

The Information Revolution and creation of the uninformed society

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Abstract

This essay examines two major consequences of the information and communication revolution that has occurred in the later half of the twentieth century, culminating in the world-wide spread of a method of rapid transfer of information (images, text and sound) known as the Internet. The first consequence being the rise of information and communication monopolies which seriously limit the sources of information available to the general public while creating the illusion of information plenty and the second being the creation of transnational commodity chains that keep the consumer largely uninformed about the conditions under which items of routine consumption are produced in distant corners of the globe. It is suggested that these consequences of the information revolution have, perhaps counter-intuitively, led to circumstances ripe for the creation of an *uninformed*, though highly globalized and interconnected, society. The final section puts information technology in the larger context of the history of modern science and offers a cautiously skeptical reading of the emancipatory potential of this revolution.

1. Introduction

“We, the representatives of the peoples of the world, assembled in Geneva from 10-12 December 2003 for the first phase of the World Summit on the Information Society, declare our common desire and commitment to build a people-centered, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully

and upholding the Universal Declaration of Human Rights.” --from the Declaration of Principles of the World Summit on the Information Society¹.

The second half of the twentieth century and particularly its last decade has seen a dramatic increase in rhetoric heralding the dawn of a new age referred to variously as the “information age”, “information revolution”, “knowledge society” etc. The motive force behind the rhetoric is the emergence of new technologies broadly referred to as Information and Communications Technologies (ICTs)². These technologies are directly or indirectly transforming society on a global scale. The discourse surrounding the recent advances in the ICTs has largely been utopian and self-congratulatory, leading to visions of an egalitarian Knowledge Society.

The above-cited extract from the Declaration of Principles of the WSIS is an example of such optimism. Though the declaration stresses elsewhere that, “ICTs should be regarded as tools and not as an end in themselves” and that “the benefits of the information technology revolution are today unevenly distributed between the developed and developing countries and within societies”³ a large proportion of the ministerial addresses and other proceedings from the summit share in the optimism embodied in the Declaration. Amidst the banal and mostly predictable proclamations of the achievements and promises of the ICTs, cogent words of skepticism and caution came, perhaps not surprisingly, from the representatives of Cuba and Zimbabwe.

“These are not times for illusions nor to echo a rhetoric meaningless to the peoples of the world. To seriously speak of ‘the information society’, the conquest of a world free of hunger, ignorance, unhealthiness, discrimination and exclusion is a prerequisite. For this phrase to be more than a deceitful slogan it has to be

placed in the context of true humanity and solidarity"-- Mr. Ricardo Alarcón de Quesada, President of the National Assembly of People's Power of the Republic of Cuba⁴

Zimbabwean president, Robert Mugabe was even more on the mark:

"... in spite of the present global milieu of technological sophistication, we remain a modern world divided by old dichotomies and old asymmetries that make genuine calls for digital solidarity sound hollow."

"We seek equal access to information and control of communication technologies whose genesis in fact lies in the quest for global hegemony and dominance on the part of rich and powerful nations of the North. The ICTs that we seek to control and manage collectively are spin-offs from the same industries that gave us awesome weapons that are now being used for the conquest, destruction and occupation of our nations..."^{5,6}.

Skeptical readings of the information revolution are fewer though increasing in number. Here I would like to develop on the idea that the information revolution has created the very opposite of an informed society. I consider two consequences of the revolution that lead to an *uninformed* society, viz, information monopolies and distancing of the consumer from the producer.

2. Information monopolies and the treatment of information as property

In Shannon's information theory⁷ information is defined as a quantity that reduces uncertainty. According to a *Washington Post* poll conducted in early 2003 seven in ten Americans were certain that Saddam Hussein was responsible for the September 11th attacks on New York and Washington DC⁸. How does this spurious link come to be

established in an information society? How does this particular type of uncertainty reduction take place?

The manipulation of content of mass communication media such as newspapers, radio and television by the State for its own purposes is not new. However, in contemporary America we are far from the days of a single state-controlled radio or television network. Similar results are achieved today by subtler means. The work of Noam Chomsky and Edward Herman among others has clearly shown how the US corporate media serves the interests of the US government by keeping the public misinformed or uninformed about foreign policy and other issues relating to global politics⁹. Consent among the public is created not by using a single source of information but by having multiple apparent sources constrain the range of debate so as to render it meaningless.

Over the past fifty years or so, there has been a remarkable consolidation of the US corporate media such that by 1997, due to mergers and acquisitions made possibly by extensive deregulation, around ten corporations dominated the overwhelming majority of US media. By 2000, that number had dropped to six¹⁰. These six firms are Time Warner-CNN-AOL, Viacom, Disney-ABC, Bertelsmann Media Group (BMG), General Electric and Rupert Murdoch's News Corp. They control media content in such diverse areas as television, newspapers, movies and music. A single company, Clear Channel Communications controls over 1200 radio stations in the United States and reaches over 200 million listeners (or 70% of the population). Clear Channel controls live music in

most major cities of America and artists that do not tow the line find it impossible to reach large audiences¹¹. The apparent multiplicity of media forms and outlets hides the uniformity of ideology. What is more the multiplicity is critical to the propaganda machine in order that it not be viewed as carrying out propaganda¹². An important consequence of the information revolution has been that people are convinced that they are more informed as a result of the glut of information they are bombarded with everyday. Paradoxically, this sense has grown hand-in-hand with the consolidation of media giants and the disappearance of real diversity in the sources of information. This is a direct extension of twentieth century consumerism into the information domain. What has been called the “moreness of everything”¹³ increasingly makes its presence felt in the arena of information. The result, by analogy to the supermarket shelf and its bewildering profusion of breakfast cereals and fruit juices, is a plethora of choices all made in the same factory. The illusion of choice, the illusion of being informed is compelling and leads directly to the rhetoric of the information society. But a closer inspection of the range of choices actually available exposes their impoverished nature.

Rapid advances in digital communication technologies in addition to being propelled by military funding (as noted by Mr. Mugabe and mentioned in note 6), are made possible by well-funded research and development divisions of corporations such as those mentioned above. Such investments in developing new technologies are borne by companies because intellectual property laws ensure huge returns on investments by the granting of comprehensive patents that ensure the company’s lead in the marketplace. Just as property rights play an important role in the conventional capitalist economy, with

the advent of the information economy, informational property or intellectual property rights become important as incentives to innovate. It matters little that most of the innovations are trivial and/or cosmetic and do not make substantial advances on the original product. Copyrights are rooted in the legitimate need for giving credit to the originator of an idea (a book, a piece of music, a computer program etc). However increasingly the legislation around intellectual property rights (IPR) serves to create a scarcity of information where none need exist¹⁴. Information, unlike material goods, does not diminish in quantity when distributed. However, today laws exist to lock it up and make it inaccessible to people who desire it. The locking up of knowledge by use of intellectual property laws has well known consequences for traditional knowledge as evidenced by the *neem* patent case¹⁵. With the commodification of knowledge both the products and the use of that knowledge can be denied to the very people who are the creators of it. The copyrighting and patenting of traditional knowledge by pharmaceutical and biotechnology companies, known as bio-piracy, is a blatant form of exploitation in the new knowledge society.

However, this desire to control access to information has met with resistance. One form of resistance locates itself in cyberspace through what are known as peer-to-peer (P2P) networks¹⁶. Two well-known examples of such networks are the music-file sharing program, *Napster* and the open source operating system, *Linux*. Both are made possible by the very developments in ICTs that raise the need for privatization of information. *Napster* attracted more than 10 million users in the first six months of its existence and at its peak served more than 100 million users worldwide exchanging

copyrighted music for free¹⁷. Needless to say this phenomenon presented a large problem for the music recording industry, which has responded with the pushing through of legislation that blocks copyrighted music from being shared on the Internet. Napster no longer exists in its most damaging form (it was bought over by BMG, one of the six media giants mentioned before) but newer sites such as *Kazaa* continue to operate on the fringes of legality. Linux and other open source software on the web constitute another challenge to the privatization of information. Open access to the source code that runs operating systems like Linux or any other software application acknowledges the inherently free nature of information and collaborative nature of technological advance. It opposes the monopolizing of information by companies such as Microsoft. Thus P2P networks are networks of global netizens that allow software developers, computer programmers and music lovers worldwide to freely share information. They perhaps come closest to instantiating the actual promise of the information revolution. Obvious limitations to this challenge also exist in that millions over the globe have no access to the Internet or indeed to computers or electricity.

3. The distancing of consumer from producer and transnational commodity chains

Globalization powered by the engine of new Information and Communication Technologies achieves new levels of “distancing.” Thomas Princen defines distancing as the separation between primary resource extraction decisions and ultimate consumption decisions occurring along four dimensions- geography, culture, bargaining power and agency¹⁸. Of the four factors geography is most directly connected with the information revolution. Large transnational corporation can now have their production facilities

distributed over the globe in what have been called post-Fordist production schemes.

This emphasizes the transition from large, centralized and hierarchical production facilities with armies of deskilled workers to smaller, decentralized facilities (sweatshops in Asia and *maquiladores* or duty-free export zones in Latin America) subcontracted from local managers and capitalists. Thus, according to Reynolds¹⁹,

“the Fordist model of production has broken down since the 1970s and is increasingly being replaced by a more flexible, post-Fordist pattern of production....The new production is based on flexible specialization and batch production in small firms that are linked through dense networks... Many studies have found that large manufacturing firms are undergoing a process of vertical disintegration whereby production is increasingly undertaken by small specialized firms linked through production contracts.”

The result is a trans-national commodity chain. According to Ken Conca, the commodity chain framework emphasizes the “technological, commercial and organizational networks that link various stages of production and exchange for a particular commodity”²⁰. The links in this chain include raw material extraction, manufacture of various components, assembly into the final product, packaging, advertising and retailing. For an increasing number of commodities these links now occupy global proportions. Thus an American consumer may get fruit from Latin America, computers from Malaysia and shoes from Thailand. Distancing and transnational commodity chains allowed by the information revolution achieve almost complete severance of negative feedback. This means consumers are completely *uninformed* about the condition and means of production employed in the manufacture of their items of daily use. The ill effects of distancing and lack of feedback are easy to see.

They follow from the fact that we are less likely to protest against what we feel is unjust if it happens half way across the globe than if it happens in our own backyard.

The Ford Motor Company once symbolized the vertically integrated, centralized production model. By 1992, components of the Ford Escort car were being made and assembled in fifteen countries across three continents²¹. Nike (the shoe company) does not own any production facilities. It relies instead on short-term contracts from a diverse array of suppliers. Its strength lies not in tightly controlled centralized manufacturing practices but in marketing of the Nike logo or image. At this juncture it should be mentioned that distancing is not a problem created by globalization and indeed has existed for many years. It does however seem to be made much worse as a result of the newer developments in information, communication and transportation technologies. Globalization propelled by advances in ICTs makes possible newer forms of cost externalization and exploitation of “free” or “cheap” resources (both material and labor) and waste sinks. Once again consumers are ignorant or uninformed as to the social and environmental costs of the choices they make.

4. Information revolution: Old wine in new bottle?

Since infrastructurally the post-modern Knowledge Society, at least in its current form, is based solidly upon the ideas of modern science (be it solid-state physics or information theory) and the products of modern technology (be they silicon chips or fiber-optic cables), it is likely to find itself burdened with the same inequities that characterize modern society. As has been pointed out, modern science and technology

arose under pampered conditions of the colonial economy wherein little attention needed to be paid to designing processes and products that would be self-sustainable locally^{22,23}. Hence rooted in the very soul of modern science and technology is a wasteful use of resources that ensures profitability/efficiency in the short run but risks rapid exhaustion of resources with no time for adequate replenishment, in the long run. The standard way of making products and processes of technology cheaper is to externalize part of their actual cost, meaning simply not to pay for it. Of course someone or something *does* pay for it, but the cost is hidden. One form of externalization is environmental (e.g. waste disposal by dilution in seas or rivers, extensive use of natural resources without adequate consideration for how to replenish them), the other form is human (e.g. making use of cheap labor like indentured servants, slaves etc. dispossessing peoples of their land and/or resources). Although all human activity externalizes to some extent, a way of life that emerges the context of massive externalization will find it difficult to shed its injustices in future, more egalitarian times.

5. Ways of knowing and the challenge to the current order

In this essay I have tried to elaborate on how the so-called information revolution leads to the creation of an uninformed society. However, in so far as the ICTs are just another form of communication technology (descendants of writing, printing, telegraph and telephone) they can also be used to fight the ignorance they create. The example of peer-to-peer networks discussed above shows that cyberspace can indeed be used in the fight against monopolies of information. Similarly, the Internet has also been increasingly used to organize protests against corporate globalization, anti-war rallies etc.

The historic worldwide protests against the US war on Iraq that took place in February 2003 were made possible in large part by rapid communication afforded by the Internet. The success of the World Social Forum also owes much to the ICTs. Having said that, the fact remains that the vast multitudes of the world today are information have-nots. At least in the ICT sense. They do however possess large reserves of knowledge and wisdom arising from centuries of practice and innovation in their respective activities. The de-legitimization of their knowledge, their ways of knowing, is an integral part of the project of neo-colonialism furthered today by the information revolution. Thus any fight against the new forms of colonialism involves taking on the information economy. Perhaps it works to our advantage that the debate is being framed in terms of the information haves and have-nots, for in the end more important than both information and knowledge, is wisdom. To recall T.S.Eliot:

*Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?*²⁴

Wisdom entails holistic ways of thinking, knowing and doing wherein the collecting of information and the production of knowledge is undertaken in the context of the needs and considerations of *all* those impacted by these activities. It implies an inclusive mode of thought that is antithetical to exploitation of resources or of human beings. Such wisdom can come most readily from knowledge systems that are people-centered and not in the service of the abstract ideas of Science, Economy or the State.

6. Notes and references

1. World Summit on the Information Society (WSIS), Geneva 2003, Declaration of Principles. URL: <http://www.itu.int/wsis/docs/geneva/official/dop.html>

2. Over the past ten years or so “Information and Communication Technologies” or “ICTs” is a term that has become increasingly prominent in the debate on the emerging knowledge society. The term is a catch-all for hardware and software technologies that allow rapid transfer of digital information (in the form of text, images and sound) mostly between personal computers connected via telephone lines. The world-wide-web is the most prominent example of this technology in practice.

3. World Summit on the Information Society (WSIS), Geneva 2003, Declaration of Principles. URL: <http://www.itu.int/wsis/docs/geneva/official/dop.html>

4. WSIS speech by Mr. Ricardo Alarcón de Quesada, URL: <http://www.itu.int/wsis/geneva/coverage/statements/cuba/cu.html>

5. WSIS speech by Robert Mugabe, URL: <http://www.itu.int/wsis/geneva/coverage/statements/zimbabwe/zw.html>

6. Mr. Mugabe rightly points to the fact that what is today known as the Internet, which in turn supports the World Wide Web, grew out of ARPANET, a computer communication network developed by the US Advanced Research Project Agency, for military use. As an interesting aside, the US Department of Defense vision motivated by Cold War considerations was to create a decentralized (and therefore bomb resistant) communications network. Graph theorists categorize the Internet and the world-wide-web as inhomogeneously wired, “scale-free” networks. Such networks are characterized by a small number of highly connected nodes linking a large number of sparsely connected ones. These networks display unexpected degrees of robustness to attack since the failure of most nodes only affects a small part of the network. The flip side of this is that an attack on a key, heavily connected node can bring the network down (Albert *et al*, 2000: Error and attack tolerance of complex networks, *Nature* Vol 406, p378). This strategy is also used by organizations such as Al-Qaeda that operate like self-organizing, distributed, scale-free networks.

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12. McChesney *et al* eds. (1998) Capitalism and the Information Age: The Political Economy of the Global Communication Revolution. Monthly Review Press, New York.

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24. Eliot TS (1934) *The Rock: A Pageant Play*. Faber and Faber Ltd., London.