

# POWER AND THE FUTURES OF THE INTERNET

Sohail Inayatullah and Ivana Milojević

in

Jennifer Winter and Ryota Ono, eds., *The Future Internet: Alternative Visions*. Springer, 2015, 59-74.

## THE PEAK OF INFLATED EXPECTATIONS

In an article now written over fifteen years ago, we explored the futures of the internet. The article was written in the initial period of excitement, of a dramatically changing world due to the rapid developing of the emerging information and communication technologies. The two main points often made at the time was 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 1 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 percent of its riches."<sup>i</sup> This structural issue had and continues to have tremendous implications on 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:<sup>ii</sup>

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 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?

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

Excessive speed of change isolates already fragmented individuals. At the speed [speech] of light man has neither goals, objectives or private identity. He is an item in the data bank - software only, easily forgotten - and deeply resentful.<sup>iii</sup>

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. Writes Zia Sardar, 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." <sup>iv</sup>

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 model, we were at the peak of inflated expectations. <sup>v</sup>

However, in sharp contrast to our critical position was the view of techno-optimists. 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. (Quoted in Shute 1996, p. 9)

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 (1999, 273) 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.

Finally, the author of *Being Digital*, Nicholas Negroponte (1995, 230) 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 neighbourhood. Digital technology can be a natural force drawing people into greater world harmony.

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 Milojevic, 199, p.79):

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 – to 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.

## CENTRES, PERIPHERIES AND NODES

We did not argue with the potential disruptive possibilities of the internet – disintermediation, for example – but rather with claims 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<sup>vi</sup>). However, we still hold the view - the core of our argument - that "fast modems" or in today's language - speed and connectivity - would not necessary lead to global pluralistic society wherein the invisible can become visible. Certainly modems have disappeared, and certainly 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, but still, issues of power remain pertinent.

Many predicted<sup>vii viii</sup> a flatter society, and to some extent, this has certainly come about as the 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 the American East or West coast; neither MIT nor Harvard, but rather a 21 year old student from Indonesia<sup>ix</sup>. Thus, democratisation 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 the government of Finland's. It is organized by Open Ministry, a non-profit organization based in Helsinki, Finland focused on crowdsourcing, citizen initiatives and deliberate democracy.<sup>x</sup> 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.

Over time, we could easily see, while not the elimination of the legislative representative, certainly 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.<sup>xi</sup>

In the economic world, disintermediation challenges the traditional middle man, allowing producers to dramatically enhance their ability to reach markets. However, and this is crucial, the flattening has not led to a one person, one vote global democracy, rather, as network theory accurately predicts, node centres have dramatically increased their power. Node centres 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 instead have 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 and thus leading to moderate Muslims joining the radical. As a recent *Bloomberg Businessweek* article argues<sup>xii</sup>, *Daesh* and other radical organizations have understand the new economy and use modern management models drawn from groups such as General Motors. They understood that the few can dramatically broadcast to the many. They understood that they do not need to tell the truth or remain fact based but focus on statements said over and over (“the west is evil, non-believers should die”) and provide supportive images. They have learned from Hollywood but used the internet to spread their particular worldview.

So while we argued for a Gaia of cultures, of civilizations, a deep dialogue of the softer, 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 the internet as a global brain had the capacity for this possible future, but far more than the speed of the internet was required, communication was and remains primary. As it has turned out, the net 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 (Planet Murdoch and Fox News). The mirror – the western press - has used the net 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 multi-media 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, or having access to real time pricing of their goods<sup>xiii</sup> or helping those in villages with health diagnostics<sup>xiv</sup> – 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 web 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).<sup>xv</sup>

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"<sup>xvi</sup>. 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).<sup>xvii</sup>

Our conclusion is that by and large, centres of (former and current) power continue to receive much more attention than globally marginalised 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.

## **BOTH/AND**

"Twitter is a nasty, nasty place – don't get on there unless you're tough."<sup>xviii</sup>

On-line trolling, cyber bullying, 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 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"<sup>xix</sup> act by a co-pilot who deliberately crashed Germanwings Airbus A320 in March 2015 (potentially fuelled by "serious depressive episode"<sup>xxx</sup>) has been reconstructed as a problem with Islam. "Based on absolutely nothing"<sup>xxi</sup>, a US based Christian

Televangelist suggested that co-pilot's actions could somehow be "explained" if he was a Muslim. The internet went viral with reports that co-pilot was a convert to Islam<sup>xxii</sup>, 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"<sup>xxiii</sup>. This is so "indirectly" as "the knee-jerk reaction to 9/11 produced the ill-conceived reinforced cockpit door that had catastrophic consequences"<sup>xxiv</sup>. 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 Milojevic, 1999, p. 84). Campaigns focused on "the quality of life of the majority of people" (ibid.), Activism 2.0 or online activism, is sometimes accused of "slactivism" – 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 Grand Theft Auto video game in major stores – due to its "sickening [content] which encouraged players to commit sexual violence and kill women"<sup>xxv</sup>. 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"<sup>xxvi</sup>. 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"<sup>xxvii</sup>. The #takedownjulienblanc Twitter campaign was led by online activist Jennifer Li who helped spread word of his talks, an anti-Blanc Facebook page also emerged as well as an online petition urging the Australian immigration minister to deport him. 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.<sup>xxviii</sup>

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 offences 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 country's poor record of law enforcement remain, meaning "much, much more needs to be done"<sup>xxix</sup>, the change was non-the-less recognised as a significant moment wherein many steps forward have been taken.<sup>xxx</sup> Change.org as well has an extensive lists of online petitions with "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 Milojevic, 1999: 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 raising of particularly 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, to begin with. Power to influence has been dramatically enhanced, providing 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.

- 1 The leap frog or by-pass.** 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 unreachable. And, finally, fifth, the internet creates disintermediation allowing a greater ability to produce services to global customers. There are fewer weights to entry as well as discrimination if far more difficult.

As an example of this, at one workshop in Bangladesh for the Ministry of Health, participants imagined the Bangladesh health system jumping over the hospital-based Western system. In this future, virtue would be rewarded and vice penalized, i.e. health would be incentivized. Health power 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 AI 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 others' 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 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 systemic of new social technologies that alleviate poverty and enhance wealth. In the African context, this is the rise of Silicon Savannah in Kenya.<sup>xxxix</sup> For example,

Kenya, which has long been seen as a leader in mobile technology, has 32.2m 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.

In the future, it is hoped that penetration moves toward 90% and the share of ICTS to the economy moves toward 25-30%.

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

Table 1

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.

- 2. 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 the 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 .....?- 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. Overtime, we can imagine citizens planted with bio-chips that send signals to 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); Uber type taxi services reduces 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 meddling auntie” – the future thus is predictive based. 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, it 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 by-passed. The challenge in this future is both the loss of emergence and creativity and the darknet<sup>xxxii</sup> - 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."<sup>xxxiii</sup> 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

Litany	Big data a novelty, citizen excitement	Big data reduces costs and increases efficiency
System	Open and emergent	Predictive
Worldview	Flat, an ecology	Command and Control
Metaphor	Frontier	Big brother and the meddling auntie

Table 2

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

**3.** In the third scenario, our earlier imagined, **Gaia of civilizations**, the growth of the Internet - speech, access, dispersion – is built upon the fabric of ethical civilization rules. The main driver for this idealistic scenario is the development of a new demographic group - the cultural creatives. Authors Ray and Anderson have noticed a shift away from traditional conservative and modernist values to trans-modern or ecological values in the past forty. From being only three percent of the population, they have jumped to over forty percent.<sup>xxxiv</sup> 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.<sup>xxxv</sup>

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.<sup>xxxvi</sup>

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

Hardin Tibbs, 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.

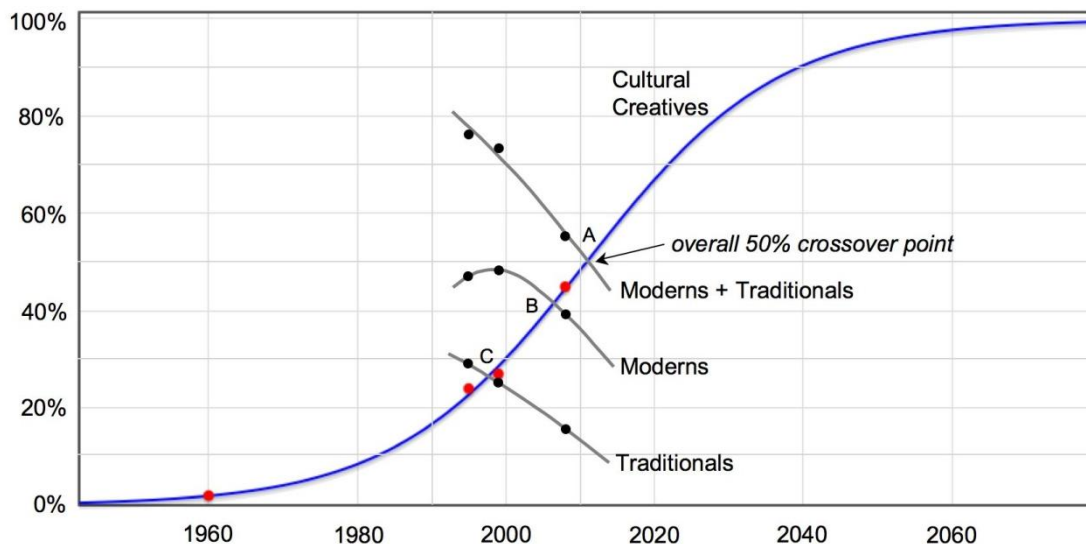


Figure 1. Rise of the Cultural Creatives<sup>xxxvii</sup>

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 centre stage.

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 a global regulatory of the net, efforts to ensure that the internet was equally accessible, and certainly ensuring net neutrality (that bigger providers did not have special speed access). And it would require development of emotional literacy and the intention not to harm/mock/ridicule. The net becomes the global brain, as HG Wells imagined many years ago – a true Wikipedia instead of the current version of Wikipedia that is damaged by trolls.

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

Table 3

While this may be the preferred future for the majority, the obstacles in front if it are enormous. How to change the dominant cultural frameworks of meaning? How to 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

**4. The Great Disruption.** In this last future, the exact development of the net 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. Everything will be disrupted, from governance to war; from sex to the family; from the brain to our perceptions of God. And: more 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-win era. The internet may have become Gaia-tech, creating a new type of civilization we cannot imagine today.

Litany	Disruption is the norm
System	Artificial intelligence – sensors everywhere
Worldview	Post-knowledge society

Metaphor	Giving birth
----------	--------------

Table 4

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 don't 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? Will the Internet soon "disappear" from our lives altogether, as Google's executive chairman Eric Schmidt, has recently forecast<sup>xxxviii</sup>? 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 net 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 by pass 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 so imaginable that the future of the internet is 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.

<sup>i</sup> <http://america.aljazeera.com/articles/2014/11/11/global-inequalityisarisngconcernforelites.html>. Accessed 24 March 2015.

<sup>ii</sup> Inayatullah, Sohail and Milojević Ivana, 1999, "Exclusion and Communication in the Information Era: from silences to global conversations," in Wendy Harcourt, ed., *Women@internet*. London, Zed, 76-88. Also rewritten as: Inayatullah, Sohail and Milojevic, Ivana, 1998, "Exclusion and Communication in the Information Era," *New Renaissance* (Vol. 8, No. 2), 9–12.

<sup>iii</sup> Marshall McLuhan, quoted in *New Internationalist* special issue titled, 'Seduced by Technology: The human costs of computers', *New Internationalist*, 286, December 1996, 26.

<sup>iv</sup> Ziauddin Sardar, 'The future of democracy and human rights', *Futures*, Vol 28, No 9, 1996, 847.

<sup>v</sup> <http://www.gartner.com/newsroom/id/2819918>. Accessed 24 March 2015.

<sup>vi</sup> (<http://www.ft.com/cms/s/0/83b0b4f4-5fa5-11e4-986c-00144feabdc0.html#axzz3P8UR3JyI>), Accessed 18 January 2015.

<sup>vii</sup> See, for example, Freidman, Thomas, 2005,, *The World is Flat*, New York, Farrar, Straus and Giroux.

<sup>viii</sup> Toffler, Alvin. 1981. *The Third Wave*. New York: Bantam Books.

<sup>ix</sup> (<http://www.gereports.com/post/77131235083/jet-engine-bracket-from-indonesia-wins-3d-printing>). Accessed 18 January 2015.

<sup>x</sup> <http://www.6d.fi/6d/index.php/feature/40-feature/722-power-to-the-people>. Accessed 24 March 2015.

<sup>xi</sup> See, for example, the works of James Dator.

<http://www.futures.hawaii.edu/publications/governance/WhatFutsGovenment1998.pdf>. Accessed 24 March 2015.

- 
- <sup>xii</sup> <http://www.businessweek.com/interactive/2014-the-business-of-isis-spreadsheets-annual-reports-and-terror/#/>. Accessed 18 January 2015.
- <sup>xiii</sup> [http://www.huffingtonpost.com/s-sivakumar/among-indias-rural-poor-f\\_b\\_4117991.html](http://www.huffingtonpost.com/s-sivakumar/among-indias-rural-poor-f_b_4117991.html), Accessed 18 January 2015.
- <sup>xiv</sup> (<http://www.forbes.com/sites/petercohan/2011/07/18/diagnostics-for-all-to-heal-the-poor-with-hybrid-structure/> Accessed 18 January 2015. Accessed 26 January 2015.
- <sup>xv</sup> <http://www.sbs.com.au/news/article/2015/01/22/comment-why-internet-cares-more-about-17-french-people-2000-nigerians>. Accessed 26 January 2015.
- <sup>xvi</sup> Ibid.
- <sup>xvii</sup> <http://www.sbs.com.au/news/article/2015/01/22/comment-why-internet-cares-more-about-17-french-people-2000-nigerians>. Accessed 26 January 2015.
- <sup>xviii</sup> <http://www.smh.com.au/national/everyday-sadists-inside-the-mind-of-an-online-troll-20141206-11xo7u.html>. Accessed 26 January 2015.
- <sup>xix</sup> <http://www.news.com.au/travel/travel-updates/airbus-a320-crash-a-criminal-crazy-suicidal-act-says-french-pm/story-fnizu68q-1227282147886>
- <sup>xx</sup> <http://www.zerohedge.com/news/2015-03-27/serious-depressive-episode-may-have-driven-germanwings-pilot-criminal-mad-suicidal-a>
- <sup>xxi</sup> <http://www.alternet.org/news-amp-politics/pat-robertson-kicks-islamophobic-reactions-germanwings-plane-crash>
- <sup>xxii</sup> <http://viral.buzz/breaking-news-co-pilot-was-muslim-convert/>
- <sup>xxiii</sup> <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/>
- <sup>xxiv</sup> Ibid.
- <sup>xxv</sup> <http://junkee.com/this-australian-petition-to-ban-gta-5-from-target-has-received-more-than-20000-signatures-in-a-single-day/46546>. Accessed 26 January 2015.
- <sup>xxvi</sup> <http://www.theguardian.com/australia-news/2014/nov/07/protesters-force-us-pick-up-artist-julien-blanc-to-quit-australian-tour>. Accessed 26 January 2015.
- <sup>xxvii</sup> Ibid.
- <sup>xxviii</sup> Ibid.
- <sup>xxix</sup> [http://www.huffingtonpost.com/2013/03/21/india-rape-law-passes-parliament\\_n\\_2924462.html](http://www.huffingtonpost.com/2013/03/21/india-rape-law-passes-parliament_n_2924462.html). Accessed 26 January 2015.
- <sup>xxx</sup> Ibid.
- <sup>xxxi</sup> <http://www.theguardian.com/global-development/2015/jan/05/kenya-technology-entrepreneurs-konza-silicon-savannah>. Accessed 24 March 2015.
- <sup>xxxii</sup> <http://www.pcworld.com/article/2046227/meet-darknet-the-hidden-anonymous-underbelly-of-the-searchable-web.html>. Accessed 24 March 2015.
- <sup>xxxiii</sup> Ibid.
- <sup>xxxiv</sup> Hardin Tibbs, "Changing Cultural Values and the Transition to Sustainability", *Journal of Futures Studies*, Vol 15, No 3, 2011, 13-32.
- <sup>xxxv</sup> Ray, op cit., 7.
- <sup>xxxvi</sup> Ibid, 8.
- <sup>xxxvii</sup> Tibbs, op cit.
- <sup>xxxviii</sup> <http://www.techtimes.com/articles/28308/20150123/googles-eric-schmidt-predicts-internet-will-disappear-heres-why.htm>. Accessed 26 January 2015.

## REFERENCES

- Cohen, Peter, 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/> Accessed 18 January 2015.
- Davies, Sally, 2014, "Nairobi: Sillion Savannah springs to life," *Financial Times*. <http://www.ft.com/cms/s/0/83b0b4f4-5fa5-11e4-986c-00144feabdc0.html#axzz3P8UR3Jyl>. Accessed 18 January 2015.

---

Freidman, Thomas, 2005, *The World is Flat*, New York, Farrar, Straus and Giroux

Gates, Bill, 1995, *The Road Ahead*, Viking, London.

Halal, William, 1998, "Prophets of a High-Tech Age," *American Behavioral Scientist*, Vol. 42, No. 3, pages 543-554.

Inayatullah, Sohail and Boxwell, Gail, 2003, *Islam, Postmodernism and Other Futures: A Zia Sardar Reader*, 89-105. London, Pluto Press, 2003.

Inayatullah, Sohail and Milojević Ivana, 1999, "Exclusion and Communication in the Information Era: from silences to global conversations," in Wendy Harcourt, ed., *Women@internet*. London, Zed, 76-88

Inayatullah, Sohail, 2004, *The Causal Layered Analysis Reader*. Tamkang University, Tamsui.

Inayatullah, Sohail and Milojević, Ivana , eds., 2015, *CLA 2.0: Transformative research in theory and practice*. Tamkang University, Tamsui.

*Internationalist, New*, 1996, special issue titled, 'Seduced by Technology: The human costs of computers', *New Internationalist*, 286, December, 26.

Kaufman, Alexander, "Elon Musk wants to Bring the Internet to Space", *The Huffington Post* (17 January 2015). [http://www.huffingtonpost.com/2015/01/17/elon-musk-space-internet\\_n\\_6492356.html](http://www.huffingtonpost.com/2015/01/17/elon-musk-space-internet_n_6492356.html) (Accessed 18 January 2015).

Milojević, Ivana, 2006, "Reconciling Funny and Permissible: Can We Develop Non-violent Humour?", *Social Alternatives*, 25(1): 67-70.

Negroponte, Nicholas , 1995, *Being Digital*, Hodder and Stoughton, London.

Sardar, Ziauddin, 1996, 'The future of democracy and human rights', *Futures*, Vol 28, No 9, 847.

Sheraz, Umar, Inayatullah, Sohail and Shah, Ali, 2013, "Ehealth scenarios and visions for Bangladesh," *Foresight* Vol. 15, No. 3, 177-189.

Shute, Carmel, 1996, "Women With Byte", *Australian Women's Book Review*, Vol. 8, No. 3, October.

Simpson, Cam, "The Banality of the Islamic State: how ISIS corporatized terror," *Bloomberg Businessweek*, 20 November 2014. Accessed 18 January 2015.

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](http://www.huffingtonpost.com/s-sivakumar/among-indias-rural-poor-f_b_4117991.html), Accessed 18 January 2015.

Tibbs, Hardin, 2011 "Changing Cultural Values and the Transition to Sustainability", *Journal of Futures Studies*, Vol 15, No 3, 2011, 13-32.

Toffler, Alvin, 1981. *The Third Wave*, New York, Bantam Books.

Bio:

Professor Ivana Milojević is currently a Visiting Professor at the Graduate Institute for Futures Studies, Tamkang University and is also associated with the University of Novi Sad, Serbia. She is co-director of Metafuture.org - [www.meta-future.org](http://www.meta-future.org) and [www.metafuture.org](http://www.metafuture.org). [Ivanamilojevic@bigpond.com](mailto:Ivanamilojevic@bigpond.com)

---

Professor Sohail Inayatullah is associated with Tamkang University, Taiwan and the University of the Sunshine Coast, Australia. He is a co-director of Metafuture.org - [www.metafuture.org](http://www.metafuture.org) and [www.meta-future.org](http://www.meta-future.org).  
sinauyatullah@gmail.com