

Discourse on Information, Technology and the Global Noosphere

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Abstract

I will attempt to critically examine technology, and the use of information in this ever expanding noosphere. I will outline several of the myths of the increasing technological society, along with some of its disastrous consequences. I will also weigh the consequences of the loss of meaning through too much information in society (in a Baudrillardian sense.) Lastly, I will attempt to argue for the responsible use of technology.

1 Introduction

The 1933 Chicago World Fair motto has identified three inherent problems with the use of information and technology in today's ever increasing global society: "Science finds. Industry applies. Man conforms." [1, *qtd* in Angel, back cover]

While the world is being continuously made smaller through the proliferation of technology, particularly technology that facilitates communication, those at the helm are creating an increasingly homogeneous world. Such pop artists like Duran Duran, in their early 1990's song *Too Much Information* point out that the melange of information pushed is quite meaningless, but difficult to resist:

“...Destroyed by ABC;¹ I hate to bite; The hand that feeds me; So much information. The pressure is on the screen; To sell you things; That you don’t need...”

As a technology enthusiast, I am daily confronted with the marvel of the compression of time and space; both in amateur radio, and computers, I am fascinated about the fact that I can communicate with someone half way around the world, either by voice and Morse code, or text, instantaneously. But it is important to note the amount of information being propagated through the world is becoming more and more meaningless; from half-hour informercials, to the legal strife of Internet Service Providers (ISPs). While the Internet has the possibility to democratise the world, it also easily has the ability to strip away society from its basic rights, both as humans and as citizens.

2 Advancement of Technology

The first major technological breakthrough for humankind was the plough. It allowed for the creation of settled civilisations, and the advent of division of labour such that individuals specialised in various tasks necessary for an agricultural survival. It is plainly obvious that this increased in the amount of food production and availability in times of need. More recently, the advent of gun powder, new specialised metal alloys (steel versus iron), and the printing press, among many have shaped our world in different ways, for better or worse; likewise the advent of the first high-speed computer in the mid 1940’s has shaped our world for better or worse.

This section will concentrate on the key features of technological advances in computing through electronics; I will also consider some of the advantages of the increased production of electronics. There are some major disadvantages with the use of electronic components and devices, both ecological and physiological which will also be addressed.

2.1 The Silicon Landscape

With the advent of electronics, we have been able to reduce the size of electrical devices from vacuum tubes to transistors which are several atoms thick. It allowed for the (re)placement of large clumsy calculation devices to devices which are

¹It is important to note that since the release of this song, ABC has been acquired by Disney.

exponentially smaller. In the last quarter of the twentieth century, we have seen corporations rise and fall at the whim of this electronic frontier.

The electronic revolution has changed the way we do business, and even the way we communicate: telephones, radios, television &c. George Ritzer poignantly states that the modern means of consumption would be impossible without the computer (and electronics.) Hand held scanning machines given to kids at Toys 'R Us “wander down the aisles zapping the bar codes on toys that catch their fancy.”[9, p. 31] While a central computer keeps a database of the child's selection for their Christmas wishlist. The infomercial and Home Shopping Network or QVC rely heavily on both the telephone, for people to call in their orders, and the television, to advertise the items.

Technology like the computer, and distributed networks like the Internet facilitate communications between two people, many to one, one to many, and many to many. Companies like America On-Line, Prodigy, and Compuserve make it extremely easy for the individual, knowing nothing about computers, to get on the Internet and start browsing the web. Technology has allowed for us to clone sheep, transfer money from one account to another in seconds, or talk to astronauts. We can safeguard our home while away on vacations through wireless security systems; enter our cars without keys; and even travel throughout the campus of modern universities without losing connection to the Internet. These are just some of the facets of technology: to the unnerving eye it sounds enticing.

2.2 Ubiquity of the Silicon Revolution

The Silicon Revolution has propagated these pieces of technology throughout our society. The reason why this is possible is due largely to the size of the electronics. Regardless of what we do today, or even where we go, we cannot escape technology; with satellites in orbit around the Earth, being able to see the time on a person's watch down on Earth, there is no escape.

In recent years the world has been lucky, or unlucky, enough to witness three different, but related, technological evolutions of ubiquity: the Internet, the cell phone, and the currently evolving Wireless Application Protocol (WAP) devices.

The Internet was first developed by the United States Department of Defence in the height of the Cold War. The purpose of the Internet, at that time called Advanced Research Project Association (ARPANET), was to have a distributed system of networked computers, such that if any one of the nodes were destroyed, the data would still be able to reach its destination without being lost by finding an alternate route. Originally linking the government computers, and extended

to the various universities across the country, it was an interesting research and communications tool.

At around the same time, commercial interest was being developed for consumers through on-line services such as Prodigy, and America On-Line. These on-line services were subscription based and use the “consumer-as-commodity”[10, p. 277] model already in place through magazine subscriptions and television networks. These first on-line networks were internal, and not connected to the Internet. By around 1994, these services started providing rudimentary access to the Internet through e-mail. In only two short years, the Internet went from purely academic based to consumer based. Currently, the Internet is a major business. In the commercial world, if you do not have a world wide web address (WWW) or e-mail address, you can wish a farewell to your business.

Cell phones were at one point quite large and expensive. While the average U.S. consumer was spending several dollars each call, Israeli counterparts were spending a mere ten cents per call. Much like the evolution of the credit card in the consumer economy, the cell phone was first restricted to the very wealthy, or affluent. By 1996, Tandy Corporation owned stores like Radio Shack and Computer City, were literally giving away the phones for only a penny. There was a caveat though; the consumer had to sign a one year contract, and would only get about thirty minutes of talk time for a monthly average fee of forty dollars. If the consumer went over the thirty minutes they would have to spend several dollars each minute.

A year later the Sprint telephone company, specialising in long distance services, presumably due to the increased competition stemming from the deregulation of the local services, entered the wireless market as Sprint PCS, a joint venture including Comcast Cable and two other telephone companies. Their nationwide campaign, opening a metropolitan center at a time, was conducted under a different marketing strategy than the other wireless companies. While the other wireless companies were reimbursing stores like Radio Shack for the cost per unit of the telephone, some \$300 USD, in exchange for a yearly contract from the consumer, Sprint PCS decided to cut the costs of the telephone in half, selling directly to the consumer with no yearly contracts.

For around \$150 USD nationally and without the threat of a yearly contract, the consumer became more receptive to buying a wireless phone. Sprint PCS started guerilla marketing to push the new phones by offering special packages. One such package was to give the consumer more minutes than they could possibly use in a month, for slightly higher monthly fees. For example, the consumer would purchase a plan for a monthly fee of fifty dollars, which would include 500

minutes of talk-time, free call waiting, caller id, call forwarding, voice mail. Since the release of Sprint PCS's service coincided with the boom of the Internet, they continually used the buzzword 'digital' to describe the type of service they were offering and how it differed from conventional wireless phones.

The next technological progression in recent history seems to be that of WAP devices. WAP is a general term to describe *anything* that consumer can carry in the palm of their hand, with which to connect to the Internet. This includes Internet enabled cellular phones, and hand held personal digital assistants (PDA).

2.3 The Myth of Silicon Valley

While the above technological advancements may not, on the surface, seem detrimental to society or the environment, let us consider several cases in regard to the electronic industry and human social relations.

2.3.1 Social, Identity Crisis

Howard Rheingold, in his book *The Virtual Community*, recounts a story of his two year old daughter contracting a tick. His wife called their pediatrician, while Rheingold consulted the Internet. Rheingold was able to determine the right course of action from an Internet personality Flash Gordon, M.D. before the pediatrician had even returned the call. He continues with a whole stream of discovering a subset of people with whom he can relate as parents. However, he warns us to pay attention to the way that the medium can be abused.[10, p. 24]

As Craig Easterbrook notes in his essay "The Heart of a New Machine", people throughout history have sought companionship. This is difficult to come by, but the computer has now made it easier to plug in, and chat. Unlike other hobbies that involve real humans, and usually have positive social side effects (e.g.: softball), computers are a "solitary anti-social pursuit ... devoid of demands on the imagination." [4, p. 139] Craig Brod argues that children are the most susceptible to this new medium:

In general, there is a reduction of external sensory experience. The outside world fades, and the child becomes locked into the machine's world ... develop[ing] an intolerance for human relationships ... they become accustomed to ... a rapid-fire dialog.[4, p. 140]

While the Internet has been able to compress and eliminate time and space, it has also been able to eliminate *identity*. One of the things that the new digital

generation excels at, is pretending to be someone else, or several different people at once.[10, p. 147] Computer scientists can pretend to be starship officers; as seen on the popular television show *Ally McBeal*, a sixteen year old boy pretended to be a college grad student, while the main character, Ally, pretended to be ten years younger through Internet chat, engaging in sexually explicit conversations.

Strikingly, people seem to get very personal, when they are pretending to be someone else or masking their identity. This, argues Rheingold, is a basic facet of the Internet chat rooms, and life. While people on the Internet would like to believe that it is a utopian society with “scout’s honour”, it happens often enough. When an imposter is discovered, the people associated are shocked and dismayed, they take it as a personal attack on themselves.[10, p. 165]

2.3.2 The Electronic Smokestack

The ecological and physiological impact of the electronic industry may seem at first to be of very little consequence. A large part of this perception may be a result of the electronic industry’s youth. For over two decades, electronics manufacturing firms have lead the public to believe that the software and hardware industry is one without hazards. After all, there are no smoke stacks streaming toxic chemicals into the atmosphere; the firms’ factories are not large vile dens, they are gleaming modernesque buildings, castles of the new revolution.

As of recent times, there have been studies produced by organisations like OSHA which point to several key factors in the computing industry that may be physiologically detrimental to humans. The first of which is stress related problems from sitting at a computer for far too long. The old Tayloristic modes of assembly line production are being transferred into the modern day factory: the computerised office. Instead of measuring a workers ability to physically work against time, the worker is being measured on how fast they can mentally work against time. Traditional clerical jobs, such as typing, and filing, must be done at an increasing pace.[4, p. 107]

Ecologically, the electronics industry is not as clean as it seems. In 1983, women working at Verbatim’s computer disk manufacturing firm in Silicon Valley, complained of shortness of breath, dizziness, and weakness. Over 100 people were evacuated; 35 of which were sent to a local clinic. When OSHA officials investigated the incident only *hours* later, they found no *unusually high* levels of toxins. They attributed the symptoms to mass hysteria.[12, p. 56] Because the industry is relatively new, Lenny Siegel argued in his column in the *Clinton Quarterly*, the effects of repeated exposure to these chemicals in manufacturing

printed circuit (PC) boards may be unknown. Further, the environmentally controlled clean rooms of these manufacturing plants, and the protective gear that the employees wear, are to protect the expensive product, *not* the workers.

Among the hazardous chemicals used in manufacturing electronic components (arsine, cyanide compound, organic solvents, &c.) the most dangerous is silicon tetrachloride; such that when the gas is inhaled, reacts with the lungs, forming hydrochloric acid. Siegel notes:

One of the greatest ironies of micro-electronics technology is that the transformation of America into an information society relies, at its core, upon a technology from the *industrial* era: chemical processing.[12, p. 58, emphasis added]

If our reader is still doubtful, let us consider the following case of the Fairchild plant, in San Jose, the poorer section of Silicon Valley, during January of 1982. Local officials disclosed the details of a shutting down of a Great Oaks Water Co. well due to leaks of trichloroethane, and dichloroethane from a nearby Fairchild chemical storage plant. Fairchild spent \$15M on cleaning up the drinking water supply, only slightly improving the drinking water; Fairchild is now an abandoned warehouse.[12, p. 59] So much for hi-tech's clean manufacturing industry.

3 Information

Margaret Mead once noted that if a researcher wants to study a western society, he or she should first turn on the television and watch the commercials. Per chance, your author was watching the local television news and, saw the epitome of American society in a brief thirty second commercial interlude.

A woman walks into her bathroom and her face becomes contorted, letting out a short scream. The camera cuts to a view of the bathtub and its surrounding walls; they are black with mildew and mold. The narrator's voice begins to ask why ought one spend hours scrubbing a bathroom when a quick telephone call to the company representing the television advertisement would come in and *cover up* the old bathtub and walls with a custom made mold of their bathtub, while the woman *enjoys* a normal day's work!

Western society, particularly technology is increasingly being used as cures to problems that "progress" itself makes. Western medicine is quite analogous to the commercial above: fix the problem, do not worry about preventing it. This following section will concentrate on the mixed messages sent to the global community

from western mass media, as in the commercial noted above. It will also cover the problems associated with a hyper-commercialised *information-as-commodity* world.

3.1 Commercialisation

The media sends its target audience conflicting messages on how they are to view technology's role, and how to behave, in society.[1, p. 34] While television is the most ambitious way to spread this type of information, other mediums are taken advantage of in this situation.

People in distant parts of the world, impoverished, subjugated, still have enough time to watch American television shows like *Baywatch*, dreaming of a better life overseas. Locally, movies like *Runaway Train*, *The Matrix*, and *Blade Runner* send out mixed messages on technology. In *Runaway Train*, a new computer controlled train fails; *Blade Runner* portrays a race of genetically engineered humans as the failure of technology, but makes one feel sorry for this race at the very end, by finding out that our protagonist, and the female interest are also part of this race.[1, p. 34] *A Clockwork Orange* takes one through a similar experience.

Overwhelmingly the news media, however, comes out unquestioningly in favour of technology. Consider the recent "discovery" of viagra, for example. And the advent of the "jet-lag" pill. They come out entire for the product without critical thought. They hail it as innovative medicines which will help all. Let us consider the jet-lag pill. Your body goes through jet-lag because it is going through a shock. The correct action for one to take is rest. But precisely *because* of technology, the jet-liner, and the *need* for businessmen to travel often, work, they cannot rest. In effect, the technology that we have created to "solve" our problems is a result of the very problems it created.[13, p. 31]

Advertising has a major effect on the way we view the world. As was demonstrated in the introduction to this section, commercials carry *social meaning*, if even indirectly and unintentional. Advertisers want to sell you their client's wares; they create a need for product x where none exists.

As Benjamin Barber aptly noted in his speech at Colorado State University, records was not good enough, so tapes were presented; tapes were not good enough, so CD's were presented; now DVD's² are presented as the latest *need*. All of these format differences in recorded audio came about through the *need* of

²The Motion Picture Industry along with the Recording Industry Association of America, are now underway developing a new format for audio which will be delivered on DVD's

wanting to hear hi-fidelity music. Apparently, listening to Beethoven's 5th performed by the New York Philharmonic, which sounds *slightly* less "real", in the comfort of your living room is much more appealing to listeners than going to a real concert.

Further, why would one see a vehicle going through miles of wooded forest, while the narrator announces the new vehicle's convenient television set, displaying the mother and children with their eyes zoned out of the real *natural* world and attuned to the television set. Ritzer argues that it is attributed to simulacra: it is not enough to perceive things as they really are. The perceptions must be bigger and better than even real life. Keeping these perceptions hyper-real is advertising's business.

3.2 Minimisation of Meaning

With this new MTV and Dot-Com world, the message is not in the medium, the medium *is* the message.[8, p. 135] Tuning to NBC's nightly news, they continually point to their web site for more information on particular subjects. Television shows like *Access Hollywood* and *Entertainment Tonight* use flashy logos and moving geometric shapes to give an image of more real than life.³ It is quantity (in this case, looks) over quality.

NBC News programs give the impression that *you* have a voice by placing polls on the web site (usually in reply to controversial questions.) Let it be stated that these polls are *not* scientific. Based on some investigation, I was able to determine two ways that they attempt to stop you from voting more than once - both of them are easily defeated. They place a piece of information on your computer that says you have already voted at that poll. To defeat this mechanism, you simply delete the file, or entry with this particular piece of information. Another tactic is to identify you by your computer's unique Internet Address; for most netizens to change this unique address they just have to hang up, and dial again. Since the polls are not scientific, which by the way, they clearly state as a disclaimer in small print, the results may be skewed one way or another. Worst of all, they post the result of the polls over the airwaves, so as to say, "the public has spoken."

Jean Baudrillard quite astutely noted that "information destroys or at least neutralises sense and meaning, the loss of which is directly related to the dissuasive and corrupt action of media-disseminated information." [3, p. 159] He argues that

³Although somewhat beyond the scope of this discourse, Las Vegas casinos, Disney World, Disney Land, McDonald's &c. do the same thing.

all media and all information both socialise and de-socialise individuals, because (a) instead of facilitation communication it concentrates on staging communication. The loss of meaning arises from the necessity to keep the fallacy of “the public has spoken” and the such, from reality. Further, (b) simultaneous with the staging of communications, the mass media continue to “destructure” the social. It is not about critical thought, or “circumscribing the actions of institutions” but rather the quantity of exposure to the information (in both the ontological and aesthetic sense). Mass media concentrates on how much it can give you, and how fancy it can give it to you; you are culturally literate if you know who is marrying whom in Hollywood, or who won the last football game. Instead, the questions you should be asking is: what class of people are in Hollywood, or what are the social implications of extremely competitive gendered sports.

3.3 The Information Economy

The last item I would like to touch on is the myth that we are undergoing an “information revolution”; nothing could be further from the truth. In fact, information processing existed well before computers were around to aid with the job. While there is, no doubt, an industry revolving around the processing of information, to say that we are experiencing an information revolution, or are booming in an information economy, implies that we are *creating* information.[1, p. 60]

This is an example of creation of *need*. Information has no real material existence; rather it describes those things that do have real material existence. Then the reader might ask, why such the popularity of the term? At best, the computer calculates, doing so very quickly. Since billions of dollars are already invested in the computing industry, the owners propagate the need that the computer will be able to keep your records much more efficiently. They *create* the need for the computer by creating the computer, rather than *creating* information. (Which is the basis for any country’s economy - e.g.: wheat corn &c.)

4 Globalisation And Modern Consequences

I would like to finish this discourse by tying it all together with the nascent phenomenon created by technology: globalisation. Globalisation, thanks to technology, has been able to run its course such that corporations can easily communicate with foreign markets. A vice-president of a corporation can hop the concorde and have lunch with his British counterpart on a moment’s notice. Financial decisions

carried out on Wall Street can adversely affect a coffee farmer in South America. An American based oiling company can bribe a developing nation into being its security force against dissenters.

The compression of time and space, the ability to mask one's identity, the erosion of nation-states to mere police forces, toxic chemical explosions (like those in Bhopal, India) killing humans, are all a matter of globalisation, and a direct result of but *some* of the technological advances considered in this discourse. My one hope for humankind is that where people will congregate, people will talk; where people will talk, ideas will be exchanged; where ideas are exchanged actions will follow.

If there is one thing that Modernity has taught us, is that humans are *not* machines. Humans are not predictable! I will make no positivist predications of the future, or even near future; however, I will state that if the human species continues to spread like a cancer, it will topple under its own weight. I will conclude this discourse with a passage from Philip Slater's *Earthwalk*:

...technology would have to be regarded as a cancer on human culture, Western culture a cancer on the human species, and the human species as a cancer on terrestrial life - a cancer that may in the end be treated by radiation and radical surgery at the same time.[13, p. 38]

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