FROM THE INFORMATION ERA TO THE COMMUNICATIVE ERA

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Summary

Information theory claims universality. However, as it is framed in the language of systems theory it ignores civilizational and spiritual perspectives of knowledge. Moreover, critics argue that the information society heralded by many as the victory of humanity over darkness is merely capitalism disguised but now commodifying selves as well. This entry explores perspectives on the information society. It presents a more communicative approach to information theory wherein futures can be created through authentic global conversations—a Gaia of civilizations instead of a world information system. This alternative future may be more appropriate for creating a sustainable future in that the voices of other civilizations are included in charting out the information era.

Current trends, however, do not lie in that direction. Instead, we appear to be moving towards temporal and cultural impoverishment, certainly not a sustainable planetary future. Is the Web then the iron cage or can a global *ohana* (family, civil society) be created through the new information and communication technologies? Answering these and other questions is possible only when we move to layers of analysis outside conventional understandings of information and the information era and to a paradigm where communication and culture are central. This entry concludes with suggestions for an alternative framework.

1. Introduction

Many claim that with the advent of the Internet, the future has arrived (see *Transformations of Information Society*). The dream of an interconnected planet where physical labor becomes minimally important and knowledge creation becomes the source of value and wealth appears to be here. Middlemen are no longer needed, consumers can deal directly with producers, information is transparent, and prices will reflect real costs plus incentive-based profits. The invisible hand will finally work as Adam Smith meant it to, balancing self-love with love for the other. Large corporations will not have advantages over small businesses since information will be equally and easily accessible. Advantage will go to those who work hard and are innovative, and not to those who can manipulate the market through size or inside information, as in the industrial era.

Critics point out that while the "cyber/information era" may be a step forward, it is still too early to celebrate. Among other problems, two-thirds of the world does not have a phone and much of the world lives over two hours from a phone connection. In addition, electricity is still not available to two billion people. While new technologies have speeded up time for the elite West and the elite in the non-West, for the majority of the world there is no high-tech information era. Information is limited to face-to-face contact as well as information imparted from experts (political leaders, government servants, and developmentalists). However, local people do have access to indigenous knowledge, passed on through the generations and immediately relevant to their day-to-day needs. However, this tacit knowledge has become less important with globalization (see *Global Science*). In addition, globalization itself as a process tends to denigrate local knowledge since it is less useful in opening up spaces for capital mobility.

However, from the viewpoint of the sustainability discourse, there remain cyclical processes, such as the life and death of individuals, nations, and civilizations, that cannot be easily transformed. The claims that the information era is a new phase in human evolution overlook these deeper structures. Among the deeper structures that the information era has not changed is the power of the most wealthy. The two hundred or so richest people in the world have assets that exceed the combined gross domestic product (GDP) of the 48 least developed nations, and the world's 225 richest individuals have a combined wealth of over US$1 trillion, equal to the annual income of the poorest 47% of the entire world's population. More problematic is the worsening of this trend.

But for optimists, issues of equity will resolve themselves as the information economy takes hold. Already, more people are making their living by processing ideas, bettering their financial condition. Bill Halal, author of *The New Capitalism*, writes that in the US "Blue-collar workers should dwindle from 20% of the US workforce in 1995 to 10% or less within a decade or two. ...non-professional white-collar workers [will be reduced] from 40% to 20%–30%. The remaining 60%–70% or so of the workforce may then be composed of knowledge workers. ...meanwhile, productivity, living standards and the quality of life will soar to unprecedented levels." More and more, we are moving from blue collar to white collar to no collar workers. The *Think Tank Directory* reports that the number of think-tanks in the US has exploded from 62 in 1945 to 1200 in 1996.

But, ask skeptics, are we are engaged in a nonproductive financial/information pyramid scheme where we are moving further and further away from food production and manufacturing, building virtualities on virtualities until there is nothing really there, wherein the world is *maya*, an illusion? Is the new economy the latest illusion? What will happen during environmental crisis or wars? Yugoslavs "survived" the recent war because they lived in an economy that was balanced, that had some degree of self-reliance, some connection with agriculture. Organization for Economic Cooperation and Development (OECD) nations are unlikely to survive such wrenching crises. The question raised is: is an economy that is skewed toward the information economy balanced?

But perhaps it is important to remember from the history of previous empires that decline is in order when the capitalist class grows only from financing and knowledge creation, giving up manufacturing and losing vital resource to insecure peripheries.

Taking such a critical stance, the coming of the information era, ostensibly providing untold riches in bytes of freedom for all, in fact, limits the futures of others because it robs them of their future alternatives by amplifying the worldview of the dominant (see *Globalization as if the Entire Globe Mattered*). Dominance has merely moved from General Motors to Microsoft and other similar corporations, and while there are claims of increased equity, the data indicate that the trend is toward greater inequity with the share of global income between the world's rich and the world's poor doubling from 30 to 1 in 1960 to 59 to 1 in 1989. The number of people living in absolute poverty increases by nearly 25 million a year, and over 40 million people die of hunger-related diseases each year (the equivalent of over 300 jumbo jet crashes a day with no survivors).

In the US, the financial wealth of the top 1% of households exceeds the combined wealth of the bottom 95%. The wealth of the *Forbes 400* richest Americans grew by an average US$940 million each from 1997 to 1999 while over the same recent 12-year period the net worth of the bottom 40% of households declined 80%.

In Australia, for example, in 1977 the poorest income quintile received 7.4% of gross weekly income. By 1997 this had fallen to 3.8%. During the same period, the highest quintile improved their position from 33.8% to 47.5%. Since 1997, this gap has widened even further. Similar trends are found throughout the world in both developed and developing nations. The poor are becoming poorer.

Moreover, this is likely to continue. The *Human Development Report 1999* explained that 97% of all patents worldwide were held by industrial countries. In 1995 more than half of global royalties and licensing fees were paid to the United States, mostly from Japan, the United Kingdom, France, Germany, and the Netherlands. Intellectual property is one of the foundations of the triad of powerful economic spheres in the North: the US, Europe, and Japan.

The information revolution will have to be quite dramatic to reverse these figures. In fact, more likely is that conditions for the poor will become worse.

At the very same time, reality has become constructed as the World Wide Web, but perhaps this web is Max Weber's iron cage—the future with no exit, wherein there is an inverse relationship between data and wisdom, between quick bytes and long-term commitment, between engagement to technology and engagement with humans, plants, and animals. In our hurry to embrace information, it is not even that wisdom is lost but the far more important state and process of transcendence. There is evidence that heavy Internet users are more lonely, that they use technology to isolate themselves further. And we know that social exclusion is one of the factors in explaining heart disease. Does cyberspace mean the West's latest heart attack. Norman Nie, a Stanford political scientist who recently conducted a study on the impact of the Net on society, says: "The Internet could be the ultimate isolating technology that further reduces our participation in communities even more than television did before it."

2. The Great Leap Forward

But for optimists, cybertechnologies are already creating a global ecumene, beginning the process of, if not heaven on earth, at least, earth in heaven. The new technologies give more choice, endless choice and freedom. Bill Gates believes "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." The author of *Being Digital*, Nicholas Negroponte, writes, "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."

Douglas Rushkoff believes that computers are creating a generation gap between the "screenagers" and others, with screenagers having the most important skill of all—multi-tasking, choosing and doing many things at the same time. Along with the dramatic aging of society, where by 2040 one out of every four will be over 65, clear fault lines are developing between the generations. This generation gap is far more pronounced in Asian nations, where tradition, modernity, and postmodernity are already at dangerous odds with each other.

But can the information era create increased equity? Dale Spender writes that "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." In a research project in Queensland, Margaret Grace, June Lennie, and colleagues studied rural women, investigating how the Net helped them escape their geographical loneliness. Through their web-chat rooms, they connected to each other, felt empowered by having access to information, and gained confidence by becoming Net savvy. But when discussions turned from the mundane to points of difference there were no spaces for communication—aboriginal rights, feminism, and other contentious issues were far more problematic.

The issue then is what type of world culture and economy? The new technologies certainly create wealth, indeed, a jump in wealth, promising a transformational society

where the future is always beckoning, with a new discovery every year. Ismail Serageldin compiles an impressive array of statistics. "Items in the Library of Congress are doubling every 14 years and, at the rate things are going, will soon be developing every 7 years. ...In the US, there are 55,000 trade books published annually. ...The gap of scientists and engineers in North and South is vast with 3800 per million in the US and 200 per million in the South. ... [Finally], currently a billion e-mail messages pass between 35 million users, and the volume of traffic on the Internet is doubling every 10 months."

But for the information era proponents, the oppressive dimensions of bounded identity—to nation, village, gender, culture—will all disappear as we move in and out of identities and communities, as we create networked communicative societies.

Bill Halal, for example, writes that:

Information technology is now the strongest force on Earth, primarily response for the collapse of communism, the restructuring of corporations and governments, and the general transformation of civilization into some new type of knowledge society. … 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.

It is the end of scarcity as an operating myth and the beginning of abundance, of information that wants to be free. But while the growth data look impressive, distribution as in the industrial era, remains a problem. Moreover, there are many hidden costs. For example, there is the issue of the negative dimensions of the new technologies such as surveillance. These include hidden cameras in major cities and surveillance of e-mail, for example.

Of course, many believe that privacy issues will be forgotten dimensions of the debate on cyberfutures once we each have our own self-encryptors so that no one can read or enter us (the twenty-first century chastity belt). Technology will tame technology. Over time, the benefits of the new technologies will become global with poverty, homelessness, and anomie all wiped out. All will eventually have access—even the poorest—as the billions of brains that we are, once connected, will solve the many problems of oppression. While we have always imagined such a future, it is only now that technology allows it so.

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