'Archaeologizing' Heritage and Transcultural Entanglements: An Introduction

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Theoretical Preliminaries

The appropriation of the past by actors in the present is subject to multiple dynamics. These span a field of forces composed of nation states, transnational organisations, and local communities, each concerned with preserving the remains of the past in order to emblematize identities, to protect and project a nation's patrimony, or alternatively to construct a notion of world heritage. There are many facets to the study of heritage in modern societies; the concept is part of a transcultural order that has emerged in the last two centuries. A child of the European Enlightenment, it circulated under the aegis of colonialism across the globe where it was harnessed to the civilizing programme of the colonial state and at the same time appropriated by the agenda of nation building to wrest locality from the global constellation of empire. In the contemporary world, heritage has become increasingly enmeshed with modern media, tourism, and the spectacle, which in turn has led to the creation of a veritable 'heritage industry.' Today's global heritage industry does not flatten cultural difference; rather, it exploits the particularity of the local and re-packages the exotic as a commodity for the world bazaar in ways that are reminiscent of the Orientalist fabrications in the world exhibitions of the nineteenth century. Yet the globalization of ethnicity ought not to detract from the observation that the varied national and local articulations of identity and its tangible anchors make heritage a contested issue and often a site of tension and violent conflict (Gamboni 2001; Flood 2002; Juneja 2009; Falser 2011a).

All of these dimensions have challenged scholarship to search for explanatory models that are able to grapple with the questions they raise. The thrust of most critiques of Eurocentric notions of heritage and conservation that have informed

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M. Falser and M. Juneja (eds.), *'Archaeologizing' Heritage?*, Transcultural Research – Heidelberg Studies on Asia and Europe in a Global Context,
DOI 10.1007/978-3-642-35870-8_1, © Springer-Verlag Berlin Heidelberg 2013

recent scholarship is that these notions, premised as they are on specifically Western ideas of aesthetic and historical value, can no longer claim universality. Therefore, conservation must incorporate the cultural values and beliefs of the communities whose heritage is being preserved from the outset. While the issue of epistemological violence cannot be dismissed, we need to be cautious about polar oppositions; such frameworks are premised upon binaries that do not address issues of transcultural circulation or the mobility of concepts and the processes of their reconfiguration in new settings. A key question raised by a transcultural study of heritage is whether or not the rhetoric of a community's identity or a nation's patrimony replicates the mythical notion of a culture as single, unique, and bounded, understandable purely from within. What were the trajectories of the concept of heritage as it was transformed into a civilizing instrument both at home and exported to the colonies? How does this notion grow through appropriations and reconfigurations in the course of different historical moments? Scholarship is called upon to address histories of conflict and entanglement and to examine the extent to which multiple narratives and experiences, constituted via transcultural processes, become flattened and sanitized through the concept of built structures as consensual sites of memory, in the canonical sense of the term coined by Pierre Nora (Juneja 2009).

A further challenge to the study of heritage has been posed by the emergence of modern digital media. On the one hand, these have proved to be useful working tools in the practice of conservation; on the other, the new 'aura' with which this global virtual 'reality' endows its objects calls for reflection. Globalization and the digital media have created an electronic cultural space marked by a placeless geography of image and simulation. In this world, space and time horizons are compressed and collapsed through the illusion of entirely fluid boundaries. One effect of virtual geographies has been to provoke a resurgence of locality and regions seeking to be recovered from absorption into a universal virtual realm. And yet there is a need to be careful of idealizing the local as a homogenous and purely redemptive space, instead of coming to grips with its fractures and viewing it in relation to the region, nation, and the world.

These and other related scholarly questions and challenges provided the stimulus for the international and interdisciplinary workshop whose proceedings are published in this volume. The aim of this enterprise was to initiate a discussion on the historical formation of the notion of 'archaeological heritage' and the contemporary challenges it faces as it negotiates the space between local social practices and virtual global realities. The workshop took place at the Karl Jaspers Centre for Advanced Transcultural Studies over two days in May 2010 and was organized by the Chair of Global Art History in collaboration with the Institute of Scientific Computing, Heidelberg Graduate School of Mathematical and Computational Methods for the Sciences. The contributions included a selection of case studies from Myanmar, India, Nepal, and Afghanistan, together with a substantial focus on the Angkor Archaeological Park in Cambodia, a UNESCO World Heritage Site. Two different approaches to 'archaeological heritage'—from the perspective of both the Humanities and Computer Sciences—were defined as a starting point for the workshop.

From the perspective of intellectual and architectural history, the concept of 'archaeological heritage' sites in Asia can be traced to the nineteenth century when European powers like Great Britain or France transferred their notion of 'dead archaeological ruins' onto Asian sites in their colonies or protectorates (for South Asia see Juneja 2001; Guha-Thakurta 2004, for Southeast Asia see Edwards 2007). However, heritage is not always a part of a bygone era, more often it is a living component of communities and comprises local, social, and ritual usages that prevail on sites, both religious and secular. These were subject to colonial interventions that were frequently informed by a romantic notion underscoring the necessity of conserving overgrown, deserted, and forgotten sites. Interventionist measures aimed at a total reconstitution of these sites. These initially took the shape of drawings or models (Falser 2011b) that were followed by a physical reconstruction on-site using modern technology. The extent to which the contemporary trend (advocated by an international scientific community) towards simulation techniques on existing and presumably reconstructed archaeological heritage sites in Asia can be interpreted as a new incarnation of colonial practice in a globalized forum is still an open question.

Until about a decade and a half ago the modern disciplines of archaeology, historic preservation, and conservation sciences were complicit with the present-day globalized perception of dead archaeological ruins—very often with disastrous results for local practices and the expectations surrounding these sites. More recently, the global heritage preservation community, having assumed the role of preserver and careful manager of 'living heritage sites,' has discussed a pragmatic change in this attitude (Smith 2004).

From another, more optimistic point of view, we can no longer overlook the fact that the application of mathematical and computational modelling to simulate and optimize temporal and spatial processes has become a standard research tool in the natural sciences. With the availability of cheap and powerful desktop computers and the development of databases and digitized texts, scientific computing experts are set to bring these methods to the humanities and social sciences as well. Archaeology constitutes a major new field where the application and the possibilities of computer modelling are being explored. Vast geometric models of temples and monuments along with detailed scans of archaeological findings and simulations of timeline events establish a virtual representation of 'once-upon-a-time' and 'might-have-been' sites. Yet these techniques call for prudent and selective use. Differences in the reception of technical methods across Asia and Europe, especially when related to cultural heritage sites, critically influence what might at first sight appear to be a straightforward approach. Selected case studies ought to present us with a picture of the recent paradigmatic change in the computing discipline itself. This has shifted from being a mere simulation of supposedly dead archaeological building material to showing an increased appreciation and scientific incorporation of the knowledge of local stakeholders and their ritual and social practices on living sites, as well as of the social behaviour of an increasing globalized cultural tourism industry.

An Introduction to the Contributions in this Volume

Most of the original papers presented at the workshop are now part of these proceedings, and a few other authors were invited to join and enlarge the thematic focus of our discussion. The contributions to this book, which might strike the reader as being heterogeneous in style, approach, and message, include essays written by historians, art or architectural historians, art curators, geodesists, experts in scientific computing, architects and archaeologists, stone conservators, and social anthropologists. The articles range from conceptual papers with a more academic tenor from a humanities perspective, while others present concrete research projects in a short and dense form; a number have been authored by practising architects and conservators and reflect long experience in the field. In view of the circumstance that the study of heritage forms a field where an unusual range of disciplines intersect—archaeology, conservation, art history, architecture, anthropology, and urban studies on the one hand and, increasingly in recent times, computer sciences and engineering on the other—what at first glance appears as an impossibly disparate disciplinary constellation within the covers of a single book could turn out to be a source of new insights for the field. It is only by bringing these together in a form of methodological confrontation that we can begin to come to grips with many of the tangled questions that beset the field of heritage both at the theoretical and the practical level. These questions have been highlighted in the following part of this 'Introduction' (which accounts for the relatively detailed discussion of individual contributions) where we, the editors, have consciously inserted cross-references to articles in the volume that speak to each other across disciplinary divides. Similarly, references have been built into individual articles signalling connections and thematic links with others in the book so as to make shared, intersecting, or disjunctive patterns of argumentation more visible to the reader. The dialogue—often beset with tensions—between perspectives from the humanities, the social sciences, and the natural sciences translates into a host of measures that are enacted in the field of heritage—for instance when it comes to the restoration of sites, the formulation of tourism policies, the resettlement of localities, the reconstruction of dilapidated (or destroyed) structures, and the often contentious politics of memory. In a sense this volume can be viewed as a discursive site to replay those negotiations and to acquire insights into issues that otherwise get muffled by a framework that seeks cohesiveness through disciplinary unity.

The six parts of the book are organized around and framed by four processes, concepts, or methods that inform the notion of cultural heritage:

- Archaeologizing

The four contributions in the first two parts will discuss European 'strategies' in the nineteenth and early twentieth centuries, which sought to transform local architecture on colonial territories (here the focus is on India and Cambodia) into the colony's heritage/*patrimoine*. This formed an aesthetic approach to built cultural heritage that transformed existing remains into a pictorial and pleasing object in

accordance with prevalent cultural conceptions like the picturesque. ‘Archaeologizing strategies’ include the establishment of conservation manuals, the introduction of picturesque photography, the translation of local architecture into plaster casts for European museum displays, and the drafting of a visitor’s *parcours* in ‘archaeological’ parks for the growing tourist industry in Asia.

- Virtualizing

The four contributions in this part shift the focus to postcolonial states from the second half of the twentieth century to the present day; they discuss computer technologies that bring the ‘archaeologizing’ dimensions of the earlier part onto a different register. Existing built cultural heritage is transformed through the agency of a global community of experts into virtual and globally accessible 2D-façade simulations and 3D-models. The potential and the limits of these new ‘virtualizing strategies’ are discussed and cover options ranging from surface-based imaginary worlds of cultural heritage icons to computer models for applied research on site.

- Restoration and Interpretation

This section introduces three on-site case studies that illustrate the emerging paradigm shift in applied conservation sciences and can be summed up as a ‘living heritage’ approach. It tries to merge modern high-tech preservation methods and the interpretative computer modelling of built cultural heritage (the focus is on the Angkorian temples and covers not only the temples themselves but also the larger environmental aspects of ‘sites’) with a respectful incorporation of the interests of local stakeholder communities in their daily social practice.

- Commemorating/Memorializing

The last part of this book comprises three contributions on the different strategies through which political regimes, as well as local religious groups, conceptualize and memorialize ‘archaeological heritage’ for and within their belief systems. It discusses how local stakeholders react to and live within ‘archaeological heritage’ and may adopt counter-strategies for their daily living, cultural identity, and collective memory. Within these case studies it will become clear that both modern conservation and computer sciences reach their limits when analysing, interpreting, depicting, and manipulating socio-cultural complexes that were once conceptualized/invented as built ‘cultural heritage’ or *patrimoine culturel*.

The opening part *Archaeologizing Heritage I: India between the Manual and the Picturesque* features two studies by **Indra Sengupta** and **Katharina Weiler**, which discuss the constitutive role of the European aesthetic (i.e. visual, artistic, philosophical) in colonial India accompanied by institutionalized definitions of built heritage and technical standards for its documentation, mapping, classification, and selective conservation and restoration.

Indra Sengupta takes a close look at John Marshall’s *Conservation Manual*, which served as a “prescriptive colonial text of authority.” She analyses this work as part of a braided history involving the conservationist movement in Great Britain

on the one hand, and the specific cultural-cum-political and regional initiatives in British India on the other. The Ancient Monument Preservation Act of 1904, a product of Lord Curzon's engagement for India's built heritage during his tenure as Viceroy (1899–1905), meant that the 'making of' and conservation of (picturesque) ruins served first, as a metaphor for India's cultural decline and the irretrievable 'pastness' of its history; and second, to justify the British mission to civilize Indian's past by way of an institutionalized programme of archaeological research and custodianship. Sengupta links this colonial trend back to the metropolitan 'anti-scrape' theories of Victorian England that were advocated by John Ruskin, William Morris's Arts and Crafts movement, the Society of Antiquaries and, finally, by the Society for the Protection of Ancient Buildings (SPAB), which defended the preservation of the traces of age and decay in historical buildings. However, Marshall's *Conservation Manual* for India (1923, first version 1906) reacted to a conflict that is central to the subject of this book: the inherent tension in the process of heritage-making between a global construction of supposedly dead archaeological (colonial or in other cases postcolonial) building stock, and the competing interests of local elites and communities who understood 'their' heritage not as 'dead' archaeological remains but as 'living heritage' for educational, practical, and/or religious purposes. In the context of the emerging impossibility of a centralized heritage control in India, Marshall defended (or had to defend) the restoration of pre-colonial Mogul structures like the Taj Mahal to their "original splendour" (and not the conservation of traces of decay). This was seen as important to the preservation of the monument's symbolic authority in India's present living memory as well to its living testimony of the surviving traditions of Muslim artisanship. According to Sengupta, in this context of atypical transcultural entanglement Marshall used "the specificity of the local and the regional as a counter-argument to the universalist claims of the SPAB," which was caught in the European traditions of picturesque.

Traditions of the picturesque are the subject of **Katharina Weiler**'s paper, which argues that European landscape painting, together with the aesthetics of the picturesque, pre-framed not only the approach of artists (like William Hodges or the Daniells) in the eighteenth century who made drawings and watercolour sketches of the '(re-)discovered' ancient sites on the Indian subcontinent; these visual traditions and theories also played an extremely important role in shaping the aesthetics of early nineteenth-century photographs of antique archaeological ruins. The *principles of the picturesque beauty* as described by eighteenth-century British theorists of landscape gardening like William Gilpin, instructed the domestic traveller in his search for pleasing natural scenes through the use of a so-called Claude glass or convex black mirror with a tinted surface. Such norms and practices informed the experiments of colonial photographers like Samuel Bourne (1834–1912) who, by way of the camera's ordering lens, transferred this figuration of a European gaze from an aesthetically well-structured environment onto the chaotic colonial heritage setting. The photographs, regarded as truthful and reliable documents of India's forgotten heritage, were re-converted into graphic drawings in some of the earliest architectural publications like James Fergusson's *History of*

Indian and Eastern Architecture (1876). It is significant that photography, by introducing as a scientifically exact and normatively neutral technique with which to record the status-quo of the rapidly decaying treasures of the Indian past, became one of the institutionalized methods of the Archaeological Survey of India (founded in 1862) to execute its work of documentation, and continues to influence this institution's guiding principles. Colonial photography worked in two directions: it configured pleasing tableau-like images for a growing body of travel literature and served as a basis for scientific documentation. In doing so it helped to "archaeologize" India's ancient built heritage as a static entity where living (in this case native Indian) stakeholders were reduced to diminutive and incidental figures or eliminated from the scene entirely.

In the part *Archaeologizing Heritage II*: *Creating Visual and Spatial Experiences of Angkor*, the focus shifts from colonial India and Britain to colonial Indochina and the French metropolis. **Pierre Baptiste** and **Michael Falser** discuss two modes of representing the 'archaeological heritage' of the Cambodian temples of Angkor to a European clientele: (a) the visual and formal translation of the real temples through the medium of plaster casts or their hybrid reconstitution in Parisian exhibitions before and around 1900; and (b) the spatial and temporal invention of the site through the print medium, specifically through early travel guidebooks published between 1910 and 1950. As a common feature, both strategies of appropriation detached archaeological heritage (which was considered dead) from its continuation into the present and ignored the existing social practices of local stakeholders such as village communities, monks, or pilgrims.

Pierre Baptiste's contribution can be read as a story of direct colonial contact and a hybrid re-assembling of the 'archaeological' heritage of the Far East for consumption by the European metropolis. In 1866 Napoleon III (continuing in the tradition of the Egyptian campaign of Napoleon I) ordered an exploratory mission to Indochina along the Mekong river resulting in one of the first officially organized, intellectual and aesthetic 'contacts' between the French administration and the temples of Angkor (at this time still part of Siam). The publication of this mission included Louis Delaporte's romanticized and picturesque drawings of the 'ruins lost in the jungle,' which were, interestingly enough, converted into virtual visions of idealized reconstructions (*vues reconstituées*) in his own publication some years later in 1880 (compare with Cunin's contribution). Beginning in 1873, Delaporte undertook several archaeological missions to Angkor and returned to France, along with 'acquired' or stolen original artefacts and an impressive series of physical 'contacts' (imprints) of Angkor in the form of plaster casts. Interpretable as a physical copy of the Angkorian temples' generic code, these plaster casts of almost the entire representative architectural elements on-site were finally displayed during French World and Colonial Exhibitions in/after 1878 and later in Delaporte's *Musée indochinois des antiquités Cambodgiennes*. They were exhibited in single parts and/or re-assembled to create either authentic life-size models (such as that of the west gate of Angkor Wat) or hybrid fantasy-collages using original casts (e.g. the interpretation of the Bayon temple). In some cases these reconstituted models of Angkor were more perfect in Paris than on the real

site (too perfectly straight and lacking the joints of the original stone layers). Together with the first drawings, these hybrid models can be interpreted as an anticipatory 3D-version of the temples' globally circulating virtual reality constructed by computer models more than 100 years later which produce a similar effect. In both versions, imperfections and singularities, the dynamics of patina, decay, alterations, and above all, the local social on-site value, were rarely observable. And in both cases, the public reception of the models was and still is enthusiastic. They pre-frame the visitor's expectations of the real site, whose impeccable ageless appearance can only be guaranteed through exaggerated restoration (distinct from conservation).

Pre-framing is also a central theme of **Michael Falser**'s contribution**,** which discusses the spatiotemporal formation of the Angkor Archaeological Park effected for the site by early guidebooks. With the introduction of graphic maps, walking diagrams, trails, circuits, itineraries, and *parcours* these guidebooks framed the European visitors' expectations of Angkor even before their arrival—when read either at home or during the journey of many weeks by boat from the European metropolis to the colony. Guidebooks were an effective tool deployed by the colonial authorities to regulate the tourists' selection of objects on-site as well as their physical movement, time management, and visual orientation. Forming part of a larger programme of colonial spatial politics in Indochina, these guidebooks contributed, alongside administrative measures of conservation and restoration in the "archaeological park" (officially installed as such in 1925), to the progressive diminution of the Angkorian temples' significance as a living site of local social practice. The result was a stylized heritage reserve shaped by colonial archaeology and a model of rational order. Existing villages within the park's boundaries were rarely mentioned or were occasionally reduced to a "*tableau rustique*, amusing for lovers of exotic spectacles" (Marchal 1928). They remained out of sight (and they continue to) for (inter)national visitors. Furthermore, the publication of the early guidebooks was very often initiated and financed by institutions, committees, or sponsoring societies that had a clear aesthetic, commercial, and ideological interest in the proper presentation of this newly acquired marvel of French *patrimoine*, which was considered a site that could compete in importance with the Taj Mahal in India or the temple of Borobudur in the Dutch-Indies.

Armin Gruen and **Pheakdey Nguonphan** contribute to the third part *Virtualizing Heritage I*: *The Surface and the Image*. Their papers shift the book's focus from the humanities to natural sciences and computer modelling. These two contributors develop their virtual models through surface scanning, image-based techniques, and modular surface generation, an approach that will be questioned as well as extended through methods of structural analysis and building research in Part IV.

Armin Gruen gives a useful overview of the state-of-the-art in virtual 3D modeling of archaeological heritage, which ranges from single artefacts and architectural structures to larger sites, whole cities, and landscapes. Through a combination of satellite, aerial, and terrestrial images with techniques of laser scanning, remote sensing, structured light systems, and conventional photogrammetry, this

article discusses the usefulness and limits of 3D-models as a tool for professional archaeologists, architects, and conservators. It also explores the options for educational and training purposes in real and virtual museums and in the fast-growing tourist and entertainment industry in virtual 3D-games (edutainment) and the World Wide Web. Whereas a 3D model is a computer representation of an object in 3D space, virtual simulations already act in the 4D world with information about dynamic processes such as the changes to the object over time (time as the fourth dimension) and animations with moving objects that populate the models with virtual actors ('avatars'). Gruen lists the various functions of 3D computer models: site documentation (e.g. different states of decay or destruction of fragile sites over time, like Gruen's project on the pre-Hispanic adobe architecture site at Tucume, Peru); conservation-restoration-reconstruction (e.g. testing structural interventions in virtual models); scientific analysis and visualization (like Gruen's project of a virtual re-assembling of two different parts of a statue, which in reality were placed in two different museums); site and object management; environmental monitoring; dissemination–education; and 'feeding tourist interest' where 3D models of cultural heritage are already on the way to being incorporated into worldwide digital globes like Google Earth. In his discussion of the options and limits of this technique, Gruen mentions the crucial importance of the cooperation between the producer of 3D and 4D models and the audiences/consumers (ranging from archaeologists, art historians, and cultural heritage experts to the edutainment industry). The danger lies in the expectations based on the make-believe created by virtual models that directly affect the real site, which is always more complex and rich in information and therefore intellectually and infrastructurally more difficult to access and understand. Certainly, the limits lie in the exaggerated 'beautification' of virtual models, which are in the end always more 'perfect' than the real site (see Pichard). These insights find an easy parallel in the idealistic or romanticized and exquisitely detailed drawings and photographs of the earliest explorations of Asian sites (see Weiler), the hybrid plaster cast reconstitutions of temple structures made during the late nineteenth- and early twentieth-century world exhibitions in Europe (see Baptiste), or publications created for the emerging tourist industry (see Falser). The colonization of the real site, including its local stakeholders (who are reduced to avatars?), and the pre-framing of the cultural heritage gaze seems, from this critical perspective, to continue well into the virtual world of the twenty-first century.

Pheakdey Nguonphan challenges the reader with a rather curious and original experiment using an algorithmic approach to computational architecture that combines art history, religious iconography, computer science, and applied mathematics. The analysis of the classical Angkorian building style and the differentiation of its architectural elements into six modular types that are all based on the decorative motif of the sacred lotus flower enables the author to reconstitute various temple models in the virtual space with his computational programme called "Angkor Temple Generator." Nguonphan generates a full 3D model of Angkor Wat and claims to have developed a kind of object library of Angkor's classical architectural repertoire for all temples of this style family (compare Baptiste). This

computational experiment in classifying Angkor's unique decoration system into six modules is, as the author himself admits, necessarily an (over)simplification of thousands of unique stylistic variations (compare Pichard). This approach is not only a challenge for art historians, archaeologists, and restorers on the real site, but also for the creativity of practicing architects, since this computer programme is also presented as a useful "experimental tool in developing new Khmer temple design concepts that are based on ancient Khmer construction rules."

The fourth part, *Virtualizing Heritage II*: *Computer Models for Building Research* comprises contributions by **Georgios Toubekis/Michael Jansen**, and **Olivier Cunin**. It shifts the focus from a surface-oriented approach to a structural research-oriented method that uses 3D-modelling as a tool of communication and negotiation, of different restorative interventions in a global expert and/or local stakeholder forum, or for testing hypotheses and results in building research and architectural history.

The contribution of **Toubekis/Jansen** explores the giant Buddha figures in the valley of Bamiyan, which date to the sixth century CE and were destroyed by the fundamentalist Taliban regime in 2001. Shortly after the fall of the regime in 2002, the niches and rock caves around the lost figures were stabilized, the surviving Buddha fragments safely stored, and the Bamiyan cultural landscape was nominated a UNESCO World Heritage Site. By that time, Western advanced technology and scholarship had already been imported for research and conservation of the site's existing status. But there was much more at stake: a virtual rebirth of the tragically lost cultural heritage of the Bamiyan Buddhas emerged in the form of a 3D-modelled hybrid that never existed in its present combination. This comprised a reconstruction of the pre-destruction status of the figures using old photographs and photogrammetric documentations and a laser-scanned status quo of the niches around them. Used as a tool to discuss the latest structural analysis and intended restoration measures, this 3D simulation also migrated into public life and into the real-time infotainment sector of Western exhibitions (like in Bonn/Germany 2008). In the meantime, after large parts of the local population were relocated (for supposedly security reasons) into new and highly problematic housing projects and a Bamiyan Cultural Master Plan had been established, these virtual images initiated discussions about the optional reconstruction of the lost Buddha figures between all stakeholders at the site including the global players of UNESCO and ICOMOS, academic researchers from West and East, the regional tourism-oriented government, and the local population, which experienced afresh the traumatic loss of 'their' physical identity markers. This was an iconoclash between the local and the global: at present in the World Wide Web live videos of the 2001 destruction of the Buddhas circulate alongside and compete for attention with the 3D models of their virtual and possible physical reconstruction. The *Cui bono* question is not yet answered.

Olivier Cunin's case study points to comparable methods of using 3D models of archaeological ruins in the context of professional building research. However, he defends the critical view of the occasionally devastating effects of releasing virtually surface-rendered, picture-perfect reconstructions to the public, which often

understands these images as authentic and complete. Cunin presents his research on the Angkorian Bayon temple (dated to around 1200 CE) and argues that due to the highly complex, partly inaccessible, and strongly dilapidated nature of the structure, all existing depictions of this temple from the earliest artistic interpretations by Delaporte in 1866 and 1880 onward (compare Baptiste), are as virtual as the hypothetical floor plans and facade elevations of the 1960s that were created on the basis of archaeological building research. Cunin's virtual models comprise various temples from the same stylistic family like the Bayon, Ta Prohm, Preah Khan, and Banteay Chhmar (compare Sanday), and are developed from a kind of element library (compare Nguonphan) that is individualized on the basis of detailed measurements. These models are meant as a series of reconstitutions in order to depict the various stages of the temple's architectural history. They are introduced as "a genuine research tool to validate hypotheses and conduct new investigations, not just produce images for (public) communication." This is why these models are not photographic quality (compare Gruen) but are presented in an abstract mode similar to traditional axonometric architectural drawings. Despite the elitist self-definition of his work, Cunin's temple depictions are today used successfully in various visitors' centres for consumption by the larger public (compare Chermayeff) and create—notwithstanding their work in progress character—a highly suggestive pictorial effect of a temple that is 'once upon a time, in picture-perfect shape.'

The fifth part of this book, *Restoration and Interpretation*: *Of Virtual Models and Living Communities*, introduces a conservationist point of view. It discusses the options for regional/national (Cambodian) human resource building through training and the comprehensive involvement and—ideally—participation of local communities in such projects. **John Sanday** discusses these subjects using Banteay Chhmar, one of the major Cambodian archaeological sites besides Angkor, as his case study. His article is followed by **Jane Clark Chermayeff**'s discussion of direct community involvement initiating a site-interpretation centre within the Angkorian temple of Preah Khan, and local tourism regulation through site-interpretation for the hill temple complex of Phnom Bakheng. **Simon Warrack**'s contribution focuses on the conservation of an important statue inside Angkor Wat that was affected by the direct involvement of the local religious stakeholders—a paradigmatic change from 'archaeologizing (dead) heritage' to the conservation of 'living heritage.'

John Sanday's project on the twelfth-century Buddhist monastic complex of Banteay Chhmar, 175 km northwest of Angkor, has ambitious goals: it draws upon both traditional conservation philosophy and state-of-the-art computer modelling of virtual structure restitutions; it aims at training a local team in conservation technology and site management, providing "involvement" and employment for the local, underprivileged community. From an outside perspective, bridging the gap between global professional research attitudes and the local constraints of the jungle setting, between expensive high-tech virtual reconstruction with heavy electronic data processing and affordable low-tech conservation ("maintaining the marks of the passing of history") with simple equipment and regional manpower

and, finally, between community participation and 'ethnicizing' as a tourism-oriented tableau (compare Falser), seems to be a difficult task. However, as this project (and so many other comparable undertakings) proves, this old-fashioned binary and seemingly incommensurable confrontation can become fluid. In this case the configurations became transculturally entangled in the following ways: the virtual worlds of Banteay Chhmar's face towers and decorated bas-reliefs are today coordinated by a 'national' scholar from the department of archaeology at the Royal University of Fine Arts in Phnom Penh who completed his PhD at Heidelberg University in Germany (see Nguonphan); the so-called 'local' work force was trained at and partly imported from projects at the World Heritage 'Angkor Archaeological Park'; and finally, the supposedly 'traditional' inhabitants inside the project's buffer zone—responsible for organizing picturesque ox-cart temple and jungle tours as part of a 'community based tourism' project from Europe—had, for the large part, simply migrated from other regions of Cambodia to the site.

Jane Clark Chermayeff gives us an overview of two projects inside the Angkor Park that were intended to "change the way visitors and local communities visit, view, and care for historic and natural sites—based in a comprehensive approach to site interpretation as a fundamental component of sustainable conservation." The project coordinators called upon the "power of the people" and defined the following multi-faceted stakeholder community for this cultural built heritage: (inter) national scholars with their historical knowledge; professional conservators of the temples; the surrounding villages to tell living stories (tales, legends, place names) of economic and religious practices at these sites and to help maintain them; and finally—the largest, most powerful, and destructive force in this multi-layered 'local social practice'—the tourists (two million in 2008!) as a short-term visiting human mass that (ideally), when well informed about the daily importance of these living and not purely archaeological sites, would take part in sustaining them through respectful behaviour. In 2005 a workshop was held with international scholars and the Interpretation Advisory Committee of APSARA (the local park protection authority) at the most threatened temple in Angkor, the 'tourist sun set hilltop temple' of Phnom Bakheng. A master plan for both the interpretation and the management of the site was worked out in the form of a "Panoramic Trail" in order to slow down and regulate the tourist flow through several thematic view points around the hill and "conservation in action" panels on the way to the top. This begs the question of whether this new, softer form of directing the tourist flow, along with a newly developed "walkman-head set" for tourist groups, is conceptually comparable to the French-colonial circuit and control system of the old days (see Falser). The second project was an interpretive visitor's centre inside the vast Preah Khan temple complex that is officially preserved as a partial ruin, but is in fact an active place of worship and daily forest harvesting for the surrounding villages. A small gallery hut in a "traditional" design was built to give a forum to the daily life chronicles of residents living near the temple, as well as to present Preah Khan's story as "a place of learning and healing" and not just as a "dead site" for archaeology. How does one respond to the criticism that these visitors' centres, with their photographic panels about the local communities' basket weaving and

fruit tree harvesting activities, are a form of self-stereotyping and indigenizing of the population inside the heritage reserve, which has grown from 40,000 people in the 1990s to some 100,000 today and includes migrants from all over Cambodia and even from outside its national borders? How can we conceptualize the necessary paradigmatic change from 'archaeologized' to 'living heritage'? And where are its limits and perversions if we consider, likewise, that the local protection authority is also constructing (again with help of Western experts) centres of interpretations, including a flowering 1:1-scale model of 'traditional' Khmer housing inside the park and the much larger 'Eco Village of Run Ta-Ek' outside the Angkor Park with families (relocated?) from inside the park. In this latter site, "traditional living, fruit growing, and market activities" surrounded by "traditional wooden houses" (and wind mills as power generators sponsored by a Korean investor) is re-enacted for the ever-growing (and again re-directed?) tourist industry (compare Luco).

The paper by the British stone conservator **Simon Warrack** informs us about the spectacular conservation project of the Ta Reach statue inside the west gate of Angkor Wat in 2003. It was carried out as a by-product of the conservation activities of the German Apsara Conservation Project (GACP). As the last contribution in this fifth part on *restoration and interpretation*, Warrack's case study is meant to serve as a concrete example of "how the archaeological-scientific side of conservation can develop a more integrated and holistic approach, which is compatible with both the requirements of the local stakeholder community as well as the larger heritage community." Interestingly enough, the placement of the statue may have been, along with the completion of the Hindu decorations in the northeast corner of the temple's galleries and the placement of a giant standing Buddha in the inner cruciform gallery, part of a sixteenth-century campaign of restoration and embellishment that was initiated by the Buddhist kings Ang Chan and Satha. The French colonial authorities destroyed the giant Buddha, transferred the cruciform gallery's donated statues to be stored at the Angkor Conservancy in Siem Reap, declared the sixteenth-century repair work a worthless intervention by ignorant monks, and gradually converted (with major structural repair and reconstruction work) the temple's contemporary function as a living Buddhist site into an ancient 're-Hinduized' and archaeologized object of colonial *patrimoine*. Using this early twentieth-century incident as a counter-example, the Ta Reach statue-campaign of 2003 may serve as a suitable case study for a paradigmatic change in conservation methods in the early twenty-first century. In this recent case, the local religious community, including its spiritual leader, were consulted throughout the process of the intended conservation; it agreed with and contributed to all physical interventions on the statue (which were completely aligned with the belief system of the local Nak Ta religion, see Guillou), and celebrated the campaign with a final ceremony. For their part, the Western and local conservation team respected the local religious calendar and guaranteed permanent access to the statue during its conservation campaign. However, the question remains: How would the new and globally acclaimed conservation theory of 'living heritage and tolerance' have reacted if the local stakeholders had opposed any physical intervention on their venerated property? Is the new global heritage dogma of tolerance strong enough to

let a major piece of art in the park 'decay and fall apart' because of the wishes of the local religious community?

The sixth and final part of the book is titled *Memorializing Archaeology*: *Archaeologizing Memory* and comprises three contributions on the following commemorative strategies employed at archaeological sites: (a) how totalitarian political regimes and religious belief systems memorialize archaeological heritage for and within their ideologies; and (b) how local populations during regimes (and after regime changes) react to and live within archaeological heritage and eventually adopt counter-strategies for their daily living, cultural identity, and collective memory. **Pierre Pichard** discusses the development of (post)colonial and totalitarian strategies on the Pagan site in present-day Myanmar, which has changed from an entity of colonial archaeology, to a contemporary site of religious merit-making through building reconstruction, and finally to a "pleasure park" for the ruling military regime. **Fabienne Luco** explores the agricultural land use strategies of the local communities in Angkor. These can be seen as a vernacular continuation of the civilizing landscape patterns of ancient Angkor, which do not accord with the official model of an 'archaeological' park. And finally, **Anne Guillou**'s contribution discusses the macabre "archaeological procedures" that have been implemented in Cambodia between 1975 and the present day: the mass graves produced during the Khmer Rouge genocide, the Vietnam-backed regime's memorial-making that deployed the unearthed and explicitly exposed human remains of the Khmer Rouge victims, and the post-traumatic coping strategies of the current local population drawing upon the Neak Ta belief system of powerful, and in this case, painful sites of violent death.

Pierre Pichard's contribution on Pagan in today's Myanmar tells a story that is in many ways comparable to that of Angkor. Like Angkor, the temple city of Pagan was captured by Asian enemies in medieval times and was never totally abandoned. It was re-discovered as an archaeological site under the British colonial administration and 'restored' through the aegis of the Burmese variant of the Archaeological Survey of India (compare Weiler and Sengupta). This conceptual model of a purely 'archaeological' entity of Pagan under a colonial restoration mission survived and was even reinforced after the earthquake of 1975. With a priority list established by the department of archaeology and with the assistance of UNESCO, selected temples were consolidated and a master plan was drafted (but not signed) for the whole area around 1990. Cambodia's 'earthquake' also occurred in 1975, but it was of an entirely ideological nature since the Khmer Rouge terror and the subsequent Vietnamese occupation produced a cultural *tabula rasa* for the country and the Angkor site survived without any larger physical iconoclasm against the temples. With the regime change in 1990 and with assistance from the UN, a management plan for Angkor was accepted *after* its hasty inclusion as a UNESCO World Heritage Site. Shortly before this, national uprisings in 1988 brought a military junta to power in Burma and an internal civilizing mission brought about the relocation of thousands of inhabitants from the archaeological arena of Pagan (as also happened in Angkor, see Luco) forming a kind of "Blitzkrieg archaeology" (Pichard quoting a Burmese historian) on the temple sites. At Angkor, as at Pagan,

UNESCO was on the spot establishing, or at least subconsciously perpetuating, Western concepts of conservation. In Pagan, against international guidelines, the government launched a beautification (i.e. full reconstruction) programme of the decayed and, in some cases, totally lost temple structures, which was financed by public donations from the country's population, from Burmese expatriates and Buddhist associations, and from the military generals themselves. It seems that this vision of a perfect and spotless temple city, inspired by picturesque notions that went back to colonial contexts (compare Weiler, Sengupta, and Baptiste), was later amalgamated with Buddhist notions of merit accumulation through donations for temple reconstructions, and eventually formed part of the strategies of self-commemoration enacted by the leaders of the ruling regime. In Angkor, the donations for the often over-restored temples continue to come in to this day through various international conservation projects from Japan, China, Indonesia, USA, France, Germany, Italy, Hungary, and others. However, with its 2,000 recreated, homogeneous and fake-looking temple structures, Pagan is without a doubt the opposite of Angkor: from the theoretical perspective of an internationally accepted conservation dogma it is a "Disneyland" and therefore not listed as World Heritage. Nevertheless, it is interesting to note that the new and historicizing structures of the museum and the so-called 'royal palace' at Pagan might have even less reinforced concrete inside their structure than the newly opened, formerly medieval Bapuon temple in Angkor, which was reconstructed (and not restored?) by the French mission. Pichard ends his paper with the interesting hypothesis that, for primarily religious reasons, Pagan is an "anti-Angkor." He mentions that the Pagan temples were always Buddhist and therefore continuously venerated as Buddhist sites of worship and "a field of potential merit," whereas many (but certainly not all) Angkorian temples were consecrated as Hindu temples. The implicit conclusion that this fact created a discontinuity of veneration or a rupture for the Buddhist population might end up employing the logic reminiscent of French colonial strategies of 're-Hindu-izing' and 'archaeologizing' (compare Warrack). In reality, and despite 150 years of 'archaeologizing' efforts from colonial, postcolonial, international, and nowadays even local institutions, the temples of Angkor, along with neighbouring wats and other sacred places, form an all-encompassing sphere of social practice that cover the religions of ancient Hinduism, actual Buddhism, and the indigenous Nak-Ta cult (see Warrack and Guillou).

This notion of "Angkor as a palimpsest" is a direction also followed by **Fabienne Luco**. In her paper she tells of how the inhabitants and monasteries of the inner Angkor zone managed—despite several relocation campaigns, beginning with the French colonial authorities up to the current attempts by Cambodian protection authorities—to (re-)capture and (re-)cultivate the "empty/emptied spaces" between the old stone temples on the basis of religious interconnections and the topographical remains of the ancient system of water management, rice farming, and circulation. She describes the discontinuities on the Angkor site that were produced by the changing regimes with their enforced restrictions of land and heritage development policies inside the protected archaeological zone, the

pressure on the local people to become part of a folkloristic tableau for international mass tourism, and the constant and continuing effort of the French to 'archaeologize' Angkor (Luco calls it "fossilization") into a controllable heritage reserve (compare Falser). But the monasteries and the eighty-five local villages, with a combined population of some 100,000 inhabitants on the extended site of Angkor covering 400 km^2, inscribed and will always inscribe new physical and social additions onto this landscape of multi-layered cultural memory to create the "Angkorian palimpsest."

Related to Luco's approach fusing memory and landscape, **Anne Guillou**'s contribution closes this book with a thoughtful analysis of the tragic events in Cambodia's recent history. These are placed within this last part's topoi of *archaeologizing memory* and *memorializing archaeology*. The genocide realized by the totalitarian Democratic Kampuchea regime (1975–1979) that saw at least 1.7 million victims dumped into mass graves all over the country, adds a horrifying new layer of human remains and traumatic memory onto the stratigraphy of Cambodia's landscape. In the 1980s the Vietnamese-backed People's Republic of Kampuchea instrumentalized the Khmer Rouge genocide as its own *raison d'etre* through a programme of commemoration that was carried out with help of museography specialists from Eastern Europe. Sites of torture (like the S-21 prison in Phnom Penh) were converted into museums, and mass graves were exhumed and their human remains publicly exposed in at least eighty state-sponsored, open-air memorials countrywide (like Choeung Aek near Phnom Penh). This macabre process of politically motivated 'archaeology' came to an end after the change of regime around 1990 and these memorials fell into decay in a period of "suspended historicity" (Guillou). It is the popular Cambodian perception "that the dead have merged with their natural environment," but the victims of genocide—a bad death—haunt the landscape as ghosts and become part of powerful places that are associated with the ancestral spirits called *neak ta* (compare Warrack). Through ceremonies and by planting rice fields and fruit trees over mass graves and remembered sites of murder, the local population renders these places progressively powerless. Anne Guillou calls this practice "the villager's living or sacred archaeology of mass graves."

This last contribution seems, at first glance, to be a far cry from the earlier discourse on the scientific archaeology, conservation, and computational models of built cultural heritage. But the links are closer than one might think. Earth, as Guillou tells us, is a major element in the Khmer religious belief system. That the ancient artistic and sacred temple building in Angkorian times was based on an equilibrium of negative and positive earth volumes (i.e. dykes and canals vs. high-rise architecture) is a fact that is certainly well known to Western archaeologists working at the site. From this perspective, temples covered the whole ancient Angkorian landscape and the earth was perceived to be enriched with this culture. This can be related to Guillou's perception that the Cambodian soil "is enriched with fragments of old statues and artefacts, old and new, in some cases buried during times of war in order to prevent them from destruction and robbery." With the incorporation of human corpses (the *physical-archaeological remains*) and

psychological trauma (the *mental remains*) from one of world history's most horrifying incidents into their *local social practice* and religious belief system, Cambodians, as Guillou puts it, are symbolically indicating that the life cycle is closing and moving again towards a better and peaceful future. She states: "By practicing archaeology in its largest sense—lay and popular as well as professional archaeology—Cambodia is able to plait a string between its past and its present." This observation challenges our working hypothesis that Western archaeology—and lately its applied tool in the virtual model making of built heritage—was and still is a means of decontextualizing a culture's past from its contemporary practice.

To what extent did the logic of rational sciences and its all-encompassing concepts of cultural heritage—the recurring picturesque depictions of the 'other' and aesthetic ideas and virtual models of its physical, in our case primarily 'archaeological,' products—sufficiently consider local social practices? How helpful is the binary between popular ('Eastern') and official ('Western') archaeology? Such an opposition brings into play a certain critique of globalization wherein the local is identified as the site of 'authentic' culture, a space of resistance to a hegemonic and homogenizing global. Yet this binary is as essentializing and simplistic as the alleged cultural homogenization of the global it opposes. The case studies discussed here have brought to light the fractures within the locality, which make it a space frequently torn apart by conflict and conflagration over memories and their tangible sites. At the same time there can be no purely 'global' culture that is disconnected from local traditions: market forces, practices of translation, and the modern media that cut across the world are inflected by forces that are national, regional, and local in the same way that the metropolis of the nineteenth century was a place of encounter and the spectacular staging of the local, distant, and exotic through world fairs. The essays in this collection are an attempt to understand the world as a complex of transcultural entanglements by paying closer attention to the multiple layers and hierarchies built within these relationships, and by finding a language to define the morphologies of interaction, appropriation, and transformation (Falser/Juneja 2013).

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