The Unintended Unethical Conduct of Technology Workers—Why?

by
Sheldon Richmond, Ph.D.
Systems Analyst
17 Jonathan Gate
Thornhill, ON L4J 5K3
Canada
Email: askthephilosopher@sympatico.ca
http://www3.sympatico.ca/askthephilosopher

0. Introduction

Why do computer technology workers form a new elite of power and knowledge where users of computers are treated only as extensions of computer technology? Why are computer users treated as means to the end of keeping computer technology operational and secure by the new elite of computer technologists? A crucial part of the answer is that people are treated as dummies and computers are thought to be smarter than people. Furthermore, we fail to see that computer professionals are actually a political power group in our socio-technical social systems. For instance, Ellen Rose in her book, "User Error" (2003), demonstrates that there is no 'social negotiation' between computer professionals and computer users. Computer professionals have become an elite class who have created technical blocks to prevent computer users from gaining knowledge about computers and to prevent those who have knowledge but are not computer professionals from accessing their own computers.

What we require is more democracy, openness, and freedom as well as accessibility to technology.

1. People As Dummies:

When people become frustrated with computers who are the dummies? The most common response is that people are the dummies. The popular books about various computer functions for “dummies” though tongue-in-cheek and good natured in tone, if not ironical and humorous in content, work on the presumption that problems with computers are due to human deficiencies.

Most critics of computers, even those who are self-designated “Luddites”, such as Neil Postman, presume a certain stupidity when it comes to our use of computers. No one denies that computers are “smart”. Postman argues against their imposition (in “TECHNOPOLY :The Surrender of Culture to Technology” 1992) on society—especially in schools. His argument is that computers and television “amuse us to death” (as in the book with that phrase as its title *Amusing ourselves to death: public discourse in the age of show business*, 1985). Computer technology inhibits the learning and use of important human skills such as reading, writing, and arithmetic. Moreover, computer

technology does not add anything new to what we can do without it. However, the assumption behind the argument that the use of computer technology dumb us down is that computers are smart, and we can only protect our smarts by avoiding the use of computers.

Even the deniers of artificial intelligence, including those of the critics who were among the pioneers of AI such as Terry Winograd (Terry Winograd and Fernando Flores, "Understanding Computers and Cognition: A New Foundation for Design, 1987) and Joseph Weizenbaum ("Computer Power and Human Reason", 1976), argue that whether or not AI can ever be achieved, we ought to make the social decision to limit the use of AI, particularly in areas that can replace humans. Though these deniers of AI argue for the impossibility of genuine AI (such as is involved in judgments, pattern recognition, understanding, and so forth), they are wary about the temptation to redefine "intelligence" in terms of what computers do. If a computer plays chess in a certain manner, or if a computer solves problems in a certain manner, those means used by the computers become the definition of intelligence. Herbert A. Simon and Allen Newell in their book. "Human Problem Solving"(1972), more or less prove the point. They argue that the methods they have designed for computer problem solving for various logical and mathematical puzzles—namely, the use of what they call "heuristics" or what most might call rules of thumb, or strategies—are the methods of intelligence, per se.

However, even with the warning that we ought not to let computers replace us in doing "intelligent" activities, and we ought not to redefine "intelligence" in terms of what computers can do, there is a tacit assumption that computers are smart, or at least can do smart things. Furthermore, the logical consequence of this assumption is the idea that computers might be able to help us do smart things as well when we use them, and that when we don't understand computer smarts, it is because we are stupid, or at least, not as smart as computers. Do computers make us dumb? Or, at least, when we become frustrated with the use of computers, is it because we are dumb?

I agree that computers in the way that they are used in society today do make us dumb. My point is that computers are not naturally "smart": there is nothing in their design, or in the use of processors, that makes them smart. Moreover, there is nothing in our "design", or in the nature of things that makes humans stupid. Rather, we have chosen to use computers in a way that makes us dumb. Ellen Rose, in her wonderful book, "User Error: Resisting Computer Culture" (2003) discusses in detail how our culture or use of computers in current society makes us dumb. In short, the way computers are marketed, the way documentation is developed, the way computer technical support treats computer users, and so on, results in making computer users dumb.

2. Why People Have Become Dummies?

The problem is fairly straightforward and even uncontroversial. Everyone expected that by the introduction of computers, people would become smarter and more powerful. Furthermore, everyone expected that organizations would become less hierarchical, more open, and more democratic in terms of a greater distribution of power and responsibility.

However this did not happen. Firstly, people found computers frustrating. Secondly, decentralization and distribution of power or the so-called 'delayering' happened and then eroded and reversed. Thirdly, PCs entered the workplace surreptitiously, and without central planning or control from the bottom-levels and without input by traditional IT who lived in the glass-enclosed data centres with mainframes. Before long, PCs became terminal emulators attached to mainframes, then they became part of Local Area Networks, and Wide Area Networks connected to distributed servers. Next, applications and policies were distributed to the PCs from servers, and PCs were controlled and locked through procedures that were distributed from the servers. Now, servers are in the process of consolidation to fewer servers in data centres—central servers with mirror servers for fail-over. The consequence is that we have come not quite full circle, but that PCs are completely under the control of IT staff.

So, what went wrong?

3. What In the Socio-Technical System of Computer Technology Makes People into Dummies?

Computers do things that look intelligent such as perform tax calculations. Computers contain components that seem to work the way brains work. For instance, computers have a processor (or many processors in parallel distributed systems) where calculations or symbol manipulation occurs, or where instructions are followed. Computers have short-term memory in the form of what is called volatile memory stored in 'chips' or solid-state circuits. Computers have long-term memory in the form of what is called storage stored in magnetic and optical media. The short of it is that computers process instructions.

However, hammers also process instructions in the sense that hammers are incorporations of a design. The design is nothing more than a set of instructions. The instructions can be in the form of a pictorial representation or in text. The point is that hammers perform according to the design or instructions. Moreover, when computer instructions were hard-wired into the computer before the days of stored programs (as developed by John von Neumann), computers were exactly like hammers—though used for speedy and complicated calculations. However, when instructions could be stored, the computer became a multi-purpose machine that changed its function depending on the change in the stored instructions or programs or applications. Computers are not a special kind of technology of a different order from hammers and other technologies. They are not 'smart', but are only tools that can be used for multi-functions.

How then can we escape the self-reinforcing and vicious cycle of dumb computers being treated as smart and smart people being treated as dumb?

4. How Can We Maintain Our Sense and Our Humanity?

The situation I am describing and explaining as due to implementing a socio-technical system on the basis of a mistaken idea about computers can be changed. As Ellen Rose

argues in her book that I have previously mentioned, what we have done in this culture (or in my terms, socio-technical system) is done through social negotiation. How then can we renegotiate our "social contract"? This metaphor is somewhat misleading. There are no specific groups who can sit across a table to hash out matters. Rather, there is an idea afloat that computers are smart, and this idea is mistaken, and there are institutionalizations of this mistaken idea, and there is a mythical treatment of the idea, and finally there are various groups—especially the IT world—who benefit from the propagation of the myth.

How do we change our institutions given that computers are dumb, that the use of computers require skills that could change when computers change, and that we want to maintain our smarts?

We need more democracy, openness and freedom. The first principle of democracy is actually listening to people. When someone states a difficulty with a computer, one need not assume that the person is in error. The second principle of democracy is openness, and the first principle of openness is transparency of process. Rather than mystify computers by hiding functions, and by preventing access to all the functions, including operating systems level functions, we need to demystify computers by opening everything up. Finally, the main purpose of democracy is the protection of freedom. Knowing how to use the dumb computer is freedom; having the choice and responsibility over what you do with the dumb computer is freedom.

My argument points to a strange conclusion: Very nice and helpful people—i.e. IT support professionals—in their helpfulness, unintentionally act unethically by turning smart people into helpless and subservient idiots who are treated only as slaves to the master machines.