shortages of essential natural resources such as that of the *burutí* palm continue to have a deleterious impact on the Amerindian quality of life in the region.

[82] Gross and Plattner (2002: 4) state that "anthropological researchers have an obligation to return something of value to communities where research is done."

[83] Some indigenous groups appear to have "a single-minded collective attention to trade goods as a massive obsession" as the result of a series of historical processes that have caused Indians to become economically dependent on outsiders (Fisher 2000: 2). For example, among the Xikrin Kayapó, the passion for trade goods spurred tribal leaders to encourage outsiders to set up mining and logging operations on Indian lands (Fisher 2000). See Hugh-Jones (1992) for documentation of how the material wants of Amazonian peoples may significantly change once they come into contact with the Western world.

We contend that to suppress the fact that Amerindian peoples are fully capable of impacting local environments will be of little benefit to groups (such as the Bakairí) that face serious environmental challenges (Picchi 2006).[84] We believe that those who promote the notion of ecological indigeneity do so at the peril of the Amerindian way of life.

Suppression/Denial of Amerindian Fighting Abilities Undermines Native Sovereignty

The following example illustrates how the downplaying and/or negation of a native group's willingness to fight may have tragic consequences.

The Waorani of Ecuador

Otterbein (2000:842) highlights the dangers of promoting essentialist and pacifist characterizations of Amerindian peoples by asserting that "classifying peoples as non-violent could position them to be victimized as easily as calling a people fierce could make them a target of attack." A tragic case in point can be found in how ancestral Waorani Indian territory of the Ecuadorian Amazon was overrun by land-hungry colonists in the 1990s.

As reported by Beckerman and Yost (2007:179), Waorani "raiding served to maintain an exclusive territory by keeping other tribal and nontribal peoples off their land. In 1958, such was the reputation of the 500-odd Waorani that they were the only human inhabitants of an area the size of Massachusetts." However, when outsiders became convinced that the Waorani were no longer warlike, non-Waorani moved into the region in unprecedented numbers, which set off a series of events that proved harmful to the tribe. According to Robarchek and Robarchek (1998), convinced that the Waorani were no longer warlike, outsiders aggressively encroached on native land and resources. In this instance, non-Waorani were emboldened by the fact that they no longer feared the likelihood of Waorani retaliation for unauthorized intrusion and usurpation of tribal territories.

The Waorani case exemplifies the fact that the well-intentioned, but woefully misguided penchant for characterizing Amerindians as docile or pacifists holds the potential to inflict harm on native peoples, because such characterizations leave indigenous populations vulnerable to trespass and violation by outsiders.

[84] Another example of the serious environmental challenges native peoples face can be found among Waimiri Atroari of Brazil whose population is growing by 7% per year. This trend will result in an increased need for substantially more food resources in the near future (Souza-Mazurek et al. 2000). See also Werner (1983).

Suppression of Amerindian Warfare Data Hampers Health Programs and Development Projects

It is unreasonable to assume that solidarity and cooperation between Amerindian tribes will always accrue between groups factionalized by long histories of warfare and violence (see Chap. 15).[85] It is also similarly unreasonable to assume that past grievances have been swept aside simply because the indigenous tribes/factions in question have entered into sustained contact with Westerners. The fact that indigenous peoples experience(d) conflict should be taken into consideration when implementing programs designed to assist Amerindian communities. Over the course of a decade of fieldwork in South America, Chacon observed that a host of Amazonian healthcare programs were seriously compromised as both benefactors and directors alike did not take pre- and post-contact tribal conflicts into consideration.[86] According to Walden, "health care and development project organizers would do well to be mindful of the historic inter- and intra-tribal animosities that influence present day Amerindian interactions" (John Walden, personal communication to Chacon, 2011).[87] Thus, we contend that efforts to minimize or suppress the realities of native warfare and violence may hamper the success of healthcare and development projects intended to benefit Amerindian populations.

Why Suppression of Amerindian Ecological and Warfare Data Is Detrimental to Anthropology

Ethical Obligations to the Discipline

The failure to report indigenous practices that foment environmental degradation and native warfare is patently unethical. As scholars, we advocate a renewed commitment to strive for accuracy and transparency in our writings (Chaps. 8 and 18). Echo-Hawk (2000: 288) contends that "scholars have a responsibility to go where the evidence goes, and we should resist any impulse to tell only inoffensive, esteem

[85] According to Fienup-Riordan, the failure on the part of Westerners to understand the role that Amerindian warfare played in the forging of native alliances will hamper efforts at understanding the political situation of many contemporary tribes. The characterization of indigenous peoples as pacifists can "cloud our understanding of the less-than-peaceful present" (1990:166).

[86] Cited from Chacon, unpublished field notes.

[87] Along these lines, Lovisek notes that "the history of violence is a part of the history of native peoples, as it is for others. An understanding of this aspect of their history is essential for understanding their contemporary relationships with other groups, the origin of many of their ceremonies, the geographic extent of their territories, their genealogies, and their contact with Europeans" (Joan Lovisek, personal communication to Chacon, 2011).

building stories to either colleagues or constituencies." Furthermore, Hitchcock argues that "we anthropologists have a responsibility to our discipline of reporting the facts as we encounter them" (Robert Hitchcock, personal communication to Chacon, 2010). Bishop adds that any "deliberate suppression of data on Amerindian induced environmental degradation and indigenous warfare would be unethical, as it will foster an erroneous understanding of Native American ways of life" (Charles A. Bishop, personal communication to Chacon, 2010).[88]

Moreover, McGhee argues against the creation of an "indigenous archaeology" that would seek to "appease indigenous opposition by incorporating non-Western values and perspectives as sources and methods of investigation, or by explicitly aligning their efforts with the historical interests of specific communities or groups… such efforts are not only theoretically unsound, but are detrimental to both archaeology and to Indigenous communities" (McGhee 2008: 581).[89]

Our support of McGhee's perspective should not be construed as an endorsement of the idea that Western scientists have nothing to learn from Amerindian community scholars. In fact, we urge colleagues to consult respectfully with native peoples at all levels of analysis pertinent to native concerns. We also urge fellow social scientists to remain open to embracing considerations of indigenous perspectives and traditional forms of knowledge when undertaking research. However, we are in accord with Berks (1999:109) who cautions us to remain vigilant to the fact that "traditional knowledge is complimentary to Western scientific knowledge, not a replacement."

Suppression of Amerindian Ecological and Warfare Data Hampers Theory Building

For scholars concerned with the development of social complexity, unfettered access to reliable data on indigenous warfare, natural resource utilization, and population pressure is necessary for the elaboration and consideration of theories bearing on the theme of societal evolution (Carneiro 1990; Chacon 2007; Earle 1991, 1997; Emanuelson and Willer 2010; Goldman 1955, 1960; Kirch 2010; Mendoza 1992, 2001, 2003, 2010, nd; Redmond 1998; Spencer 2007; Trigger 1993, 2003; Trimborn 1949; Willer et al. 2009).[90] Moreover, according to Carneiro (nd), "…warfare is the mechanism *par excellence* by which local communities were overthrown and replaced by a higher level of political organization and integration" (emphasis original; see also Chap. 14). Earle maintains that "as scholars we seek to create

[88] Gregor and Plattner state that "the primary responsibility of a researcher is to do excellent research. Doing incompetent research is a favor to no one" (2002:4).

[89] Trigger (1997:x) urges anthropologists to practice responsible scholarship lest the discipline "descend into mythography, political opportunism, and bad science."

[90] Social evolutionism has been denounced for allegedly being a myth created by Western scholars to justify colonialism (Sioui 1992). However, Trigger (1993) points out that all modern civilizations arose from Paleolithic hunter–gatherer societies.

models and theories that are credible, that are robust, and that reflect reality. In order to achieve this end, we need access to all available data on social conflict and natural resource utilization" (Timothy Earle, personal communication to Chacon, 2010).

Vickers adds that "anthropological theory is often based on ethnographies. However, if the ethnographies being produced are inaccurate, then our anthropological theories will be misguided…One cannot create sound theory or policy with unsound data" (William Vickers, personal communication to Chacon, 2010). Accordingly, University of South Carolina sociologist David Willer warns that "if data on indigenous warfare and overharvesting of natural resources is concealed, theory building will be threatened. If this trend toward suppressing information continues, the only theories we will have will be those based on fantasies" (David Willer, personal communication to Chacon, 2010).

Thus, researchers require unimpeded access to available data on Amerindian natural resource utilization, warfare, and violence in order to construct robust and theoretically coherent models based on cross-cultural analysis and studied consideration. Otherwise, we fear that where evidence bearing on Amerindian-induced environmental impacts and native warfare is expunged from the anthropological record, anthropologists and other social scientists will be hampered in their abilities to properly advance and test theories regarding a host of sociocultural variables, not the least of which concerns the evolution of social complexity in the American hemisphere.[91]

Suppression of Data Hurts Anthropology's Public and Academic Credibility

Let us say, for the sake of argument, that anthropologists collectively agree to report only on the politically expedient dimensions of a given Amerindian group. For the purposes of discussion, our example is that of the hypothetical native group identified as "Tribe X." What will happen when Tribe X fails to utilize natural resources in a fashion commensurate with idealized Western expectations? Additionally, what will happen when Tribe X resorts to violence against a neighboring tribe?

When the existence of native environmental mismanagement and armed conflict comes to light, it is likely that Tribe X will be denounced for acting in ways not perceived in concert with Western notions of how Amerindians should behave. Additionally, the scholars involved in promoting misinformation about Tribe X will be denounced by fellow scholars, and ultimately by the general public, for complicity in the misrepresentation of the lifeways of indigenous peoples. Given the global

[91] See Robarchek (1990) for an association between warfare, environmental degradation, and tribalization among pre-contact Puebloans.

reach of the Information Age, and open public access to reports once deemed restricted to the academy, the suppression of data on native warfare and environmental degradation holds dire consequences for Amerindians.[92]

Conklin advocates the development of an engaged anthropology that empowers marginalized peoples, but at the same time condemns the tailoring of research findings so as "to produce the images that certain activists or advocacy groups want" (2003:5).[93] The editors are in accord with Conklin's assessment that the promotion of an idealized depiction of Amerindian society, however well intentioned, will ultimately backfire when the distorted claims of some scholars and/or community advocates are exposed as fraudulent, or, as she aptly asserts, "when the gap between rhetoric and realty is revealed" (Conklin 2003:5). Conklin's concerns are well founded, as research shows how Amerindians are vehemently criticized and even threatened with bodily harm for failing to live up to the stereotype of ecological indigeneity (Dennis 1999; Editor 1999; Moss 1999; Tizon 1999; Walker 1999).

Further insight into the ramifications stemming from concealing or denying the existence of pre- and postcontact Amerindian-induced environmental degradation, warfare, and violence is offered by Kuper (2003:400), who contends that

> Even if we could accurately weigh up the medium and long-term costs and benefit of saying this or that, our business should be to deliver accurate accounts of social processes. If anthropology becomes,…the academic wing of the indigenous rights movement, if we only report what is convenient and refrain from analyzing intellectual confusions, then our ethnographies will become worthless except as propaganda. Even as propaganda they will have a rapidly diminishing value, since the integrity of ethnographic studies will be increasingly questioned by the informed public.[94]

Suppression of Data Undermines Anthropology's Legal Standing

The obfuscation of indigenous ecological and warfare data should not occur because, as previously documented, anthropologists (such as Burch) have used such information to support native land claims successfully. Moreover, Vickers warns that "if the courts and/or the general public become convinced that anthropologists are being disingenuous with the ethnographic and archaeological records, the credibility of

[92] According to Bishop, "any attempt on the part of anthropologists or other scholars to conceal data will eventually be exposed and the works of those who obfuscated the evidence will be viewed negatively" (Charles A. Bishop, personal communication to Chacon, 2010).

[93] Lancaster and Hames (2011) also warn against the abandonment of evidence-based anthropological research.

[94] Along these lines, Lovisek argues that "all anthropological theory is (or should be) subject to falsification by empirical evidence. Failure to consider significant aspects of culture (such as warfare and violence) would ultimately lead to a partial and distorted view of native societies. The failure to consider and publish Amerindian warfare would ultimately contribute to impeachable theories and discredit the anthropological enterprise" (Joan Lovisek, personal communication to Chacon, 2011).

the discipline will be undermined. This will seriously hamper an anthropologist's ability to be called upon to testify in court as an objective 'expert witness' in cases dealing with indigenous land claims" (William Vickers, personal communication to Chacon, 2010).

It would appear that Vickers' concerns are well founded, as the following case dramatically illustrates: Chief Justice McEachern of the British Columbia Supreme Court presided over the important *Delgamuukw v. British Columbia* land claims case. The judge was suspicious of the objectivity of a testifying anthropologist as he considered that particular academic to be "more an advocate than a witness" (Cuhlane 1992: 71–72). As a result of this reasoning, the judge excluded that anthropologist's testimony from the case (McGhee 2008).

Suppression of Data, Publicly Funded Museums, and Public Interest

Anthropology museums at the local, state, and federal level exist not only to curate and interpret artifacts, but these taxpayer-supported institutions are also charged with educating the general public. In preparation for editing this volume, the editors jointly and individually undertook site visits to a host of publicly funded archaeological and ethnographic museums throughout the United States. Our survey revealed that the majority of museum exhibits claimed that native peoples existed in a state of ecological balance and social harmony until the arrival of Westerners. Cases of pre-contact Amerindian-induced environmental degradation, warfare, violence, and societal inequality are rarely, if ever, reported in such venues.

The United States is not alone in perpetuating the myth of the eco-pacifist Amerindian. According to Scheffel, "major museums in Canada are under pressure to design exhibits featuring First Nation peoples in a way that fosters indigenous self esteem. This expectation has had widespread effect. For example, it has become rare to encounter any references to pre-contact aboriginal warfare, environmental degradation, or social inequality" (David Scheffel, personal communication to Chacon, 2010).[95]

Contributors to this volume have presented the body of evidence necessary to argue that native peoples had (and continue to have) a significant impact on local and regional ecologies throughout the American hemisphere. The contributors have also demonstrated that warfare and violence were (are) present among many indigenous peoples. We contend, therefore, that the failure on the part of public museums to document these particular aspects of the Amerindian experience necessarily constitute a disservice to the general public (see Chap. 4).

[95] According to Trigger, for Maya, Aztec, and Inka peoples, the existence of social inequality would have been accepted as a normal/natural condition: "Every child would have been born into a family that had been shaped in the image of the state" (Trigger 1993:53).

Suppression of Data and Obligations to Funding Agencies

Much anthropological and other social science research is sponsored by various government and private funding agencies that allocate resources with the understanding that investigators will report and disseminate their research findings via scholarly publications. Implicit in such agreements is the understanding that academics will conduct thorough investigations accompanied by reports based on sound research and peer-reviewed findings. According to Hitchcock,

> we anthropologists have a responsibility to provide funding agencies with information on what is encountered in the real world. Therefore, we should proceed to publish data on native warfare and data indicating environmental degradation caused by indigenous peoples. However, it is imperative that scholars report this data in ways that are responsible because our research findings may be misused by groups that are hostile to native peoples (Robert Hitchcock, personal communication to Chacon, 2010).[96]

Concluding Remarks

It appears that some modern-day scholars and activists employ a romanticized Amerindian way of life as a foil to the many criticisms of the Western world. It also seems that some academics and advocates consider Amerindian cultures as the epitome of a utopian vision to be emulated by all. Indigenous peoples are, therefore, said to possess those moral qualities and sensibilities that Westerners construe as noble, while those behaviors deemed unpalatable are eradicated from the essentialized portrait of the Amerindian community. Such perspectives, we believe, are blatantly paternalistic and destructive, not to mention condescending and instrumental to the dehumanization of the native peoples in the American hemisphere (see also Chap. 4).[97]

As previously noted, Chacon has conducted fieldwork among several Amerindian groups, while Mendoza has devoted himself to the documentation of the contributions of his Amerindian and Hispanic forbearers. These experiences and explorations have left the editors with a deep and abiding respect for the indigenous peoples of the Americas. Chacon and Mendoza have been enriched by their respective interactions with Amerindians. In short, the editors acknowledge that native peoples have

[96] Hames echoes this sentiment by adding the following: "We anthropologists have an ethical obligation to report our findings to the agency funding our research in an honest and forthright manner" (Raymond Hames, personal communication to Chacon, 2010).

[97] Along these lines, Keely states the following: "Today, popular opinion finds it difficult to attribute to tribal peoples a capacity for rapaciousness, cruelty, ecological heedlessness, and Machiavellian guile equal to our own…Both laypersons and academics now prefer a vision of tribal peoples as lambs in Eden, sprouting ecological mysticism and disdain for the material conditions of life…When we attribute to primitive and prehistoric people only our virtues and none of our vice, we dehumanize them as much as ourselves" (Keely 1996:170).

taught them much about what it means to be human. Chacon and Mendoza, however, cannot in good conscience remain silent as the eco-pacifist agenda continues to misrepresent Amerindian lifeways to the detriment of native communities. Chacon's concern with the issues addressed in this volume stem from having witnessed indigenous warfare and ritual violence firsthand (Chacon 2007; Chacon et al. 2007), and from having documented Amerindian-induced environmental degradation in Amazonia (Chacon 2001, 2005, 2009, see also Chap. 13). Mendoza, by contrast, has long been concerned with how his Amerindian (i.e.,Yaqui Indian) ancestry has been portrayed by both scholars and the media more generally. As such, much of Mendoza's scholarship has been an attempt to more fully comprehend a holistic and authentic portrayal of his indigenous roots. Having traveled the length and breadth of Mesoamerica, in addition to having conducted archaeological research on Amerindian sites throughout Meso- and North America, Mendoza has long advocated a deep reverence for indigenous peoples and their contributions. Nevertheless, Mendoza is averse to what he believes to constitute politically expedient eco-harmonious and pacifist caricatures of his Amerindian ancestors. This stance is reflected in a host of investigations spanning the period from 1975 to the present (e.g., Mendoza 1975, 1992, 2001, 2003, 2010, nd.; see Chaps. 9 and 16).

In sum, the editors believe that even the most cursory review of the archaeological, osteological, ethnohistorical, and ethnographic record reveals that Amerindians were (are) not only fully capable of treating fellow human beings with tremendous kindness, but that they can also exercise great wisdom when making decisions regarding the environment. However, as made clear in the contributions published herein, Amerindians were (are) also capable of inflicting great bodily harm on fellow human beings in addition to exercising poor judgment when managing natural resources. We contend, therefore, that the denial of the existence of pre- and post-contact conflict and/or environmental mismanagement divests native peoples of agency in determining their own destinies. Moreover, this negation dehumanizes Amerindians because it precludes them from experiencing the full array of human emotions (ranging from love to hate) in addition to denying indigenous peoples the full complement of decision-making abilities (ranging from making wise to unwise choices).

The willingness on the part of anthropologists and other social scientists to document indigenous environmental mismanagement may help bring about solutions to native peoples' natural resource utilization problems, particularly those caused and aggravated by the aforementioned "anchoring effect." Additionally, the decision to contextualize Amerindian warfare and violence accurately may prevent the promulgation of sensationalistic non-contextualized reports of native conflicts which could, in turn, be used against indigenous peoples if left unchallenged.[98] Furthermore, given that indigenous rights cannot and should not be contingent on whether or not Amerindians harvest natural resources or resolve conflicts in accordance with idealized

[98] According to Dodds-Pennock, "revisionists who deny the existence of pre-contact Amerindian ritual violence are essentially buying into the colonial perspective which depicted it as a horrific an unexplainable savage practice" (Caroline Dodds-Pennock, personal communication to Chacon, 2010).

Western expectations, scholars should not permit themselves to be pressured into concealing data bearing on the indigenous role in environmental degradation, warfare, and social violence.[99]

Moreover, we remain committed to the belief that in studying war and social conflict, we ready ourselves for the promotion of decisive ways for assuring peace. According to Johnson, "as anthropologists, we seek to not only understand and learn from Amerindian cultures but ultimately, through well-documented case studies, we can arrive at a greater understanding of human conflict and its underlying causes" (John Johnson, personal communication to Chacon, 2008). Likewise, Schaafsma points out that "anthropological research on Amerindian warfare may provide insight into the very nature of armed conflict and thus equipped with this greater understanding we might be more effective at preventing future wars" (Polly Schaafsma, personal communication to Chacon 2009).

Additionally, Bishop holds that "by studying native warfare, we can distinguish more clearly the causes and conditions that give rise to armed conflict in all societies including our own and by doing so we thereby have the potential to prevent future wars" (Charles A. Bishop, personal communication to Chacon, 2007). Therefore, we believe that the obfuscation or suppression of data bearing on the topic of Amerindian warfare constitutes an affront to the goals of an informed anthropology, because such forms of censorship only deprive conflict resolution specialists and peace activists of that treasure trove of useful insights that can only be garnered from a wholesome understanding of how and why peace fails. As such, the findings brought forth by this volume's contributors provide enlightening as well as cautionary tales for the modern world.

The research findings and reflections advanced in this volume lead us to concur that anthropology "can be abused, but it can also be used humanely and ethically, as well as scientifically" (Ortiz 1972: 87). Thus, the editors believe that the decision on the part of anthropologists and other social scientists to report Amerindian-induced environmental degradation, warfare, and violence fully and decisively in fact constitutes an ethical rejection of the essentialist, paternalistic eco-pacifist caricature which degrades and oppresses the indigenous peoples of the American hemisphere.[100]

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[99] Fienup-Riordan (1990) holds that social scientists should not replace a certain stereotype of Amerindian society for another, but rather she calls for the replacement of false images with one that is supported by evidence.

[100] Milner notes that "if we are going to say something useful about human behavior, we make no contribution by saying that native people are either 'peaceful' or 'warlike' in nature. To do so reduces Amerindians to cardboard cutouts as put forth by Rousseau and Hobbs. Amerindians are as complicated as we are. If we want to learn something about the human condition, we need to move beyond these cardboard cutout images" (George Milner, personal communication to Chacon 2009). Fausto also recently voiced his concern over this issue: "Anthropological theory building is hampered by the 'ecologically noble savage' vs. the 'bloodthirsty savage' dichotomy. This simplistic notion does not do justice to the socio-cultural complexity of Amerindian societies. Furthermore, the upholding of either one of these positions will be of no help to contemporary native peoples" (Carlos Fausto, personal communication to Chacon 2009).

Moreover, research indicates that warfare and violence, along with the mismanagement of natural resources, were (are) some of the most commonly occurring human-induced tribulations across the globe.

Rather than any desire on the part of anthropologists to "channel indigenous peoples into levels of inferiority and weakness," the reporting of native overharvesting and conflict places Amerindians squarely in the human fold.[101] Thus, the present discussion illustrates the merits of reporting of native warfare, violence, and environmental mismanagement. Additionally, the analysis of indigenous conflict and environmental degradation permits us to see how Amerindians react(ed) to the various sociopolitical, economic, and environmental stressors they encountered. It is our profound wish, therefore, that this work will serve to prompt anthropologists and other social scientists to muster the moral courage necessary to confront the divisive "culture of accusation" now pervasive in our discipline.

In closing, we wish to highlight Dreger's warning of the dire consequences to accrue if agenda-driven research comes to serve as a substitute for a fact-based and evidence-driven protocol for social science investigations, and we call upon our colleagues to heed her admonition:

> Forms of "scholarship" that deny evidence, that deny truth, that deny the importance of facts-even if performed in the name of good-are dangerous not only to science and to ethics, but to democracy. And so they are dangerous ultimately to humankind (Dreger 2011).

References

Abrams, Elliot M., and David J. Rue. 1988. The Causes and Consequences of Deforestation Among the Prehistoric Maya. *Human Ecology* 16(4): 377–395.

Adam, S. K. 2009. *Extinction or Survival? The Remarkable Story of the Tigua, An Urban American Indian Tribe.* Boulder: Paradigm.

Alvard, M. 1993. "Testing the 'Ecologically Noble Savage' Hypothesis: Inter-specific Prey Choice by Piro Hunters of Amazonian Peru." Human Ecology vol. 21(4):355–387.

Alvard, M. 1994. "Conservation by Native Peoples: Prey Choice in a Depleted Habitat." Human Nature vol. 5(2):127–154.

Alvard, M. 1995. "Intraspecific Prey Choice by Amazonian Hunters." Current Anthropology vol. 36(5):789–802.

Alvard, M. 1997. "Comments." Current Anthropology vol. 38(4):609–611.

Alvard, M. 1998a. "Indigenous Hunting in the Tropics: Conservation or Optimal Foraging?" In: *Behavioral Ecology and Conservation Biology*. T. Caro (ed.) Pp. 474–500. New York: Oxford University Press.

Alvard, M. 1998b. "Evolutionary Ecology and Resource Conservation." Evolutionay Anthropology vol. 7:62–74.

[101] The editors point to *The Baikirí Indians of Brazil: Politics, Ecology, and Change* by Debra Picchi (2006) as an example of how it is fully possible to report accurately instances of Amerindian-induced environmental degradation and violence without degrading or demeaning native peoples.

Ambrose, Stephen. 1996. *Undaunted Courage: Meriwether Lewis, Thomas Jefferson, and the Opening off the American West.* New York: Simon & Schuster.

Ames, Kenneth and H. Maschner. 1999. *Peoples of the Northwest Coast: Their Archaeology and Prehistory.* London: Thames and Hudson.

Anderson, M. Kat. 2005. *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources.* Berkeley: University of California Press.

Bailey, L. 1966. *Indian Slave Trade in the Southwest.* Los Angeles: Westernlore Press.

Balée, William. 1987. "Cultural Forests of the Amazon." Garden vol. 11:12–14, 32.

Balée, W. 1989. "The Culture of Amazonian Forests." In: *Resource Management inAmazonia: Indigenous and Folk Strategies.* D. Posey and W. Balée (eds.). The Bronx: New York Botanical Gardens. Pp. 1–21. New York: Columbia University Press.

Beach, T., N. Dunning, S. Luzzadder-Beach, Cook, and Lohse. 2006. Impacts of the Ancient Maya on Soils and Soil Erosion in the Central Maya Lowlands. *Catena* 65(2): 166–178.

Beckerman, Stephen and James Yost. 2007. "Upper Amazonian Warfare." In: *North American Indigenous Warfare and Ritual Violence*. R. Chacon and R. Mendoza (eds.). Pp. 142–179. Tucson: University of Arizona Press.

Berks, F. 1999. *Sacred Ecology: Traditional Ecological Knowledge and Resource Management.* Philadelphia: Taylor & Francis.

Biocca, Etorre. 1970. *Yanoáma: The Narrative of a White Girl Kidnapped by Amazonian Indians as Told to Etorre Biocca.* New York: E. P. Dutton & Co.

Bliege Bird, R. and E. Smith 2005. "Signaling Theory, Strategic Interaction and Symbolic Capital." Current Anthropology vol.46:221–248.

Bliege Bird, R., E. Smith and D. Bird. 2001. "The Hunting Handicap: Costly Signaling in Male Foraging Strategies." Behavioral Ecology and Sociobiology vol. 50:9–19.

Bodley, John. 1999. *Victims of Progress.* Fourth Edition. Mountain View, CA: Mayfield.

Borgerhoff, Monique and Peter Coppolillo. 2005. *Conservation: Linking Ecology, Economics and Culture.* Princeton: Princeton University Press.

Borrie, W., R. Firth and J. Spillus. 1957. "The Population of Tikopia, 1929 and 1952." Population Studies vol. 10(3):229–252.

Bourguignon, E., and L. Greenbaum. 1973. *Diversity and Homogeneity.* New Haven: HRAF Books.

Boxberger, Daniel. 1997. "Amerindian Slavery, Pacific Northwest." In: *The Historical Encyclopedia of World Slavery,.*Vol. 1. Junius Rodriguez (ed.). Pp. 36. Santa Barbara: ABC-CLIO, Inc.

Brightman, Robert. 1983. "Animal and Human in Rock Cree Religion and Subsistence." Ph.D. Dissertation. Department of Anthropology, University of Chicago.

Brightman, Robert. 1993. *Grateful Prey: Rock Cree Human-Animal Relationships.* Berkeley: University of California Press.

Brockington, D. 2002. *Fortress Conservation: The Preservation of the Makomazi Game Reserve, Tanzania.* Oxford: James Currey.

Broughton, J. 1994a. "Declines in Mammalian Foraging Efficiency During the Late Holocene, San Francisco Bay, California." Journal of Anthropological Archaeology vol. 13:371–401.

Broughton J. 1994b. "Late Holocene Resource Intensification in the Sacramento Valley, California: The Vertebrate Evidence." Journal of Archaeological Science vol. 21:501–514.

Broughton, J. 1997. "Widening Diet Breadth, Declining Foraging Efficiency and Prehistoric Harvest Pressure: Ichthyofaunal Evidence From Emeryville Shellmound, California." Antiquity vol. 71:845–862.

Buege, Douglass. 1996. "The Ecologically Noble Savage Revisited." Environmental Ethics vol. 18:71–88.

Butler, V. 2010. "Resource Depression on the Northwest Coast of North America." Antiquity vol. 74:649–661.

Campbell, Sarah and Virginia Butler. 2010. "Fishes and Loaves? Explaining Sustainable, Long-Term Animal Harvesting on the Northwest Coast Using the Plant Paradigm." In: *The Archaeology of Anthropogenic Environments.* Pp. 175–203. R. Dean (ed.). Carbondale, IL: Center for Archaeological Investigations, Southern Illinois University.

Caplan, Pat. 2010. “Child Sacrifice in Uganda? The BBC, Witch Doctors and Anthropologists.” Anthropology Today vol. 26(2):4–7.

Carneiro, Robert. 1990. “Chiefdom-level Warfare as Exemplified in Fiji and the Cauca Valley.” In: *The Anthropology of War*. J. Haas (ed.). Pp. 190–211. Cambridge: Cambridge University Press.

Carneiro, Robert. (nd). “The Circumscription Theory: A Clarification, Amplification, and Reformulation.” Unpublished manuscript.

Ceruti, Maria Constanza. 2003. *Llullaillaco: Sacrificios y Ofrendas en un Santuario Inca de Alta Montaña.* Salta: Universidad Catolica.

Chacon, Richard. 2001. *Testing the Energy Maximization and the Time Minimization Hypotheses: The Effects of Shotgun Technology on Achuar Indian Hunting.* Ann Arbor: UMI Dissertation Services.

Chacon, Richard. 2005. “Conservation or Resource Maximization? Hunting Among of the Achuar (Shiwiar) of the Ecuadorian Amazon.” Paper presented at the American Anthropological Association Annual Meeting in Washington DC. November.

Chacon, Richard. 2007. “Seeking The Headhunter’s Power: The Quest for Arutam Among the Achuar Indians of the Ecuadorian Amazon and the Development of Ranked Societies” In: *The Taking and Displaying of Human Body Parts as Trophies by Amerindians*. Richard Chacon and David Dye (eds.). New York: Springer Press. Pp. 523–546.

Chacon, Richard. 2009. “Do Amazonian Blowgun Hunters Forage With Sustainability in Mind?” Paper presented at the American Anthropological Association Annual Meeting in Philadelphia, PA. December.

Chacon, Richard and David Dye. 2007. *The Taking and Displaying of Human Body Parts as Trophies by Amerindians.* New York: Springer Press.

Chacon, Richard and Charles Kay. 2005. “Aboriginal Hunting and the Original State of Nature: Were Amerindian Harvests Sustainable?” Organized session at the American Anthropological Association Annual Meeting in Washington DC. November.

Chacon, Richard and Ruben Mendoza. 2007a. *North American Indigenous Warfare and Ritual Violence. Tucson*: University of Arizona Press.

Chacon, Richard and Ruben Mendoza. 2007b. *Latin American Indigenous Warfare and Ritual Violence.* Tucson: University of Arizona Press.

Chacon, Richard, Yamilette Chacon and Angel Guandinango. 2007. “The Inti Raymi Festival Among the Cotacachi and Otavalo of Highland Ecuador.” In: *Latin American Indigenous Warfare.* R. Chacon and R. Mendoza (eds.) Pp. 116–141. Tucson: University of Arizona Press.

Chacon, Yamilette. 2009. “In Inquiry into Inka Power Structures.” Masters Thesis, Department of Sociology, University of South Carolina, Columbia, SC.

Chagnon, Napoleon. 1997. *The Yanomamö* 5th edition. Fort Worth: Harcourt Brace College Publishers.

Chapin, M. 2000. *Defending Kuna Yala: Pemansky, the Study Project for the Wildlands of Kuna Yala, Panama.* Washington DC: USAID Biodiversity Support Program,

Cobo, Bernabé. 1990. *Inca Religion and Customs.* Austin: University of Texas Press.

Cocco, Luis. 1972. *Iyëwei-teri: Quince Años Entre Los Yanomamos.* Caracas: Libreria Editorial Salesiana.

Coe, Michael and Rex Koontz. 2008. *Mexico: From the Olmecs to the Aztecs.* London: Thames & Hudson.

Conklin, Beth. 2003. “Speaking Truth to Power.” Anthropology News vol. 44(7):3.

Conklin, Beth and Laura Graham. 1995. “The Shifting Middle Ground: Amazonian Indians and Eco-Politics.” American Anthropologist vol. 97(4):695–710.

Cruz, Eduardo. 2010. *The Grand Araucanian Wars (1541–1883) in the Kingdom of Chile.* Santiago: Xlibris.

Cuhlane, Dara. 1992. “Adding Insult to Injury: Her Majesty’s Loyal Anthropologist.” BC Studies vol. 95:66–92.

Darling, J. A. 1998. “Mass Inhumation and the Execution of Witches in the American Southwest.” American Anthropologist vol. 100:732–752.

Davis, Donald. 2000. *Where There Are Mountains: An Environmental History*. Athens: University of Georgia Press.
Davis, Stephen and Brett Riggs. 2004. "An Introduction to the Catawba Project." North Carolina Archaeology vol. 53:1–41.
Demarest, Arthur A., Prudence M. Rice, and Don S. Rice (Eds.). 2004. *The Terminal Classic in the Maya Lowlands: Collapse, Transition, and Transformation*. Boulder: University Press of Colorado.
Dennis, Mathew. 1999. "Makahs and Grey Whales: Not Black and White." The Ecotone: The Journal of Environmental Studies, University of Oregon. (Fall):3–4.
Doggett, Scott. 1999. *Panama.* Hawthorn, Australia: Lonely Planet Publications.
Donald, Leland. 1997. *Aboriginal Slavery on the Northwest Coast of North America.* Berkeley: University of California Press.
Dowie, Mark. 2009. *Conservation Refugees: The Hundred-Year Conflict between Global Conservation and Native Peoples.* Cambridge: MIT Press.
Drake, Richard. 2001. *A History of Appalachia.* Lexington: University Press of Kentucky.
Dreger, Alice. 2011. "Darkness's Descent on the American Anthropological Association: A Cautionary Tale." Human Nature < DOI: 10.1007/s12110-011-9103-y. > Accessed April 22, 2011.
Drimmer, Frederick. 1961. *Captured by the Indians: 15 Firsthand Accounts, 1750–1870.* New York: Dover Publications.
Driver, Harold. 1969. *Indians of North America.* Chicago: Chicago University Press.
Earle, Timothy. 1991. *Chiefdoms: Power, Economy and Ideology.* Cambridge: Cambridge University Press.
Earle, Timothy. 1997. *How Chiefs Come to Power: The Political Economy in Prehistory.* Stanford: Stanford University Press.
Echo-Hawk, Roger. 2000. "Ancient History in the New World: Integrating Oral Traditions and the Archaeological Record." American Antiquity vol. 65(2):267–290.
Edgerton, Robert. 1992. *Sick Societies: Challenging the Myth of Primitive Harmony.* New York: The Free Press.
Editor. 1999. "Editor's Note." The Ecotone: The Journal of Environmental Studies, University of Oregon. (Fall):2.
Ellickson, Robert. 2001. "The Evolution of Social Norms: A Perspective from the Legal Academy." In: *Social Norms.* M. Hechter and K. Opp (eds.). Pp. 35–75. New York: Russell Sage Foundation.
Emanuelson, Pamela and David Willer. 2010. "Prehistory and Social Evolution: Transitions for Chiefdom to the State." Paper presented at the American Sociological Association Meeting, Atlanta, GA.
Emery, Kitty F., Lori E. Wright, and Henry Schwarcz. 2000. Isotopic Analysis of Ancient Deer Bone: Biotic Stability in Collapse Period Maya Land-Use. *Journal of Archaeological Science* 27(6):537–550.
Engelbrecht, William. 2003. *Iroquoia: The Development of a Native World.* Syracuse: Syracuse University Press.
Erickson, C. 2003. "Historical Ecology and Future Explorations." In: Amazonian Dark Earths. J. Lehmann, D. Kern, B. Glaser, and W. Woods (eds.). New York: Kluwer Academic Publishers. Pp. 455–502.
Erickson, C. 2006. "The Domesticated landscapes of the Bolivian Amazon." In: *Time and Complexity in Historical Ecology*. W. Balée and C. Erickson (eds.). New York: Columbia University Press. Pp. 235–278.
Erickson, C and W. Balée. 2006. "The Historical Ecology of a Complex Landscape in Bolivia." In: *Time and Complexity in Historical Ecology.* W. Balée and C. Erickson (eds.). New York: Columbia University Press. Pp. 187–233.
Ferguson, Brian. 1990. "Explaining War." In: *The Anthropology of War.* Pp. 26–55. J. Haas (ed.). Cambridge: Cambridge University Press.

Ferguson, Brian. 1992. “A Savage Encounter: Western Contact and the Yanomami Tribal Zone.” In: *War in the Tribal Zone: Expanding Staes and Indigenous Warfare*. B. Ferguson and N. Whitehead (eds.). Pp. 199–227. School of American Research Advanced Seminar Series. Oxford: James Currey.

Ferguson, Brian and Neil Whitehead. 1999. “The Violent Edge of Empire.” In: War in the Tribal Zone: Expanding Staes and Indigenous Warfare. B. Ferguson and N. Whitehead (eds.). Pp. 1–30. School of American Research Advanced Seminar Series. Oxford: James Currey.

Fienup-Riordan. 1990. *Eskimo Essays: Yup’ik Lives and How We See Them*. New Bruswick: Rutgers University Press.

Firth, Raymond. 1983. *We, the Tikopia: A Sociological Study of Kinship in Primitive Polynesia.* Stanford: Stanford University Press.

Fisher, William. 2000. *The Frontier Within.* Washington DC: Smithsonian Museum.

Foias, Antonia E., and Ronald L. Bishop. 1997. Changing Ceramic Production and Exchange in the Petexbatun Region, Guatemala: Reconsidering the Classic Maya Collapse. *Ancient Mesoamerica* 8: 275–291.

Garbarino, Merwyn. 1976. *Native American Heritage.* Boston: Little, Brown and Company.

Garfinkle, A., D. Young, R. Yohe II. 2010. “Bighorn Hunting, Resource Depression, and Rock Art in the Coso Range, Eastern California; A Computer Simulation Model.” Journal of Archaeological Science vol. 37:42–51.

Gillespie, Richard. 2008. “Updating Martin’s Global Extinction Model.” Quaternary Science Reviews vol. 27:2522–2529.

Goldman, Irvin. 1955. “Status Rivalry and Cultural Evolution in Polynesia.” American Anthropologist vol. 57(4):680–697.

Goldman, Irvin. 1960. “The Evolution of Polynesian Societies.” In: *Culture in History: Essays in Honor of Paul Radin*. S. Diamond (ed.). Pp. 687–712. New York: Columbia University Press.

Gowdy, John. 2006. “Darwinian Selection and Cultural Incentives for Resource Use: Tikopia as a Case Study.” International Journal of Global Environmental Issues vol. 6(4):348–361.

Gross, Daniel and Stuart Plattner. 2002. “Anthropology as Social Work: Collaborative Models of Anthropological Research.” Anthropology News vol. 43(8):4.

Gurven, M. and K. Hill. 2009. “Why Do Men Hunt?” Current Anthropology vol. 50(1):51–74.

Hames, R. 2000. “Wildlife Conservation in Tribal Societies.” In: *Preserving Wildlife: An International Perspective*. M. Michael (ed,). Pp. 210–235. New York: Humanity Books.

Hawkes, K. 1991. “Showing Off: Tests of a Hypothesis About Men’s Foraging Goals.” Ethology and Sociobiology vol.12:29–54.

Hawkes, K., and R. Bliege Bird. 2002. “Showing Off, Handicap Signaling, and the Evolution of Men’s Work.” Evolutionary Anthropology vol. 11:58–67.

Heath, Charles. 2004. “Catawba Militarism: An Ethnohistorical and Archaeological Review.” North Carolina Archaeology vol. 53:80–120.

Hill, K. 1996. “The Mbaracayú Reserve and the Aché of Paraguay.” In: *Traditional Peoples and Biodiversity Conservation in Large Tropical Landscapes.* K Redford, and J. Mansour (eds.). Arlington, VA: The Nature Conservancy. Pp. 159–195.

Hitchcock, Robert, Maria Sapignoli and Wayne Babchuk. 2011. “What About Our Rights? Settlements, Subsistence and Livelihood Security Among Central Kalahari San and Bakgalagadi.” The International Journal of Human Right vol. 15(1):62–88.

Hodell, David A., Jason H. Curtis, and Mark Brenner. 1995. Possible Role of Climate in the Collapse of Classic Maya Civilization. *Nature* 375 (June): 391–94.

Howe, J. 1998. *A People Who Would Not Kneel: Panama, the United Sates and the San Blass Kuna.* Washington DC: Smithsonian Institution Press.

Hudson Jr., C. 1981. “Why the Southeastern Indians Slaughtered Deer.” In: *Indians, Animals, and the Fur Trade: A Critique of Keepers of the Game.* S. Krech III (ed.). Pp.157-173. Athens: The University of Georgia Press.

Hugh-Jones, S. 1992. “Yesterday’s Luxuries, Tomorrow’s Necessities: Business and Barter in Northwest Amazonia.” In: *Barter, Exchange and Value: An Anthropological Approach.* C. Humphrey and S. Hugh-Jones (eds.). Pp. 42–74. New York: Cambridge University Press.

Igoe, Jim. 2004. *Conservation and Globalization: A Study of Parks and Indigenous Communities from East Africa to South Dakota.* Belmont, CA: Thompson Wadsworth.

Jackson, Jean. 1991. "Being and Becoming Indian in the Vaupés: In: *Nation-States in Latin America.* G. Urban and J. Sherzer (eds.). Pp. 131–155. Austin: University of Texas Press.

Janetski, J. 1997. "Freemont Hunting and Resource Intensification in the Eastern Great Basin." Journal of Archaeological Science vol. 24:1075–1088.

Johnson, Allen and Timothy Earle. 2000. *The Evolution of Human Societies.* Stanford: Stanford University Press.

Kay, Charles. 1994. "Aboriginal Overkill: The Role of Native Americans in Structuring Western Ecosystems." Human Nature vol. 5(4):359–398.

Kay, Charles. 1998. "Are Ecosystems Structured From the Top-Down or Bottom-Up: A New Look at an Old Debate." Wildlife Society Bulletin vol. 26(3):484–498.

Kay, Charles. 2007. "Were Native Peoples Keystone Predators? A Continuous-Time Analysis of wildlife Observations Made by Lewis and Clark in 1804–1806." The Canadian Field Journalist vol. 121(1):1–16.

Kay, Charles. 2010. "The Kaibab Deer Incident." Muleycrazey.com. January/February. Pp. 21–28.

Kay, C. and R. Simmons. 2002. *Wilderness and Political Ecology: Aboriginal Influences on the Original State of Nature.* Salt Lake City: University of Utah Press.

Keely, L. 1996. *War Before Civilization.* Oxford: Oxford University Press.

Kirch, Patrick. 1997. "Microcosmic Histories: Island Perspectives on 'Global' Change." American Anthropologist vol. 99(1):30–42.

Kirch, Patrick. 2007. "Three Islands and an Archipelago: Reciprocal Interactions Between Humans and Island Ecosystems in Polynesia." Earth and Environmental Science Transactions of the Royal Society of Edinburgh vol. 98:85–99.

Kirch, Patrick. 2010. *How Chiefs Became Kings: Divine Kingship and the Rise of Archaic States in Ancient Hawai'i.* Berkeley: University of California Press.

Kirch, Patrick and Douglas Yen. 1982. *The Prehistory and Ecology of a Polynesia Outlier.* Honolulu: Bishop Museum Bulletin no. 238.

Krech, Shepard III. 2005. "Reflections on Conservation, Sustainability, and Environmentalism in Indigenous North America." American Anthropologist vol. 107(1):78–86.

Kroeber, Alfred. 1921. "Indians of Yosemite." In: *Handbook of Yosemite National Park*. Ansel Hall (ed.). Pp. 51–73. New York and London: G. P. Putnam's Sons.

Kroeber, Alfred. 1951. "Olive Oatman's Return." Berkeley: Krober Anthropological Society Papers No. 4. Pp.1–18.

Kuper, Adam. 2003 "The Return of the Native." Current Anthropology vol. 44(3):389–402.

Lancaster, Jane and Raymond Hames. 2011. "Statement on the Publication of Alice Dreger's Investigation, Darkness's Descent on the American Anthropology Association: A Cautionary Tale." Human Nature. <D0I 10.1007/s12110-011-9106-8> Accessed April 22, 2011.

Langdon, Stephen. 2007. "Sustaining a Relationship: Inquiry into the Emergence of a Logic of Engagement With Salmon Among the Southern Tlingits." In: *Native Americans and the Environment: Perspectives on the Ecological Indian.* M. Harkin and D. Lewis (eds.). Lincoln: University of Nebraska Press. Pp. 231–273.

Legros, Dominique. 1985. "Wealth, Poverty, and Slavery Among 19th Century Tutchone Athapaskans." Research in Economic Anthropology vol. 7:37–64.

Lightfoot, Kent G., and Otis Parrish. 2009. *California Indians and their Environment*. Berkeley: University of California Press.

Lopinot, Neal and William Woods. 1993. "Wood Overexpoliation and the Collapse of Cahokia." In: *Foraging and Farming in the Eastern Woodlands*. C. Scarry (ed.). Pp. 206–231. Gainesville: University Press of Florida.

Lovisek, Joan. 2007. "Aboriginal Warfare on the Northwest Coast: Did the Potlatch Replace Warfare?" In: *North American Indigenous Warfare and Ritual Violence.* R. Chacon and R. Mendoza (eds). Pp. 58–73. Tucson: University of Arizona Press.

MacPhee, R., and M. Iturralde, and O. Jimenez. 2007. "Prehistoric Sloth Extinctions in Cuba: Implications of a New 'Last' Appearance Date." Caribbean Journal of Science vol. 43(1):94–98.

Mann, Charles. 2005. *1491: New Revelations Before Columbus.* New York: Knopf.
Martin, C. 1978. *Keepers of the Game: Indian Animal Relationships and the Fur Trade.* Berkeley: University of California Press.
McGhee, Robert. 2008. "Aboriginalism and the Problems of Indigenous Archaeology." American Antiquity vol. 73(4):579–597.
Melody, Michael. 1989. *The Apache.* New York: Chelsea House Publishers.
Mendoza, Ruben. 1975. "The Nahuatl Temples and Their Relationship to Cosmology." Southwestern Anthropological Association Newsletter. Vol. 15(1):3–8.
Mendoza, Ruben. 1992. "Conquest Polities of the Mesoamerican Epiclassic: Circum-Basin Regionalism, A.D. 550–850." Ph.D. dissertation, Department of Anthropology, University of Arizona, Tucson.
Mendoza, Ruben . 2001. "Tribal Warfare." In: *Magill's Guide to Military History*. J. Powell (ed.). Pp. 1559–1561. Pasadena: Salem Press.
Mendoza, Ruben. 2003. "Lords of the Medicine Bag: Medical Science and Traditional Practice in Ancient Peru and South America." In: *Medicine Across Cultures: History and Practice of Medicine in Non-Western Cultures.* H. Selin (ed.), Pp. 225–257. London: Kluwer Academic Publishers.
Mendoza, Ruben . 2010. "Warfare." In: *Encyclopedia of Latin America, Volume 1: Amerindians through Foreign Colonization.* Pp. 308–313. J. Francis (ed.). Washington: Facts on File.
Mendoza, Ruben. nd. "The Americas, AD 1300–1500." In: *The Cambridge History of War*, Volume 2. D. Graff (ed.). Cambridge: Cambridge University Press (in press).
Merriam, Clinton. 1917. "Indian Village and Camp Sites in Yosemite Valley." Sierra Club Bulletin vol. 10(2):202–209.
Moore, John. 1996. *The Cheyenne.* Cambridge: Blackwell Publishers.
Moss, Madonna. 1999. "Whale Hunt Honors Makah Way of Life." The Ecotone: The Journal of Environmental Studies, University of Oregon. (Fall):4–6.
Murphy, Robert 1960. *Headhunter's Heritage.* Berkeley: University of California Press.
Musters, George Chadsworth. 1969. *At Home With the Patagonians.* New York: Greenwood Press.
Newmann, R. 1998. *Imposing Wilderness: Struggles Over Livelihood and Nature Preservation in Africa.* Berkeley: University of California Press.
Niezen, Ronald. 2009. *Defending of the Land: Sovereignty and Forest Life in James Cree Bay Society.* Upper Saddle River, NJ: Prentice Hall.
Ortiz, Alfonso. 1972. "An Indian Anthropologist's Perspective on Anthropology." In: *American Anthropological Association, Symposium on Anthropology and the American Indian.* Pp. 85–92. San Francisco: Indian Historian Press.
Otterbein, Keith. 2000. "The Doves Have Been Heard from, Where are the Hawks?" American Anthropologist vol. 102(4):841–844.
Owen, Bruce and Marilyn Norconk. 1987. "Analysis of the Human Burials, 1977–1983 Field Seasons: Demographic Profiles and Burial Practices." In: *Archaeological Field Research in the Upper Mantaro, Peru: Investigations of Inka Expansion and Exchange.* T. Earle, T. D'Altroy, C. Hastorf, C. Scott, C. Costin and E. Sandefur (eds.). Pp. 107–123. Los Angeles: Institute of Archaeology, University of California, Los Angeles.
Perdue, Theda. 1979. *Slavery and the Evolution of Cherokee Society.* Knoxville: University of Tennessee Press.
Perkins, S. 2005. "Caribbean Extinctions: Climate Change Probably Wasn't the Culprit." Science News, October 29, 2005. Accessed March 18, 2009. <http:findarticles.com/p/articles/mi_ml200/is_18_168/ai_nl5861082>
Picchi, Debra. 2006. *The Baikirí Indians of Brazil: Politics, Ecology, and Change.* Long Grove: Waveland Press.
Prieto, Alfredo and Rodrigo Cardenas. 2007. "The Struggle for Social Life in Fuego-Patagonia." In: *North American Indigenous Warfare and Ritual Violence.* R. Chacon and R. Mendoza (eds.). Pp. 212–233. Tucson: University of Arizona Press.
Raab, Mark and Terry Jones. 2004. *Prehistoric California: Archaeology and the Myth of Paradise.* Salt Lake City: The University of Utah Press.

Ranco, Darren. 2007. "The Ecological Indian and the Politics of Representation." In: *Native Americans and the Environment: Perspectives on the Ecological Indian*. M. Harkin and D. Lewis (eds.). Pp. 32–51. Lincoln: University of Nebraska Press.

Raven, Michelle. 1990. "The Point of No Diminishing Returns: Hunting and Resource Decline on Boigu Island, Torres Strait." Ph. D. Dissertation. University of California, Davis. Ann Arbor: UMI.

Redford, K. 1991. "The Ecologically Noble Savage." Cultural Survival vol. 15(1):46–48.

Redmond, Elsa. 1998. *Chiefdoms and Chieftaincy in the Americas.* Gainesville: University Press of Florida.

Redmond, Elsa, Rafael Gasson and Charles Spencer. 1999. "A Macroregional View of Cycling Chiefdoms in the Western Venezuelan Llanos." Archaeological Papers of the American Anthropological Association. No 9. Washington DC.

Reed, Nelson. 1964. *The Caste War of Yucatan.* Stanford: Stanford University Press.

Ritche, William. 1956. "The Indian and His Environment." Conservationist (December-January). Pp.1–31.

Robarchek, Clayton. 1990. Warfare and the Evolution of Tribal Polities in the Prehistoric Southwest." In: *The Anthropology of War*. J. Haas (ed.). Pp. 171–189. Cambridge: Cambridge University Press.

Robarchek, Clayton and Carole Robarchek. 1998. *Waorani: The Contexts of Violence and War.* Fort Worth: Harcourt Brace.

Roosevelt, Anna. 1989. "Lost Civilizations of the Lower Amazon." Natural History. February. Pp. 75–82.

Rubenstein, Steven. 2007. "Circulation, Accumulation, and the Power of Shuar Shrunken Heads." Cultural Anthropology vol. 22(3):357–399.

Sabloff, Jeremy. 1990. *The New Archaeology and the Ancient Maya*. New York: W.H. Freeman & Company.

Santley, Robert S., Thomas W. Killion, and Mark T. Lycett. 1986. On the Maya Collapse. *Journal of Anthropological Research* 42(2): 123–159.

Santos-Granero, Fernando. 1992. *Etnohistoria de la Alta Amazonia.* Quito: Editorial Abya-Yala.

Santos-Granero, Fernando. 2000. "The Enemy Within: Child Sorcery, Revolution, and the Evils of Modernization in Eastern Peru. In: *Darkness and Secrecy: the Anthropology of Assault Sorcery and Witchcraft in Amazonia.* Neil. Whitehead and R. Wright (eds.). Pp. 272–305. Durham: Duke University Press.

Santos-Granero, Fernando. 2009. *Vital Enemies: Slavery, Predation, and the Amerindian Political Economy of Life.* Austin: Texas University Press.

Shaafsma, Polly. 2000. *Warrior, Shield, and Star: Imagery and Ideology of Pueblo Warfare.* Santa Fe: Western Edge Press.

Sharer, Robert. 1994. *The Ancient Maya*, fifth edition. Stanford: Stanford University Press.

Shaw, Justine M. 2003. Climate Change and Deforestation: Implications for the Maya Collapse. *Ancient Mesoamerica* 14: 157–167.

Sioui, Georges.1992. *For an Amerindian Autohistory: An Essay on the Foundations of a Social Ethic.* Montreal: McGill-Queen's University Press.

Sirén, Anders, Peter Hamback, and José Machoa. 2004. "Including Spatial Heterogeneity and Animal Dispersal When Evaluating Hunting: a Model Analysis and an Empirical Assessment in an Amazonian Community." Conservation Biology vol. 18(5):1315–1329.

Smith, E. 2004. "Why Do Good Hunters Have Higher Reproductive Success?" Human Nature vol. 15(4):343–364.

Smith, E. and M. Wishnie. 2000. "Conservation and Subsistence in Small-Scale Societies." Annual Review of Anthropology vol. 29:493–524.

Smith, F., S. Elliott and S. Lyons. 2010. "Methane Emissions from Extinct Megafauna." Nature Geoscience vol. 3:374–375.

Snow, Dean. 2007. "Iroquois-Huron Warfare." In: *North American Indigenous Warfare and Ritual Violence.* R. Chacon and R. Mendoza (eds.). Pp. 149–159. Tucson: University of Arizona Press.

Snow, Dean. 2010. *Archaeology of Native North America.* Boston: Prentice Hall.

Souza-Mazurek, R., T. Pedrinho, X. Feliciano, W. Hilario, S. Gerôncio, and E. Marcelo. 2000. "Subsistence Hunting Among the Waimiri Atroari Indians of Central Amazonia." Biodiversity and Conservation vol. 9:579–596.

Spencer, Charles. 2007. "Territorial Expansion and Primary Stae Formation on Oaxaca, Mexico." In: *North American Indigenous Warfare and Ritual Violence.* R. Chacon and R. Mendoza (eds.). Pp. 55–72. Tucson: University of Arizona Press.

Steadman, D., P. Martin, R. MacPhee, A. Tull, H. McDonlad, C. Woods, M. Iturralde, and G. Hodgins. 2005. "Asynchronous Extinction of Late Quaternary Sloths on Continents and Islands." Proceedings of National Academy of Sciences vol. 102(33):11763–11768.

Stearman, A. 1984. "The Yuquí Connection: Another Look at Sirionó Deculturation." American Anthropologist vol. 86(3):630–650.

Stearman, A. 1994. "Only Slaves Climb Trees: Revisiting the Myth of the Ecologically Noble Savage in Amazonia." Human Nature vol. 5(4):339–356.

Steward, Julian. and Louis Faron. 1959. *Native Peoples of South America.* New York: McGraw-Hill Book Company, Inc.

Stratton, R. 1983. *Captivity of the Oatman Girls.* Lincoln: University of Nebraska Press.

Taube, Karl. 1993. *Aztec and Maya Myths.* Austin: University of Texas Press.

Taylor, Colin. 1975. *The Warriors of the Plains.* New York: Arco Publishing Co.

Taylor, Colin. 2001. *Native American Weapons.* Norman: University of Oklahoma Press.

Terborgh, J. 1992. "Maintenance of Diversity in Tropical Forests: A Matter of Stewardship." Biotropica vol. 24:283–292.

Terborgh, J. 1999. *Requiem for Nature.* Washington: Island Press.

Thurman, Melburn. 1983. "The Timing of the Skidi-Pawnee Morning Star Sacrifice." Ethnohistory vol. 3(3):155–163.

Tizon, Alex. 1999. "Makah Whale Hunt Spurs Racist Comments." The Ecotone: The Journal of Environmental Studies, University of Oregon. (Fall):10–12.

Trigger, Bruce. 1993. *Early Civilizations: Ancient Egypt in Context.* Cairo: The American University in Cairo.

Trigger, Bruce. 1997. "Forward" In: *At a Crossroads: Archaeology and First Peoples in Canada.* G. Nicholas and T. Andrews (eds.). Pp. vii-xiii. Burnaby, BC: Archaeology Press.

Trigger, Bruce. 2003. *Understanding Early Civilizations: A Comparative Study.* Cambridge: Cambridge University Press.

Trimborn, Hermann. 1949. *Señorío y Barbarie en el Valle del Cauca*. Madrid: Consejo Superior de Investigaciones Científicas, Instituto Gonzalo Fernandez de Oviedo.

Ventocilla, Jorge, Valerio Nuñez, Heraclio Herrera, Francisco Herrera, and Mac Chapin. 1996. "The Kuna Indians and Conservation." In: *Traditional Peoples and Biodiversity Conservation in Large Tropical Landscapes.* K. Redford and J. Mansour (eds.). Pp. 33–56. Arlington, VA: The Nature Conservancy.

Vickers, W. 1994. "From Opportunism to Nascent Conservationism." Human Nature vol. 5(4): 307–337.

Wagner, Eric. 2009. "Savage Disobedience." Orion Magazine, November/December issue. http://www.orionmagazine.org/index.php/articles/article/5101/. Accessed March 26, 2010.

Walker, Peter. 1999. "Makah Whaling is also a Political Issue." The Ecotone: The Journal of Environmental Studies, University of Oregon. (Fall):8–10.

Webster, David. 2002. *The Fall of the Ancient Maya.* London: Thames & Hudson.

Werner, D. 1983. "Fertility and Pacification Among the Mekranoti of Brazil." Human Ecology vol. 11(2):227–245.

Wildcat, Daniel. 2009. *Red Alert! Saving the Planet with Indigenous Knowledge.* Golden, CO: Fulcrum Publishing.

White, Leslie 1942. *The Pueblo of Santa Ana, New Mexico.* Menasha: Memoirs of the American Anthropological Association 43.

White, R. 1995. "Are You an Environmentalist or do You Work for a Living?" In: *Uncommon Ground: Toward Reinventing Nature*. W. Cronon (ed.). New York: Norton and Company. Pp. 171–185.

Whitley, David. 1998a. "Finding Rain in the Desert: Landscape, Gender, and Far Western North American Rock Art." In: *The Archaeology of Rock Art.* C. Chippendale and P. Tacom (eds.). Pp. 11–29. Cambridge: Cambridge University Press.

Whitley, David. 1998b. "History and Prehistory of the Coso Range: The Native American Past on the Western Edge of the Great Basin." In: *Coso Rock Art: A New Perspective.* E. Younkin 9ed.). Pp. 29–68. Ridgecrest. Maturango Press.

Willer, David, Richard Chacon and Yamilette Chacon. 2009. "When Can Leaders Act Like Rulers? Models to Answer Questions About Chiefdomship and the Rise of the State." Department of Sociology Lecture Series, Stockholm University. May.

Wilson, David. 1999. *Indigenous South Americans of the Past and Present.* Boulder: Westview Press.

Wolf, Eric 1982. *Europe and the People Without History.* Berkeley: University of California Press.

Woods, William. 2004. "Population Nucleation, Intensive Agriculture, and Environmental Degradation: The Cahokia Example." Agriculture and Human Values vol. 21:255–261.

Wright, Lori E., and Christine D. White. 1987. Human Biology in the Classic Maya Collapse: Evidence from Paleopathology and Paleodiet. *Journal of World Prehistory* 10(2): 147–198.

Author Biography

Elizabeth Arkush is an assistant professor of anthropology at the University of Pittsburg. She has conducted archaeological survey and excavation in the northern and western Lake Titicaca Basin. Her research interests include warfare and other forms of violence, and their relationships to political power and social identity.

Linda A. Brown is an assistant professorial lecturer of anthropology at George Washington University. Her research interests include Mesoamerican ethnoarchaeology, the archaeology of ritual, and the ceremonial use of archaeological objects and sites by descendant communities. More generally, she studies the role of ideology and resistance in complex society.

Brooke Bauer is the tribal historian for the Catawba Nation and she is pursuing a Ph.D. in History at the University of North Carolina, Chapel Hill. Her research interests include Native American resistance and adaptation to colonialism, ethnocide, indigenous warfare, ethnohistory, and globalization.

Robert L. Carneiro is the curator of South American ethnology at American Museum of Natural History. He has conducted ethnographic fieldwork among the Kuikuru of Brazil, the Amahuaca of eastern Peru, and the Yanomamö of Venezuela. His research interests include the history of Anthropology, ethnological theory, cultural evolution, political evolution, warfare, along with the origin of chiefdoms and states.

Richard J. Chacon is an Associate professor of anthropology at Winthrop University. He has conducted ethnographic fieldwork in Amazonia among the Yanomamo of Venezuela, the Yora of Peru, and the Achuar (Shiwiar) of Ecuador. In the Andes, he has conducted ethnographic fieldwork among the Otavalo and Cotacachi Indians of Highland Ecuador. His research interests include optimal foraging theory, indigenous subsistence strategies, natural resource conservation, warfare, belief systems, the evolution of complex societies, ethnohistory, ethics, and the effects of globalization on indigenous peoples.

R.J. Chacon and R.G. Mendoza (eds.), *The Ethics of Anthropology and Amerindian Research: Reporting on Environmental Degradation and Warfare*,
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Antonio Chavarria is the curator of ethnology at the Museum of Indian Arts and Culture/Laboratory of Anthropology (MIAC/LAB) in Santa Fe, New Mexico. He has served as a cultural/exhibit consultant for Miami University of Ohio, the Pojoaque Pueblo Poeh Center, the National Park Service, the Peabody Museum of Archaeology and Ethnology, the Haak'u Museum at the Sky City Cultural Center, and the Southwest Association for Indian Arts. He has also worked as a Community Liaison and Curator for the inaugural Pueblo exhibition at the National Museum of the American Indian in Washington, DC. He resides and abides at Santa Clara Pueblo.

Charles R. Cobb is professor of anthropology and the director of the South Carolina Institute of Archaeology and Anthropology. He has conducted archaeological excavations throughout the Southeast. His research interests include Mississippian political economy and warfare in addition to Native American responses to colonialism.

Arthur A. Demarest is a professor of anthropology at Vanderbilt University. He has conducted archaeological excavations in El Salvador and Guatemala for over 28 years. His research interests include the archaeology and cultural evolution of Mesoamerica and South America.

David H. Dye is an associate professor of archaeology at the University of Memphis. He has conducted archaeological excavations in the Eastern Woodlands of North America. His research interests include Mississippian religion, iconography, conflict, and cooperation.

Kitty F. Emery is Associate Curator of Environmental Archaeology at the Florida Museum of Natural History and Associate Professor of Anthropology at the University of Florida. She has conducted archaeological excavations in Guatemala, Belize, and Honduras. Her research interests include Maya natural resource utilization, zooarchaeology, and ethnoarchaeology.

Alberto Esquit-Choy is a Kaqchikel Maya who has conducted ethnographic fieldwork in Guatemala. His research interests include the Maya movement in Guatemala, socio-political movements, and applied anthropology.

Richard D. Hansen is a senior scientist at the Mesoamerican Research Institute in the Department of Anthropology at Idaho State University and he is the President of the Foundation for Anthropological Studies and Environmental Sciences (FARES). He is also the director of the Mirador Basin Project in Guatemala. He has conducted archaeological excavations throughout Mesoamerica. His research interests include Amerindian natural resource utilization, early Maya civilization, and Maya Lowland environmental and cultural systems.

Shari René Harder is an ethnographer and research consultant at the California State University, Monterey Bay. She has undertaken anthropological fieldwork in the transnational communities of the California central coast, particularly as this pertains to Mexican folk Catholicism and its material culture. Shari is presently

developing an ethnohistory-based curriculum pertaining to the study of Indian ways of life in the California Missions for a series of exhibition-related Podcasts and multimedia projects for Old Mission San Juan Bautista, California.

John W. Hoopes is an associate professor of anthropology at the University of Kansas. He has conducted archaeological excavations in eastern, northwestern, and southeastern Costa Rica. His research interests include ceramic analysis, human ecology, iconography, and the evolution of Precolumbian complex societies in Latin America.

M. Franklin Keel is the director of the Eastern Region of the Bureau of Indian Affairs. During his career he has worked extensively with the 27 federally recognized tribes of the eastern USA and with other tribes across the nation. He is a citizen of the Chickasaw Nation of Oklahoma. His interests are contemporary tribal cultures, tribal government, and cross-cultural communication.

Shepard Krech III is professor emeritus of anthropology at Brown University and is a research associate in anthropology at the Smithsonian Institution. His research interests include American Indian ethnohistory and human–environment relations.

Rachel A. Lockhart Sharkey is an adjunct instructor of biology and a research associate for the Indiana Prehistory Laboratory at the University of Indianapolis. Her research interests include Native American warfare, dismemberment, Eastern Woodlands archaeology, and bioarchaeology.

Rubén G. Mendoza is of Yaqui ancestry and is professor of social and behavioral sciences at California State University, Monterey Bay. He has conducted archaeological investigations in California, Colorado, Arizona, and in Guanajuato and Puebla, Mexico. His research interests include Mesoamerican and South American civilizations, and Hispanic, Native American, and mestizo traditional technologies and material cultures of the US Southwest. He currently serves as the director for the California State University, Monterey Bay, Institute for Archaeological Science, Technology, and Visualization.

M. Gregory Oakes is an assistant professor of philosophy at Winthrop University, SC. His research interests lie primarily in metaphysics and epistemology, with particular focus upon our conceptual representation of reality. His further interests include the nature of consciousness, the nature of human being generally, the significance of religious experience, and the nature and significance of beauty.

Dennis E. Ogburn is an assistant professor of anthropology at the University North Carolina, Charlotte. He has conducted archaeological investigations in Ecuador, Peru, and the western USA. His research interests include the development of states and empires, the Inca Empire, Geographic Information Systems, geochemical sourcing, remote sensing, and ethnohistory.

Christopher W. Schmidt is an associate professor of Anthropology and the director of the Indiana Prehistory Laboratory at the University of Indianapolis. He has studied ancient human remains from throughout the Eastern Woodlands. His

research interests include dental anthropology, dietary reconstruction, subsistence, and human–paleofauna interactions.

Dawnie Wolfe Steadman is a professor of anthropology and the director of the Forensic Anthropology Center at the University of Tennessee. A skeletal biologist, she conducts research in bioarchaeology, forensic anthropology, and human rights investigations. Her bioarchaeological focus is on the health consequences of warfare.

John Walden is a professor and chairman of the Department of Family and Community Health at Marshall University, Joan C. Edwards School of Medicine. For over 45 years, he has provided medical aid to the indigenous peoples of Latin America.

Brent Woodfill is a researcher at the University of Louisiana, Lafayette. He has conducted archaeological investigations in Guatemala, Belize, and the USA and is presently the director of Proyecto Salinas de los Nueve Cerros. His research interests include the Maya, interregional exchange, and culture change.

Index

I