Chapter 4
Power and the Futures of the Internet

Sohail Inayatullah and Ivana Milojević

The Peak of Inflated Expectations

In an article (Inayatullah and Milojević 1999) now written over 15 years ago, we explored the futures of the Internet. The article was written during the initial period of excitement, of a dramatically changing world due to the rapid development of the emerging information and communication technologies. The two main points often made at the time were that the flattening of the system would lead to reduced inequity and that the new technologies would create the possibility of greater community.

First, like many others, we cautioned that the rise of the Internet was still within the context of global inequity. Indeed, "a recent Credit Suisse report estimates that the top one percent of the globe's population possesses nearly half of the world's wealth, whereas the bottom half of world's population holds less than 1 % of its riches" (Resnikoff 2014, para. 4). This structural issue had, and continues to have, tremendous implications for the 'liberating potential' of Internet and other recent ICTs.

Second, we cautioned that the Internet, as it speeded up time, had costs in terms of the ability of humans to slow down. We wrote:

> Thus, cybertechnologies not only create an information rich and poor but also information quick and slow. Time on the screen is different from time spent gazing at sand in the desert or wandering in the Himalayas or playing with loved ones. Screen time does not slow the heart beat down relaxing one into the super-conscious, rather we become lost in many

S. Inayatullah (✉)
Tamkang University, Tamkang, Taiwan

Metafuture.org, 29 Meta Street, Mooloolaba, QLD 4557, Australia
e-mail: sinayatullah@gmail.com

I. Milojević
Metafuture.org, 29 Meta Street, Mooloolaba, QLD 4557, Australia
e-mail: Ivanamilojevic@bigpond.com

J. Winter, R. Ono (eds.), *The Future Internet*, Public Administration and Information Technology 17, DOI 10.1007/978-3-319-22994-2_4

> bytes, creating perhaps an era of accelerating information but certainly not a knowledge future or a future where the subtle mysteries of the world, the spiritual – the depth of the ever-present positive silence – are felt. When in times of crisis, the Net goes down, what will we do then, where will we go for our information-fix, will we have the courage to confront the spaces in our own minds? (Inayatullah and Milojević 1999, p. 77).

This quickening of the self was anticipated by McLuhan in 1980:

> Excessive speed of change isolates already-fragmented individuals… At the speed of light man has neither goals, objectives nor private identity. He is an item in the data bank – software only, easily forgotten – and deeply resentful. (McLuhan 1980, p. 32)

Selves lose reflective space, jumping from one object to another, one website to another, one e-mail to another. It is not a communicative world that will transpire but a world of selves downloading their emotional confusion onto each other. Zia Sardar writes in his book, *Cyberfutures*, "Far from creating a community based on consensus, the information technologies could easily create states of alienated and atomised individuals, glued to their computer terminal, terrorising and being terrorised by all those whose values conflict with their own" (Sardar 1996, p. 847). We thus argued that the then prevalent discourse was overly utopian, seeing the emergent Internet as the solution to the world's problems of development and alienation. In the Gartner (2014) model, we were at the peak of inflated expectations.

However, in sharp contrast to our critical position was the view of techno-optimists. We provide several quotes from thought leaders. Wrote, for example, Dale Spender:

> Cyberspace has the potential to be egalitarian, to bring everyone into a network arrangement. It has the capacity to create community, to provide untold opportunities for communication, exchange and keeping in touch. (Spender 1996, p. 229)

Wrote another leading author:

> Information technology is now the strongest force on Earth, primarily responsible for the collapse of communism, the restructuring of corporations and governments, and the general transformation of civilization into some new type of knowledge society. And what we have seen thus far is only the beginning. The really powerful technologies are likely to arrive during the next decade or so … The newfound ability to re-create human relationships at a distance through vivid, graphic electronic media will comprise one of the most significant advances in the life of the planet, electrifying the globe into a single, huge, thinking, and more highly conscious organism. (Halal 1998, pp. 543–554)

And Bill Gates (1995) argued that "It will affect the world seismically, rocking us in the same way the discovery of the scientific method, the invention of printing, and the arrival of the Information Age did" (p. 273). Finally, Nicholas Negroponte (1995) wrote that:

> While the politicians struggle with the baggage of history, a new generation is emerging from the digital landscape free of many of the old prejudices. These kids are released from the limitation of geographic proximity as the sole basis of friendship, collaboration, play, and neighborhood. Digital technology can be a natural force drawing people into greater world harmony. (p. 230)

Thus, in this future imagined in the late 1990s, cybertechnologies will allow more interaction creating a global *ecumene*. We summarized this argument in these words (Inayatullah and Milojević 1999):

> They create wealth, indeed, a jump in wealth. The new technologies promise a transformational society where the future is always beckoning, a new discovery is yearly. The oppressive dimensions of bounded identity – nation, village, gender, culture – will all disappear as we move in and out of identities and communities. It is the end of scarcity as an operating myth and the beginning of abundance, of information that wants to be free. The late 20th century is the demarcation from the industrial to the information/knowledge era. Progress is occurring now. Forget the cycle of rise and fall and life and death. That was but misinformation. (p. 79)

Centers, Peripheries, and Nodes

We did not argue about the potential disruptive possibilities of the Internet—disintermediation, for example—but rather with claim that the Internet would solve issues of power and access/equity. We certainly did not foresee the dramatic uptake of mobile technologies throughout poorer areas, indeed, allowing Africa to leapfrog copper-based telephony and move to mobile phones and lead in innovation through new ways to share money (m-pesa, for example) (Davies 2014). However, the core of our argument is that *fast modems*, or speed and connectivity in today's language, will not necessarily lead to a global, pluralistic society wherein the invisible can become visible. Certainly dial-up modems have mostly disappeared and there has been a breathtaking development of applications—apps—that can assist the disabled and that can create seamless spaces for social and political protest movements to organize for social justice. Issues of power, however, remain pertinent.

Many predicted (Friedman 2005; Toffler 1981) a flatter society and, to some extent, this has certainly come about as vertical organization has been challenged. Corporations, for example, explore flatter processes through the social economy. Forecasting accuracy increases with the wisdom of the crowds and experts' big data analysis. Indeed, the user now adds value instead of being merely a customer or client or convert. General Electric recently ran a global crowdsourced program to develop a titanium engine bracket. The winner was not from either MIT or Harvard, but rather a 21-year-old student from Indonesia (General Electric 2013). Thus, democratization qua flattening is taking place in a number of niche areas and new information and communication technologies have been helpful in this process. While there are certainly tens of thousands of examples of this, noteworthy is an initiative of the government of Finland. With the government, Open Ministry, a nonprofit organization based in Helsinki, Finland, focused on crowdsourcing, citizen initiatives, and deliberate democracy. Amongst numerous citizen initiatives

> … the Finnish system of citizens' initiatives stands apart for two reasons: firstly, the state provides an online platform where initiatives can be presented and through which the required signatures can be collected. Secondly, the scope within which new laws can be proposed is notably vast, making citizens' initiatives a potentially powerful tool. (Henriksson 2014, para. 5)

Over time, we could easily see, while not the elimination of the legislative representative, reduced power for the parliamentarian with citizen voices having far more power. This is not to say representative democracy will become direct democracy, but representation will likely become far more varied with multiple channels (Dator 1998).

In the economic world, disintermediation challenges the traditional middle man, allowing producers to dramatically enhance their ability to reach markets. However, the flattening has not led to a one person, one vote global democracy. Rather, as network theory accurately predicts, node centers have dramatically increased their power. Node centers are able to influence others in disproportionate ways, often through the politics of fear and exclusion. In the Islamic world, for example, instead of a true flattening where every Muslim interprets the Quran as she or he best understands, i.e., he or she struggles with the text (Inayatullah and Boxwell 2003), interpretation has gone to feudal mullahs/mulvis. Many of these conservative religious leaders have not used the Internet to create a more compassionate politics of religion, but have instead focused on creating a politics of division, of deciding who are the true Muslims and who are not. They have equal access to the billions and are able to spread their message of hate to the disaffected unemployed youth all over the world. Learned scholars are thus in equal footing with demagogues and violent groups such as Al-Qaeda and *Daesh*. They have used the Internet with dynamic innovation. Understanding spectacle, they have used beheadings as a way to create their desired future of Western states attacking Muslim youth, thus leading moderate Muslims to join the radical. As Simpson (2014) has recently argued, Daesh and other radical organizations have understood the new economy and use modern management models drawn from groups such as General Motors. They understand that the few can dramatically broadcast to, and thus influence, the many. They understood that they do not need to tell the truth or remain fact-based but need only to repeat statements such as "the west is evil, non-believers should die" with supporting images. They have learned from the make-believe reality of Hollywood but used the Internet to spread their particular worldview.

So, while we argued (Inayatullah and Milojević 1999) for a Gaia of cultures and of civilizations, a deep dialogue of the softer, and the inner perspectives of all religions and perspectives, the harder—the extremist aspects—has not only not disappeared but has been energized by the Internet. We thus remain convinced that we still need to:

> … imagine and help create social spaces so the new technologies participate in and allow for the coming of a real global civilization, a *prama*, a gaia of cultures; one where there is deep multi-culturalism; where not just political representation and economic wealth are enhanced but the basis of civilization: the epistemologies of varied cultures, women and men, how they see self and other. To begin to realize this, first we need to critically examine the politics of information. We need to ask if the information we receive is true; if it is important, what its implications are, and who is sending us the information. We also need to determine if we can engage in a conversation with the information sent – to question it, reveal its cultural/gendered context, to discern if the information allows for dialogue, for communication. We thus need to search for ways to transform information to communication (going far beyond the 'interactivity' the web promises us), creating not a knowledge

> economy (which silences differences of wealth) but a communicative economy (where differences are explored, some unveiled, others left to be). (Inayatullah and Milojević 1999, p. 85)

We argued that while the Internet, as a global brain, had the capacity for this possible future, communication was and would remain primary. As it has turned out, the Internet has become more accessible and faster, but while it has activated many forces that reduce inequity (for example, Change.org, Destroy the Joint, Avaaz.org, Getup!, The Occupy Movement), it has also been a boon to the extreme far right, in the guise of, for example, Islamic extremists, the websites that support them, and the Western press that mirrors them (e.g., Planet Murdoch and Fox News). The mirror—the Western press—has used the Internet for extremist, exclusive, and corporatist politics while claiming that they represent the values of the enlightenment. They, too, have learned the power of nodes—charismatic individuals who can influence the many—but have buttressed that through billion-dollar conventional multimedia platforms. Thus, in the dream of a Gaia of civilizations, we have seen the new ecology creating new predators, large corporations like Fox, and smaller, raptor-like creatures who are able to use violence to shape the global debate.

Thus, while speed and access have certainly led to new applications that can help the poor—farmers understanding weather conditions, having access to real-time pricing of their goods (Sivakumar 2013), or helping those in villages with health diagnostics (Cohan 2011)—vertical power in communications technologies remains. Indeed, it has been accentuated to a great degree in that those alert to the new rules of the Internet have disproportionate power to frame debates.

For example, what is newsworthy and what is not continues to be connected with power and the politics of inclusion and exclusion. An often raised issue is the disproportionate media attention given to victims of large scale violence, including terrorism, in different parts of the world. In the wake of the Charlie Hebdo tragedy in Paris, social media ran wild with comparisons between this and other crimes where there were dramatically more victims but significantly less media coverage, such as the atrocities by Boko Haram in Nigeria. For example, a study conducted in 2014 suggests that "media outlets publish three to ten times as many stories about France than about Nigeria. This disparity is striking as Nigeria's population (estimated at 173 million) is almost three times the size of France's population (66 million)" (Zuckerman 2015, para. 16).

Even in Nigeria, "the violence in Paris received more media attention than the massacres in Baga and Maiduguri in the three days the story was unfolding" (Zuckerman 2015, para. 7). Furthermore:

> There's bad news for those hoping online media will change existing patterns of media attention: while broadcast news outlets ran 3.2 times as many stories about France as about Nigeria, online media outlets published more than ten times as many French as Nigerian stories (10.4 to be precise). (Zuckerman 2015, para. 17)

Our conclusion is that, by and large, centers of (former and current) power continue to receive much more attention than globally marginalized spaces. Thus, the deeper transformative change has been the power of the few to dramatically

influence the many. This does not mean one cannot opt out of Facebook, for example, but opting out merely means a lack of influence. However, staying within the system has multiple challenges and can create many possibilities for change.

Taking a Both/and Perspective

"Twitter is a nasty, nasty place – don't get on there unless you're tough." (Anonymous Internet user, cited in Munro 2014, para. 8)

> Online trolling, cyberbullying, identity theft, and the unsolicited sharing of personal information, including images (i.e., nude photographs) have made some people's lives dramatically difficult to the point of a number of (mostly young) people committing suicide. The hacking of personal data and various security systems (i.e. national security, financial, communication and transportation systems) remain real and present dangers. Our collective and individual minds are changing: attention span is going down, and cravings for immediate gratification up. This is the quickening of the self as anticipated by McLuhan in the 1980s and mentioned in our 1999 article.

Indeed, misogyny, racism and other types of nastiness towards minority groups remain rampant, as they do in non-digital global and local societies. Racist prejudice continues to fit the dominant framework, thus the "criminal, crazy, suicidal" act (Miranda 2015, para. 27) by Andreas Lubitz, a copilot who deliberately crashed Germanwings Airbus A320 in March 2015, potentially fuelled by "serious depressive episode" (Käckenhoff 2015, para. 11), has been reconstructed as a problem with Islam. "Based on absolutely nothing," a US-based Christian Televangelist suggested that copilot's actions could somehow be "explained" if he were a Muslim (Allon 2015, para. 1). The Internet went viral with reports that Lubitz was a convert to Islam (see Chandler 2015), despite repeated rebuttals that there is no hard evidence supporting this claim. However, "Muslims"—all Muslims—"are responsible for this mass murder of civilians," claimed another Internet-based news source (Michael Mannheimer, as cited by the Shoebat Foundation 2015, para. 2). This is so "indirectly," as "the knee-jerk reaction to 9/11 produced the ill-conceived reinforced cockpit door that had catastrophic consequences" (Shoebat Foundation 2015, para. 25). As much as the Internet is about unlimited access to information, it is also an unlimited source of disinformation, conspiracy theories, and the relentless blaming of "others."

At the same time, the emergence of social media has indeed enabled the enhancement of "net-weaving … done in a context of community or friendly groups and not in a context of alienated individuals" (Inayatullah and Milojević 1999, p. 84). Campaigns focused on "the quality of life of the majority of people" (Inayatullah and Milojević 1999, p. 84), Activism 2.0, or online activism, is sometimes accused of "slacktivism"—feel-good actions that result in no meaningful social impact. However, there is no doubt that some campaigns have indeed changed existing power arrangements at the micro level. One example is the successful Australian petition that resulted in the banning of sales of the *Grand Theft Auto 5* video game in major

stores—due to what the petition describes as "sickening [content] which encouraged players to commit sexual violence and kill women" (Watson 2014, para. 5). Another example is the involvement of the Australian immigration minister who revoked the visa of the similarly misogynous "pick-up artist" Julien Blanc, who focused on teaching men "how to 'pick-up' women using physical force and emotional abuse" (Davey 2014, para. 6). In the latter case, protestors highlighted Blanc's "videos, Twitter feeds and photos promoting violence against women and abuse as a means of attracting them" (Davey 2014, para. 7). The #takedownjulienblanc Twitter campaign was led by online activist Jennifer Li, who helped spread word of his talks, and an anti-Blanc Facebook page as well as an online petition urging the Australian immigration minister to deport him also emerged. In addition to revoking his visa by the Immigration minister, Victorian police Commissioner Ken Lay also issued a statement condemning Blanc's activities:

> I've seen Julien Blanc's work … To me most of it appears to be deeply disturbing and offensive. Labelling women as objects and actively promoting the abuse of women degrades the dignity of our whole community. We want to assure everyone that we have been paying close attention to this issue and appreciate that so many community members have expressed concern. (Davey 2014, para. 12–13)

There have been many more instances where online activism engaged communities, police and governments, including the passing of The Criminal Law Amendment Act in 2013 in India, on laws related to sexual offenses and in light of the protests in the 2012 Delhi gang rape case. While public, physical protests created momentum for such legal changes, the scale and the impact of these protests would not be of such magnitude if not for social media and digital activism. While the questions over "loopholes" and poor record of law enforcement remain, meaning "much, much more needs to be done" (Nessman 2013, para. 4), the change was nonetheless recognized as a significant moment wherein many steps forward have been taken (Nessman 2013). Online petition site Change.org has an extensive lists of online petitions claiming "confirmed victory": from the freeing of Meriam Ibrahim, a Sudanese mother, doctor, and Christian who was sentenced to flogging and death, to the announcing of approval of designs for an all-female scientist series by LEGO. In some of these, and many other instances, the Internet has certainly participated in the "decolonisation processes, giving power to communities and individuals" (Inayatullah and Milojević 1999, p. 86) to create social change that we discussed earlier. It is thus today a "both/and" process where power continues to be renegotiated. The world has certainly become flatter; at the same time, large corporations and dominant worldviews still define the real. And simultaneously, citizen groups have the power to seamlessly challenge power, whether through the "buycott" of products or the highlighting of particularly grievous injustices. Citizen groups can scale up their protests dramatically through the use of cyber-weaving strategies. And, of course, so can particular groups such as Daesh, who use the Internet to create spectacle and ensure that global attention stays on them so they can attract young recruits. Alternatively, Islamophobes also use the Internet to promote hatred against Muslims. Traditional power—the vertical power of feudal systems is challenged—as flatter structures grow. However, the new flatter structures raise

issues of privacy, digital "street" justice and injustice, information and misinformation, among other concerns. Power to influence has been dramatically enhanced, provided an individual or a group has the means to do so. The means are not only technological or in time and energy, but also somehow linked to existing cultural templates, thus deciding what gets to be heard and what is silenced.

Alternative Futures

But that is the present. The next part of this chapter focuses on the alternative futures of the Internet. What are these?

Based on a literature review and dozens of workshops with citizens, decision-makers and experts on foresight, the following futures emerge. The structure of the scenarios is based on the Causal Layered Analysis model, wherein reality has four levels: the observable but superficial litany level; the supporting systemic level; the deeper worldview level and the deepest myth/metaphor level (Inayatullah 2004; Inayatullah and Milojević 2015), incasting model. These four levels frame scenarios and allow a robust and in-depth understanding of the future. The four levels focus on that which is observable (the litany), that which supports the observable (the system), that which makes sense of the litany (the worldview), and that which is the deepest and often the most profound (the myth-metaphor). This approach allows an easy way to compare scenarios and understand them at different levels.

The Leap-Frog or Bypass

In this future, the poorer nations of today, by being less invested in today's technology, jump over the wealthier nations, and lead in creating new Internet futures. There are a number of crucial drivers. First, poorer nations are not as vested in the traditional telephone and thus can jump to mobile and smart phones. Second, Internet technologies afford the ability of traditional communities to stay coherent, in that the move to the big city will no longer be required. Third, the rapid urbanization in industrializing nations has created tremendous problems (traffic congestion, for example) that could be solved through working from home, or creating community-work stations. Fourth, Asian and African nations are starting at relatively the same start-off point: the West has an advantage but it is not insurmountable. And, finally, the Internet creates disintermediation, allowing a greater ability to produce services to global customers. There are fewer weights to entry, and discrimination is far more difficult.

As an example of this, at one workshop in Bangladesh for the Ministry of Health, participants imagined the Bangladeshi health system jumping over the hospital-based Western system. In this future as presented in Table 4.1, virtue would be rewarded and vice penalized, i.e., health would be incentivized. Health power

Table 4.1 The leap-frog—current and future

Layer	Current	Desired future
Litany	Expensive, for the few	Affordable health solutions and prevention
System	Centralized, hospital based	Decentralized in villages, led by women
Worldview	Medical system	Medical system to person-in-community health ecology
Metaphor	Catch up to the West	Leap frog, bypass

would be decentralized to the individual within village communities. Using Bangladeshi-developed tablet computer systems, health would be diagnosed by village health workers. These women would then send the information to experts in Dhaka. Of course, as Artificial Intelligence develops, there would be no need to relay the information as smart systems themselves could make the diagnosis. The goal of this system would be to find affordable health solutions that empowered local communities through locally invented Bangladeshi health technologies and applications. Health would thus be personalized but in a community context, i.e., just as micro-credit lending succeeded by creating small groups of women who borrowed money and supported each other; groups of women would support each other's health futures. Greater access would come through a rethinking of power and politics. However, and this is crucial, as Ministers fund projects wherein they "can cut the ribbon," government leaders would need to get credit to move toward a lower-cost, prevention-based system. The current system reinforces the hospital, not nodes of new power and health networks. The main points for this scenario and example are (1) A new story—the leap-frog or bypass; (2) A new measurement system focused on early diagnostics and prevention (New incentivized systems where being healthy was rewarded); and (3) A new way of thinking that moved the discourse from the medical to the personal/community. In this future, the Internet would become even more important. Costs would need to go down and network would speed up. Penetration to each person in poorer regions would be crucial. The Internet would become the vehicle to leap-frog over the West, just as the steam engine and other industrial technologies allowed the West to leave Asia behind. Smarter phones/tables and other hand-held devices would become even more important. Using the Internet to bypass large feudal bureaucracies could create a new ecology of innovation, leading to a system of new social technologies that alleviate poverty and enhance wealth. In the African context, this is the rise of Silicon Savannah in Kenya (Anderson 2015) For example, writes Anderson: "Kenya, which has long been seen as a leader in mobile technology, has 32.2 m mobile subscribers giving it a 79.2 % mobile penetration rate. Many of the country's projects focus on developing products that reach Kenya's poorest through SMS services available on basic mobile phones (para. 10)."

And, as the previously excluded gain access to the new ICTs more, perhaps their issues and priorities as well as worldviews will become heard more and more.

Cycles of Violence and Surveillance

The main driver in this future is perceived injustice and the ability to use violence and spectacle to challenge this injustice. Whether through the Internet or emerging 3D printed technologies or drones, the weak are able to inflict violence on the strong. This is likely to create an endless cycle of violence—today by Islamic radicals, tomorrow by other parties … and state forces who react to this violence. Each act of violence will lead to greater surveillance, and citizens directly or indirectly willing to give up civil rights for overall safety. Over time, we can imagine citizens implanted with bio-chips that send signals about their whereabouts, their purchases, the texts they read, the Facebook pages they like, where they travel, and the company they keep. Big data is brought in as a promise of increased efficiency and productivity, but over time leads to the full surveillance state and society. Certainly, costs can be reduced by big data technologies in that early health diagnostics reduces dollars spent on health; predictive policing concentrates policing power and reduces inefficiencies inherent in presence model policing (policing by driving around); and taxi services like Uber reduce carbon emissions and leads to the full utilization of roads and cars, for example. Thus, the seduction of cost reduction and security concerns of radical groups leads to a full surveillance society. The guiding story is a mixture of "big brother and meddlesome auntie"—the future thus is predictive based as shown in Table 4.2. It is big data run. Dissent is built into the system, i.e., safe models of protest are allowed. Efficient systems rule the day and the worldview shift is from individual freedom to collective safety.

The Internet becomes ubiquitous like air and is everywhere. The bargain for efficiency leads to safe and predictable society. This is the move from Internet 1.0 to Internet 3.0—the Internet of people, things, and places. Internet 2.0, with flatter systems wherein the user adds value, is bypassed. The challenge in this future is both the loss of emergence and creativity and the darknet, portions of the Deep Web not accessible via standard Web browsers (Chacos 2013)—the world of "credit-card scammers, forged documents and currency, weapons dealers, gambling sites, marketplaces for every vice imaginable, hacker havens, the types of illegal and disgusting porn that get chased off the Surface Web" (Chacos 2013, para. 12). The darknet does not disappear in the command and control future; rather, it disappears and reappears in unexpected spaces leading to greater calls for surveillance.

Such a world may disempower almost everyone, with the exception of successful MobNet criminals, and the emergent e-totalitarian states.

Table 4.2 Cycles of violence and surveillance—current and future

Layer	Current	Future
Litany	Big data a novelty, citizen excitement	Big data reduces costs and increases efficiency
System	Open and emergent	Predictive
Worldview	Flat, ecology	Command and control
Metaphor	Frontier	Big brother and the meddlesome auntie

Gaia of Civilizations

The main driver for this idealistic scenario is the development of a new demographic group—the Cultural Creatives. There has been a shift away from traditional conservative and modernist values to trans-modern or ecological values in the past 40 years (Ray 2008). From being only 3 % of the population, Cultural Creatives have jumped to over 40 % (Tibbs 2011). Writes Ray:

> Their [Cultural Creatives'] most important values include: ecological sustainability and concern for the planet (not just environmentalism); liking what is foreign and exotic in other cultures; what are often called 'women's issues' by politicians and the media (i.e., concern about the condition of women and children both at home and around the world, concern for better health care and education, desire to rebuild neighbourhoods and community, desire to improve caring relationships and family life); social conscience, a demand for authenticity in social life and a guarded social optimism; and giving importance to altruism, self-actualisation and spirituality as a single complex of values. (Ray 2008, p. 7)

Also important is their link to new technologies, argues Ray:

> The other major influence on their growth has been the growing information saturation of the world since the 1950s. In fact the Cultural Creatives are simply the best informed people. They take in more of every kind of information through all the media, and are more discriminating about it as a result. Many successfully blend their personal experience with new views about how the world works, and why – their new values and commitments have rather organically grown out of their synthesis of all the information. (Ray 2008, p. 8)

And two key dimensions of values are more important to Cultural Creatives than to others: (1) green and socially responsible values, and (2) personal development values, including spirituality and new lifestyles.

As shown in Fig. 4.1, Hardin Tibbs (2011), in his interpretation of Ray's data, suggests that there could be a shift in values by around 2020 as Cultural Creatives become the majority in certain parts of the world.

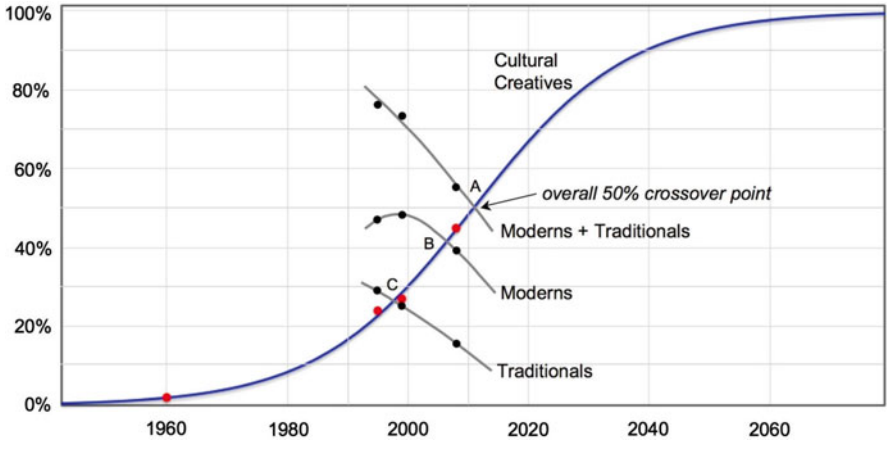

Fig. 4.1 Rise of the cultural creatives (from Tibbs 2011)

Table 4.3 Gaia of civilizations—current and future

Layer	Current	Future or desired future?
Litany	Fracturing of society and self	Greater coherence and integration
System	National boundaries	Global governance and regulation
Worldview	Informational battle of worldviews	Communicative dialogue of civilizations
Metaphor	By the privileged	The global brain

If Ray and others are correct, then this demographic shift could lead to a politics wherein the Gaian future suddenly moves from being marginal to center stage.

Thus, in this future as summarized in Table 4.3, the growth of the Internet—speech, access, dispersion—is built upon the fabric of ethical civilization rules. Illustrating the Gaian future through a concrete issue, for example, in terms of Charlie Hebdo, artists would mock but be careful not to challenge the dignity of each religion or civilization's core sensibilities. Dignity would not be lost, rather, the purpose of the artist would be to inspire toward greater globalization, and not the fracturing of society. The focus would be not on information but on communication—and preferably nonviolent communication (Milojević 2006). This would mean global regulation of the Internet, ensuring that the Internet would be equally accessible and Network Neutrality where bigger providers would not receive preferential treatment would be achieved. It would require development of emotional literacy and the intention not to harm/mock/ridicule, too. The Internet becomes the global brain, as H. G. Wells imagined many years ago—a true Wikipedia instead of the current version of Wikipedia that is damaged by trolls.

While this may be the preferred future for the majority, the obstacles are enormous. How do we change the dominant cultural frameworks of meaning? How do we move from a focus on violence and domination toward peaceful cooperation? Perhaps Cultural Creatives and new generations of interconnected global citizens will be able to lead such a transformation, but the weights of the past are heavy.

The Great Disruption

In this last future, the exact development of the Internet cannot really be predicted in the sense that disruption is built into the Net. What we can say is that Web 1.0 was based on traditional hierarchies, merely providing information. Web 2.0 has been interactive, user-led, and far more flat; even though power has not disappeared (i.e., it has activated the few to influence the many). Web 3.0 leaves the Web and, linked with the maker revolution/3D printing, i.e., the Internet of persons, objects and data, becomes the organizing medium of the knowledge society. The power shift entailed in this transition will likely be as dramatic as the shift from industrial to post-industrial. The main driver in this scenario is technology itself. In this future, we are not at the end of the Internet revolution but merely at its beginning. Disruption has just begun as presented in Table 4.4. Everything will be disrupted, from governance to war; from sex to the family; from the brain to our perceptions of God. And more

Table 4.4 The great disruption—future

Layer	Future
Litany	Disruption is the norm
System	Artificial intelligence—sensors everywhere
Worldview	Post-knowledge society
Metaphor	Giving birth

and more individuals will join in the disruption, creating futures that cannot be predicted from the categories of today. By 2045, there may well be direct e-democracy in parts of the world. Capitalism may have collapsed leading to the birth of a true sharing, efficient and progressive economy. The industrial era may have ended, leading to the birth of solar–wind era. The Internet may have become Gaia-tech, creating a new type of civilization we cannot imagine today.

As with all major disruptions, uncertainties are many, but if currently unforeseen events do come to fruition they may dramatically change so much that we currently know.

Conclusion

As we reflect on the future, what we certainly do not know is the nature of Web 4.0, if that occurs, i.e., will it be a merger of our minds with the Internet of things? As Google's executive chairman Eric Schmidt has recently forecast (Passary 2015), will the Internet soon "disappear" from our lives altogether? Or, will the Web become alive, a living entity, and if so, will it be Gaian sister or Big brother—and what will be its politics? Certainly we know its reach will be further, even to space, and deeper, into more inner spaces of our minds. And, while it is certainly the disruption that the techno-utopians have imagined, the issue, for us, remains: how will power be circulated, and will the new Web be data/information-based or move toward communication/wisdom? Can power be dispersed, used more wisely, or will reality always be a realist zero-sum game?

The futures of the Internet thus are multiple. What will emerge is far from clear. Will the Internet become the vehicle for wars of propaganda and terror—the rise of the darknet—or will it successfully be used by the current poor to either catch up or bypass the privileged and wealthy? Or will the intent become communication-focused and help create a system of global governance, a Gaia of civilizations? Or is the future of the Internet artificial intelligence-led, with Gaia giving birth to … herself? Most likely all aspects of these scenarios will occur as well as futures beyond our current imagination.

References

Allon J (2015) Pat Robertson kicks off Islamophobic reactions to Germanwings plane crash., http://www.alternet.org/news-amp-politics/pat-robertson-kicks-islamophobic-reactions-germanwings-plane-crash

Anderson M (2015) Kenya's tech entrepreneurs shun Konza 'silicon savannah'., http://www.theguardian.com/global-development/2015/jan/05/kenya-technology-entrepreneurs-konza-silicon-savannah

Chacos B (2013) Meet darknet, the hidden, anonymous underbelly of the searchable Web., http://www.pcworld.com/article/2046227/meet-darknet-the-hidden-anonymous-underbelly-of-the-searchable-web.html

Chandler B (2015) Breaking news: German media reports co-pilot was Muslim convert., http://viral.buzz/breaking-news-co-pilot-was-muslim-convert/

Cohan P (2011) Diagnostics for all to heal the poor with hybrid structure., http://www.forbes.com/sites/petercohan/2011/07/18/diagnostics-for-all-to-heal-the-poor-with-hybrid-structure/

Dator J (1998) What futures for governance? Public lecture series, Eastern Oregon State University, http://www.futures.hawaii.edu/publications/governance/WhatFutsGovenment1998.pdf

Davey M (2014) US 'pick-up artist' Julien Blanc forced to leave Australia after visa cancelled., http://www.theguardian.com/australia-news/2014/nov/07/protesters-force-us-pick-up-artist-julien-blanc-to-quit-australian-tour

Davies S (2014) Nairobi: silicon Savannah springs to life. Financial Times. http://www.ft.com/cms/s/0/83b0b4f4-5fa5-11e4-986c-00144feabdc0.html#axzz3P8UR3JyI. Accessed 18 Jan 2015

Friedman T (2005) The world is flat. Farrar, Straus and Giroux, New York

Gartner (2014) Gartner's 2014 hype cycle for emerging technologies maps the journey to digital business. http://www.gartner.com/newsroom/id/2819918

Gates B (1995) The road ahead. Viking, London

General Electric (2013) Jet engine bracket from Indonesia wins 3D printing challenge., http://www.gereports.com/post/77131235083/jet-engine-bracket-from-indonesia-wins-3d-printing

Halal W (1998) Prophets of a high-tech age. Am Behav Sci 42(3):543–554

Henriksson T (2014) Power to the people., http://www.6d.fi/6d/index.php/feature/40-feature/722-power-to-the-people

Inayatullah S (2004) The causal layered analysis reader. Tamkang University, Taipei

Inayatullah S, Boxwell G (2003) Islam, postmodernism and other futures: a Zia Sardar reader. Pluto Press, London

Inayatullah S, Milojević I (1999) Exclusion and communication in the information era: from silences to global conversations. In: Harcourt W (ed) Women@internet. Zed, London, pp 76–88

Inayatullah S, Milojević I (eds) (2015) CLA 2.0: transformative research in theory and practice. Tamkang University, Taipei

Käckenhoff T (2015) Torn-up sick notes show crash pilot should have been grounded., http://www.reuters.com/article/2015/03/27/us-france-crash-idUSKBN0MN11N20150327

McLuhan M (1980) Living at the speed of light. MacLean's Magazine, 32–33

Milojević I (2006) Reconciling funny and permissible: can we develop non-violent humour? Social Alternat 25(1):67–70

Miranda C (2015) Airbus A320 crash a 'criminal, crazy, suicidal' act, says French PM., http://www.news.com.au/travel/travel-updates/airbus-a320-crash-a-criminal-crazy-suicidal-act-says-french-pm/story-fnizu68q-1227282147886

Munro P (2014) "Everyday sadists: inside the mind of an online troll. The Sydney Morning Herald. http://www.smh.com.au/national/everyday-sadists-inside-the-mind-of-an-online-troll-20141206-11xo7u.html

Negroponte N (1995) Being digital. Knopf, New York

Nessman R (2013) India rape law: parliament passes strict sexual violence legislation., http://www.huffingtonpost.com/2013/03/21/india-rape-law-passes-parliament_n_2924462.html

Passary A (2015) Google's Eric Schmidt predicts the Internet will disappear: here's why., http://www.techtimes.com/articles/28308/20150123/googles-eric-schmidt-predicts-internet-will-disappear-heres-why.htm

Ray P (2008) The potential for a new, emerging culture in the U.S.: report on the, American Values Survey. Wisdom University, Mill Valley, CA

Resnikoff N (2014) Global inequality is a rising concern for elites., http://america.aljazeera.com/articles/2014/11/11/global-inequalityisarisingconcernforelites.html

Sardar Z (1996) The future of democracy and human rights: an overview. Futures 28(9):839–859

Shoebat Foundation (2015) Contrary to the viral internet reports, there is no hard evidence that the Germanwings co-pilot, Andreas Gunter Lubitz, was a convert to Islam., http://shoebat.com/2015/03/27/contrary-to-the-viral-internet-reports-there-is-no-hard-evidence-that-the-germanwings-co-pilot-andreas-gunter-lubitz-was-a-convert-to-islam/

Simpson C (2014) The banality of the Islamic State: how ISIS corporatized terror., http://www.bloomberg.com/graphics/2014-the-business-of-isis-spreadsheets-annual-reports-and-terror/#/

Sivakumar S (2013) Among India's rural poor farming community, technology is the great equalizer., http://www.huffingtonpost.com/s-sivakumar/among-indias-rural-poor-f_b_4117991.html

Spender D (1996) Nattering on the Net: women, power and cyberspace. Garamond Press, Toronto

Tibbs H (2011) Changing cultural values and the transition to sustainability. J Future Stud 15(3):13–32

Toffler A (1981) The third wave. Bantam Books, New York

Watson M (2014) This Australian petition to ban GTA 5 from Target has received more than 20,000 signatures in a single day., http://junkee.com/this-australian-petition-to-ban-gta-5-from-target-has-received-more-than-20000-signatures-in-a-single-day/46546#KGfAlhOUtWI7XTJP.99

Zuckerman E (2015) Comment: this is why the internet cares more about 17 French people than 2000Nigerians.,http://www.sbs.com.au/news/article/2015/01/22/comment-why-internet-cares-more-about-17-french-people-2000-nigerians