Ethics, Technology and Personal Responsibility

David Greenfield

Ethics and Technology

April 2011

I. Introduction

Addressing the relationship between ethics and technology is a bit like herding cats: there are multiple variables wandering all over the place resulting feeling that it is all a bit uncontrollable. If we interpret Moore’s law on transistors and apply it to digital technology in general, we realize that although human history has always needed to adjust and readjust after the development of a new tool or process (such as the printing press), we now reside in a world developing so many new tools and processes that it is difficult to keep up. In face, these tools and processes are often ahead of what global society and culture can understand and integrate. Yet each new tool, each new process is not often benign. The natures of commerce, education, politics, health, entertainment, literacy (just to name a few) have all gone through immense changes in a very short period of time, measured in months, and years instead of decades and centuries associated with more traditional developmental processes. Our planet is always in flux- physical and societal, which demand humans to adjust, modify and adapt in ways like never before. He live in a world where the expression “the only thing constant is change” is more true than ever and that the global societies are becoming more cognizant of being more interconnected then ever before. But, one could also say that the butterfly affect is happening now, but the gentle breeze caused by the delicate flapping of a butterfly’s wings has been replaced by global hurricanes. Yet, humans being humans, we strive to find and apply meaning in these changes- we attempt to understand and apply the knowledge base of history to new situations, processes, understandings and relationships. In his 1970 book Future Shock, Alvin Toffler described this as “too much change in too short a period of time.”

Despite all of the rapid change happening in the world, human beings continue to interpret the acquired knowledge and wisdom of the ages and apply it to new, innovative tools and situations in a manner that often suggests trying to hit a moving target at a carnival game. Yet, there are some basic and constant values, derived out of the millennia of human experience, that can be utilized for understanding the changes and then integrating them in meaningful ways our daily lives that provide a sense of continuity with our past. Technology, especially digital technology creates changes in ways never before experienced, “century ago, social relationships were largely confined to the distance of an easy walk. Most were conducted in person within small communities: family, neighbors, towns-people…. If one moved from the community, relationships were likely to end. From birth to death once could depend on relatively even-textured social surroundings. Words, faces, gestures, and possibilities were relatively consistent, coherent and slow to change. For much of the world’s population, especially the industrialized West, the small face-to-face community is vanishing into the pages of history. (Gergen. 1997. p. 138). Small, face-to-face communities may be vanishing, but larger, global communities are being created in social networks on the web. These changes are not without the challenges and complications resulting from the richness (and complexity) of human interactions. Digital technology effects and impacts every person on the global, directly or indirectly. An important element that helps mitigate this global evolution (and revolution) and guide human behavior is the study of ethics, especially how old ideas can be interpreted in new situations. This type of endeavor is beyond the scope of this paper. Instead, this paper will focus on the relationship between digital technology and individual responsibility. It can be argued that every aspect digital technology contains a component that is related to issues of personal responsibility. This issue has become even more crucial when reflecting on the increasing use of the Internet for commerce, politics and social media. I will focus on several examples to illustrate the richness and complexity of the issues.

II. Analysis

Although these terms are generally understood, it is important to first understand the meanings of the four primary terms used in this paper- ethics, values, technology and responsibility. According to dictionary.com, ethics is “a system of moral principles: the ethics of a [culture](http://dictionary.reference.com/browse/culture); the rules of conduct recognized in respect to a particular class of human actions or a particular group, culture, etc.; the branch of philosophy dealing with values relating to human conduct, with respect to [the](http://dictionary.reference.com/browse/the) rightness and wrongness of certain actions and to the goodness and badness of the motives and ends of such actions.”

Technology is “the branch of knowledge that deals with [the](http://dictionary.reference.com/browse/the) creation and use of technical means and their interrelation with life, society, and the environment, drawing upon such subjects as industrial arts, engineering, applied [science](http://dictionary.reference.com/browse/science), and pure science. A [technological](http://dictionary.reference.com/browse/technological) process, invention, method, or the like.”

Values are “relative worth, merit, or importance; the ideals, customs, institutions, etc., of a society toward which the [people](http://dictionary.reference.com/browse/people) of the group have an affective regard. These values may be positive, as cleanliness, [freedom](http://dictionary.reference.com/browse/freedom), or education, or negative, as cruelty, or crime.”

Responsibility is defined simply as to be “answerable or accountable, as for something within one's power, control, or management.”

Although this paper focuses on digital technology, it is important to recognize that digital technology is like any other technology: it is simply a tool. Like every other tool, the outcome of its use depends on the individual wielding it. A hammer, for example, can be used to build a house, to remove a nail, or to break something that needs to be broken. It can be a fulcrum or a lever. Yet, a hammer can also be used as a weapon, such as the case of Theodore Streleski, a doctoral student at Stanford who killed his former advisor with a hammer in 1978.

By itself, digital technology itself is neutral- it is neither good nor bad, it “…will be neither the utopia promised by its most fervent adherents not the unadulterated calamity foreseen by its most gloomy opponents. But the important lesson to learn from serious consideration of the problems is that our chances for reaping the maximum benefits of computers and avoiding the hazards will depend on out willingness to seriously consider both kinds of outcome” (Williams. 1997. p. 17).

Along with its neutrality, another critical element of digital technology is its temporal nature. Throughout time, every technological innovation, from the wheel, to the water pump, movable type press, train, automobile, airplane, telephone has had revolutionary affects on human society, enabling increased food production, literacy, rapid travel and instant communication across long distance. Initial changes that followed each innovation could span centuries, or at the very least, several decades. Digital technology is different though and recent innovations (especially in social media) are causing revolutions in every sector of global society- economic, educational, political, and artistic. It is sometimes difficult to remember that the Web has only been around since 1995, yet every community and society on the planet has been affected by global technology. Traditional societies based geographically local communities as well agricultural time frames have been in a constant state of flux since the industrial revolution. The speed of change in society has also been increasing, “Through the technologies of the century, the number and variety of relationships in where we are engaged, potential frequency of contact, expressed intensity of relationship, and endurance through time are all steadily increasing” (Gergen. 1997. p. 138). As Toffler described in Future Shock, it is often difficult for humanity and traditional social institutions to keep up with the rapidity and amount of change happening. As the American philosopher Ian Barbour wrote, “…the optimistic views include the popular writings of futurists and the forecasts of many computer specialists. They hold that just as the agricultural societies were totally transformed by the Industrial Revolution, so industrial societies will be altered from top to bottom by the Information Revolution. It is claimed that automation will bring high productivity, material abundance, the elimination of repetitive jobs and more time or the creative use of leisure. The information society will be more egalitarian; old class divisions will be obsolete when knowledge rather than wealth is the source of power.” (Barbour. 1997. p. 161).

The result of the changes brought upon by the information society is that many of our basic assumptions about space and time are changing daily, forcing us to reevaluate our very understanding of these ideas, as well as how we apply new realities to our day-to-day living. We understand that humanity is not returning to the days of horse and buggy. We are faced with new paradigms about how we live our lives that a by-product of innovations brought about by and because of digital technology.

These changes filter to the very core of what it means to be a human. It can be argued that many of the developments in society that are taking place as a result of digital technology are themselves neutral: how we act and react to them are what gives them meaning. Our values may remain the same, but we need to review codes of ethics to be able understand how to apply them to new situations. The challenge of adapting humankind’s existing sense of ethics and values to new paradigms is addressed by Mary B. Williams, “Because the computer gives us fundamentally new power, we are faced with decisions for which our experiences may give little guidance, The danger of applying old standards to a fundamentally new situation is will illustrated by the law passed soon after the first automobiles, which required cars travelling on roads to be preceded by a man on foot carrying a red flag. The law reduced danger, but robbed the auto of its intrinsic value” (Williams. 1997. p. 4). It now seems that the auto is now travelling faster then the man with the flag, which means that we need to be able to evaluate and interpret meaning and ethics in ways never before done.

One of the greatest problems resulting from digital technology pertains to the issue of personal responsibility. The integration of computers and the Internet into every aspect of society and culture has brought about mixed blessings. On the one hand, humans can communicate about both good and bad events in real time. Announcements about impending events, such the recent earthquake in Japan in which seismic sensors sent warnings out to local communities about the impending tsunami saved some lives by allowing the people to evacuate to higher grounds. Low-violence revolutions have been coordinated by people using applications such as Facebook (Egypt) and Twitter (Iran). It can also be said that the west knew about the events in the 1989 Tiananmen Square protests because of the existence of FAX machines, which gave Chinese protestors the means to tell about their actions via images and press releases sent from Beijing to the world (before the Chinese government’s communication crackdown). Examples of positive affects and uses of computers and the Internet abound is every sector- education, science, entertainment, health. It is a remarkable sign of the human spirit to see how the Cloud is being used to facilitate distributive models of computing by tapping into unused processors around the world to supply computing power to scientists searching for a cure for AIDS (fight AIDS @ home). The Internet also provides individuals to assume some of the responsibility for global debt relief to economically challenged nations (even though the individuals themselves are not the direct cause of the problems) through micro-lending sites such as KIVA which allow groups individuals to provide loans to struggling businesses around the world.

There is also a dark side to the increased prevalence of digital technologies- both indirect and direct. The age of information is causing a shift in employment around the world. In this country, once necessary jobs are being eliminated or outsourced to cheaper labor overseas. There is a constant struggle between programmers to develop secure systems to protect economic and political entities with those programmers attempting to break in to steal money, secrets or create havoc (through viruses).

Another sector that has been radically transformed is the military and warfare. In the 1983 documentary “War” Canadian journalist and military historian Gwynne Dyer, described the relationship between war technology (weapons), and methods. Early warfare pitted individuals against other individuals in brutal hand-to-hand battles with swords and other hand held weapons. With the invention of bows and arrows, spears and later catapults, combatants were able to separate and start to distance themselves from their adversaries. In some ways, this caused war to become larger, messier endeavors that spread into communities of non-combatants. The increased distance, and reduced contact made it easier to mount military campaigns. Now, war technologies are all about distance- missiles, bombs, and rocket launchers make it easy for one person to squeeze a trigger and obliterate villages, towns and cities. In Afghanistan, drones piloted by individuals in the US fly the skies, sometimes attacking, sometimes transferring data to analysts who can then send in support to our troops. This of course protects our people. But it also increases the possibility of error, since the view is limited to the single camera set within the drone or smart missile, sometimes causing civilian casualties. For example the 2007 US military helicopter strike that killed around a dozen Iraqi civilians and two Reuters staff in Baghdad. Here is an example of the paradox of technology- the high-tech weapons are directed to an error because of the distance of the pilot from the targets- they were unable to contextualize the people n the street. And it was technology that captured the video and then distributed it to the public so that people can make their own decisions about the war.

The issue of distancing the individual from their actions is a critical one in the world of technology. By operating as an intermediate processor in some situations, computers make eventual effects seem more distant. Just as pilots dropping bombs are removed from the human suffering that results, computers can remove the human initiator even more from personal involvement. … A situation more unique to the computer industry, though, is where the human operator is present at the same point in time, but simply removed from the decision-making process: a preplanned procedure is carried through with automated control.” (Markusen. 1997. p. 294). Three other issues that impact personal responsibility are that corporations and nations often make decisions as individuals that can have negative effects on society (such as the banking scandals), but the actual individuals who are making the decisions and taking action are protected by the framework of the corporation, “This design error–moral immunity– includes two separate but related problems. The first is that nations and corporations are frequently considered to be “persons,” yet they are not held to the same moral standards as real persons. Second, their officeholders enjoy a certain immunity from moral criticism. If one asks who the actor is in a certain situation, the answer may be “the nation” or “the corporation” as if that body or entity had a mind and a will. Yet neither of these groups’ persons is expected to have a conscience or act in other moral ways like individual human beings. This is very strange indeed, that the biggest actors who affect human well-being are not held to moral standards. In the case of the nation, its exemption from moral responsibility may have to do with the tribalism psychology whereby one’s own group is always assumed to be right and good” (Maxwell. 1997. p. 63).

 Another issue is that people love to play and explore and there are many, many opportunities for this with technology. New hardware, software, applications and processes entice and engage people from every sector, age group, and social-economic status. This can be a good thing- it can inspire people to do interesting and beneficial work (for example, the Center for Future Civic Media at MIT). Yet, the romance with the novel can also separate the individual from the actual action or consequences, “Regardless of the overall consequences, intelligent computer systems can be inherently interesting and an distract the worker from thoughts about the ethical implications of his or her work. Chalk describes a “primitive fascination” with new technology” (Summers and Markusen. 1997. p. 286).

An additional problem relates to the language that humans use when describing technology. We have a tendency to anthropomorphize a computer’s processes to make it more familiar to our own behavior. This actually results in increasing the distance between our own actions as the controllers of technological processes (either through our programming or initiating a process). “Anthropomorphic metaphors can be found in the definitions and goals for interface design. For example, some interfaces are designed to: use the process of human-human communication as a model for human-computer interaction”, to “interact with the user similar to the way one human would interact with another”, or to be “intelligent” where intelligence is based on a model of human intelligence.” When such anthropomorphic metaphors become embedded in the design of a system, the system can fall prey to the second type of distortion by projecting human agency onto the computational system. (Summers and Markusen. 1997. p. 304).

 Answers to these dilemmas can be found in human’s own sense of values and extensive literature about ethics that have guided us throughout the blessings and horrors of history. But knowing about ethics does not guarantee that they will be applied to ethical dilemmas. For example, Summers and Markusen write Studies of the Holocaust, for example, have found that the vast majority of Nazi perpetrators were “…normal according to currently accepted definitions by the mental health profession”” (p. 287) and a particular Holocaust scholar“… reports that “an S.S. doctor said to me, ‘Ethics was not a word used in Auschwitz. Doctors and others spoke only about how to do things most efficiently’” (p. 293).

 The challenges facing humanity seem daunting indeed. We are in the midst of global revolutions. But these same factors also offer opportunities to evolve. Borders are (or can be) made unnecessary through immediate global communication. Economic barriers can be reduced or eliminated with outreach and support from both large institutions (wealthy nations and institutions) and individuals (KIVA). Social media is promoting new forms of collaboration, such as Facebook.

 Yet as previously mentioned, knowing about ethics does not guarantee they will be applied. New models of ethical education are needed that will specifically address the radical changes and rapid cycles of change. This is particularly important for those individuals working directly with developing and implementing new technology. Friedman and Kahn suggest that “We propose that responsible computing often depends on humans’ clear understanding that humans are capable of being moral agents an that computational systems are not. However… this understanding can be distorted in one of two ways. In the first type of distortion, the computational system diminishes or undermines the human users’ sense of his or her own moral agency…. Conversely, in the second type of distortion the computational system masquerades as an agent by projecting intentions, desires and volition. To the extent that humans inappropriately attribute agency to such systems, at least in part, to me morally responsible for the effects of computer-mediated or computer-controlled actions” (Friedman and Kahn. 1997. p. 303). It is imperative that humans learn about and accept that digital technology is not an independent agent, acting on its own. Technology is simply an extension of our own actions, behaviors and values. The ethics of technology are our own. Perhaps our we can model our actions on the saying of the first century rabbi, Hillel who said “If I am not for myself, who will be for me? If I am only for myself, what am I? And, if not now, when?”, meaning that we need to be responsible for ourselves, but we cannot act independently- we are always part of a larger community. And the time for action is now, not later.

III. References

Barbour, I.G. (1992). How computers affect interpersonal relationships. In Ermann M. D., Williams, M. B. and Shauf, M. S. (Eds.), *Computers, ethics and society.* (pp. 161-174 (1997). Oxford University Press. New York. (Reprinted from *Ethics in an age of technology*. pp. 146-175. HarperCollins)*.*

Friedman, B., Kahn Jr.,P.H. (1992). People are responsible, computers are not. In Ermann M. D., Williams, M. B. and Shauf, M. S. (Eds.), *Computers, ethics and society.* (pp. 303-312). (1997). Oxford University Press. New York. (Reprinted from *Human agency and responsible computing: implications for computer system design*. pp. 7-14. *Journal of Systems Software.* Elsevier Science Inc.)

Gergen, K.J. (1991). How computers affect interpersonal relationships. In Ermann M. D., Williams, M. B. and Shauf, M. S. (Eds.), *Computers, ethics and society.* (pp. 137-152). (1997). Oxford University Press. New York. (Reprinted from *The saturated self*. pp. 61-64, 68-80. Basic Books)

Gray, J. G. (1970). *The Warriors: reflections on men in battle.* Harper & Row. New York.

*Leaked video shows US military killing of civilians*, Reuters staff’ 27/07/2010. http://www.france24.com/en/20100406-leaked-video-shows-us-military-killing-civilians-reuters-staff

Maxwell, M. (1997). “Design errors” in the human moral system. In Ermannm M. D., Williams, M. B. and Shauf, M. S. (Eds.), *Computers, ethics and society.* (pp. 57-69). (1997). Oxford University Press. New York.

Summers, C., Markusen, E. (1992). Why good people do bad things: the case of collective violence. In Ermann M. D., Williams, M. B. and Shauf, M. S. (Eds.), *Computers, ethics and society.* (pp. 285-302). (1997). Oxford University Press. New York. (Reprinted from *Computers, ethics and collective violence*. pp. 91-103. *Journal of Systems Software*. Elsevier Science, Inc.)

Williams, M. B. (1997). Ethical issues in computing: work, privacy and justice. In Ermannm M. D., Williams, M. B. and Shauf, M. S. (Eds.), *Computers, ethics and society.* (pp. 3-19). (1997). Oxford University Press. New York.

Wikipedia editors. (4-22-2011). “Gwynne Dyer” Retrieved from 4-22-2011 from http://en.wikipedia.org/wiki/Gwynne\_Dyer

Wikipedia editors. (10-17-2010). “Theodore Streleski”. Retrieved 4-22-2011 from http://en.wikipedia.org/wiki/Theodore\_Streleski