Informing Ourselves To Death

By Neil Postman

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The great English playwright and social philosopher George Bernard Shaw once remarked that all professions are conspiracies against the common folk. He meant that those who belong to elite trades -- physicians, lawyers, teachers, and scientists -- protect their special status by creating vocabularies that are incomprehensible to the general public. This process prevents outsiders from understanding what the profession is doing and why -- and protects the insiders from close examination and criticism. Professions, in other words, build forbidding walls of technical gobbledegook over which the prying and alien eye cannot see.

Unlike George Bernard Shaw, I raise no complaint against this, for I consider myself a professional teacher and appreciate technical gobbledegook as much as anyone. But I do not object if occasionally someone who does not know the secrets of my trade is allowed entry to the inner halls to express an untutored point of view. Such a person may sometimes give a refreshing opinion or, even better, see something in a way that the professionals have overlooked.

I believe I have been invited to speak at this conference for just such a purpose. I do not know very much more about computer technology than the average person -- which isn't very much. I have little understanding of what excites a computer programmer or scientist, and in examining the descriptions of the presentations at this conference, I found each one more mysterious than the next. So, I clearly qualify as an outsider.

But I think that what you want here is not merely an outsider but an outsider who has a point of view that might be useful to the insiders. And that is why I accepted the invitation to speak. I believe I know something about what technologies do to culture, and I know even more about what technologies undo in a culture. In fact, I might say, at the start, that what a technology undoes is a subject that computer experts apparently know very little about. I have heard many experts in computer technology speak about the advantages that computers will bring. With one exception -- namely, Joseph Weizenbaum -- I have never heard anyone speak seriously and comprehensively about the disadvantages of computer technology, which strikes me as odd, and makes me wonder if the profession is hiding something important. That is to say, what seems to be lacking among computer experts is a sense of technological modesty.

After all, anyone who has studied the history of technology knows that technological change is always a Faustian bargain: Technology giveth and technology taketh away, and not always in equal measure. A new technology sometimes creates more than it destroys. Sometimes, it destroys more than it creates. But it is never one-sided.

The invention of the printing press is an excellent example. Printing fostered the modern idea of individuality but it destroyed the medieval sense of community and social integration. Printing created prose but made poetry into an exotic and elitist form of expression. Printing made modern science possible but transformed religious sensibility into an exercise in superstition. Printing assisted in the growth of the nation-state but, in so doing, made patriotism into a sordid if not a murderous emotion.

Another way of saying this is that a new technology tends to favor some groups of people and harms other groups. School teachers, for example, will, in the long run, probably be made obsolete by television, as blacksmiths were made obsolete by the automobile, as balladeers were made obsolete by the printing press. Technological change, in other words, always results in winners and losers.

In the case of computer technology, there can be no disputing that the computer has increased the power of large-scale organizations like military establishments or airline companies or banks or tax collecting agencies. And it is equally clear that the computer is now indispensable to high-level researchers in physics and other natural sciences. But to what extent has computer technology been an advantage to the masses of people? To steel workers, vegetable store owners, teachers, automobile mechanics, musicians, bakers, brick layers, dentists and most of the rest into whose lives the computer now intrudes? These people have had their private matters made more accessible to powerful institutions. They are more easily tracked and controlled; they are subjected to more examinations, and are increasingly mystified by the decisions made about them. They are more often reduced to mere numerical objects. They are being buried by junk mail. They are easy targets for advertising agencies and political organizations. The schools teach their children to operate computerized systems instead of teaching things that are more valuable to children. In a word, almost nothing happens to the losers that they need, which is why they are losers.

It is to be expected that the winners -- for example, most of the speakers at this conference -- will encourage the losers to be enthusiastic about computer technology. That is the way of winners, and so they sometimes tell the losers that with personal computers the average person can balance a checkbook more neatly, keep better track of recipes, and make more logical shopping lists. They also tell them that they can vote at home, shop at home, get all the information they wish at home, and thus make community life unnecessary. They tell them that their lives will be conducted more efficiently, discreetly neglecting to say from whose point of view or what might be the costs of such efficiency.

Should the losers grow skeptical, the winners dazzle them with the wondrous feats of computers, many of which have only marginal relevance to the quality of the losers' lives but which are nonetheless impressive. Eventually, the losers succumb, in part because they believe that the specialized knowledge of the masters of a computer technology is a form of wisdom. The masters, of course, come to believe this as well. The result is that certain questions do not arise, such as, to whom will the computer give greater power and freedom, and whose power and freedom will be reduced?

Now, I have perhaps made all of this sound like a wellplanned conspiracy, as if the winners know all too well what is being won and what lost. But this is not quite how it happens, for the winners do not always know what they are doing, and where it will all lead. The Benedictine monks who invented the mechanical clock in the 12th and 13th centuries believed that such a clock would provide a precise regularity to the seven periods of devotion they were required to observe during the course of the day. As a matter of fact, it did. But what the monks did not realize is that the clock is not merely a means of keeping track of the hours but also of synchronizing and controlling the actions of men. And so, by the middle of the 14th century, the clock had moved outside the walls of the monastery, and brought a new and precise regularity to the life of the workman and the merchant. The mechanical clock made possible the idea of regular production, regular working hours, and a standardized product. Without the clock, capitalism would have been quite impossible. And so, here is a great paradox: the clock was invented by men who wanted to devote themselves more rigorously to God; and it ended as the technology of greatest use to men who wished to devote themselves to the accumulation of money. Technology always has unforeseen consequences, and it is not always clear, at the beginning, who or what will win, and who or what will lose.

I might add, by way of another historical example, that Johann Gutenberg was by all accounts a devoted Christian who would have been horrified to hear Martin Luther, the accursed heretic, declare that printing is "God's highest act of grace, whereby the business of the Gospel is driven forward." Gutenberg thought his invention would advance the cause of the Holy Roman See, whereas in fact, it turned out to bring a revolution which destroyed the monopoly of the Church.

We may well ask ourselves, then, is there something that the masters of computer technology think they are doing for us which they and we may have reason to regret? I believe there is, and it is suggested by the title of my talk, "Informing Ourselves to Death." In the time remaining, I will try to explain what is dangerous about the computer, and why. And I trust you will be open enough to consider what I have to say. Now, I think I can begin to get at this by telling you of a small experiment I have been conducting, on and off, for the past several years. There are some people who describe the experiment as an exercise in deceit and exploitation but I will rely on your sense of humor to pull me through.

Here's how it works: It is best done in the morning when I see a colleague who appears not to be in possession of a copy of *The New York Times*. "Did you read The Times this morning?," I ask. If the colleague says yes, there is no experiment that day. But if the answer is no, the experiment can proceed. "You ought to look at Page 23," I say. "There's a fascinating article about a study done at Harvard University." "Really? What's it about?" is the usual reply. My choices at this point are limited only by my imagination. But I might say something like this: "Well, they did this study to find out what foods are best to eat for losing weight, and it turns out that a normal diet supplemented by chocolate eclairs, eaten six times a day, is the best approach. It seems that there's some special nutrient in the eclairs -- encomial dioxin -- that actually uses up calories at an incredible rate."

Another possibility, which I like to use with colleagues who are known to be health conscious is this one: "I think you'll want to know about this," I say. "The neuro-physiologists at the University of Stuttgart have uncovered a connection between jogging and reduced intelligence. They tested more than 1200 people over a period of five years, and found that as the number of hours people jogged increased, there was a corresponding decrease in their intelligence. They don't know exactly why but there it is."

I'm sure, by now, you understand what my role is in the experiment: to report something that is quite ridiculous -- one might say, beyond belief. Let me tell you, then, some of my results: Unless this is the second or third time I've tried this on the same person, most people will believe or at least not disbelieve what I have told them. Sometimes they say: "Really? Is that possible?" Sometimes they do a double-take, and reply, "Where'd you say that study was done?" And sometimes they say, "You know, I've heard something like that."

Now, there are several conclusions that might be drawn from these results, one of which was expressed by H. L. Mencken fifty years ago when he said, there is no idea so stupid that you can't find a professor who will believe it. This is more of an accusation than an explanation but in any case I have tried this experiment on non-professors and get roughly the same results. Another possible conclusion is one expressed by George Orwell -- also about 50 years ago -- when he remarked that the average person today is about as naive as was the average person in the Middle Ages. In the Middle Ages people believed in the authority of their religion, no matter what. Today, we believe in the authority of our science, no matter what.

But I think there is still another and more important conclusion to be drawn, related to Orwell's point but rather off at a right angle to it. I am referring to the fact that the world in which we live is very nearly incomprehensible to most of us. There is almost no fact -- whether actual or imagined -- that will surprise us for very long, since we have no comprehensive and consistent picture of the world which would make the fact appear as an unacceptable contradiction. We believe because there is no reason not to believe. No social, political, historical, metaphysical, logical or spiritual reason. We live in a world that, for the most part, makes no sense to us. Not even technical sense. I don't mean to try my experiment on this audience, especially after having told you about it, but if I informed you that the seats you are presently occupying were actually made by a special process which uses the skin of a Bismark herring, on what grounds would you dispute me? For all you know -- indeed, for all I know -- the skin of a Bismark herring *could* have made the seats on which you sit. And if I could get an industrial chemist to confirm this fact by describing some incomprehensible process by which it was done, you would probably tell someone tomorrow that you spent the evening sitting on a Bismark herring.

Perhaps I can get a bit closer to the point I wish to make with an analogy: If you opened a brand-new deck of cards, and started turning the cards over, one by one, you would have a pretty good idea of what their order is. After you had gone from the ace of spades through the nine of spades, you would expect a ten of spades to come up next. And if a three of diamonds showed up instead, you would be surprised and wonder what kind of deck of cards this is. But if I gave you a deck that had been shuffled twenty times, and then asked you to turn the cards over, you would not expect any card in particular -- a three of diamonds would be just as likely as a ten of spades. Having no basis for assuming a given order, you would have no reason to react with disbelief or even surprise to whatever card turns up.

The point is that, in a world without spiritual or intellectual order, nothing is unbelievable; nothing is predictable, and therefore, nothing comes as a particular surprise.

In fact, George Orwell was more than a little unfair to the average person in the Middle Ages. The belief system of the Middle Ages was rather like my brand-new deck of cards. There existed an ordered, comprehensible world-view, beginning with the idea that all knowledge and goodness come from God. What the priests had to say about the world was derived from the logic of their theology. There was nothing arbitrary about the things people were asked to believe, including the fact that the world itself was created at 9 AM on October 23 in the year 4004 B.C. That could be explained, and was, quite lucidly, to the satisfaction of anyone. So could the fact that 10,000 angels could dance on the head of a pin. It made quite good sense, if you believed that the Bible is the revealed word of God and that the universe is populated with angels. The medieval world was, to be sure, mysterious and filled with wonder, but it was not without a sense of order. Ordinary men and women might not clearly grasp how the harsh realities of their lives fit into the grand and benevolent design, but they had no doubt that there was such a design, and their priests were well able, by deduction from a handful of principles, to make it, if not rational, at least coherent.

The situation we are presently in is much different. And I should say, sadder and more confusing and certainly more mysterious. It is rather like the shuffled deck of cards I referred to. There is no consistent, integrated conception of the world which serves as the foundation on which our edifice of belief rests. And therefore, in a sense, we are more naive than those of the Middle Ages, and more frightened, for we can be made to believe almost anything. The skin of a Bismark herring makes about as much sense as a vinyl alloy or encomial dioxin.

Now, in a way, none of this is our fault. If I may turn the wisdom of Cassius on its head: the fault is not in ourselves but almost literally in the stars. When Galileo turned his telescope toward the heavens, and allowed Kepler to look as well, they found no enchantment or authorization in the stars, only geometric patterns and equations. God, it seemed, was less of a moral philosopher than a master mathematician. This discovery helped to give impetus to the development of physics but did nothing but harm to theology. Before Galileo and Kepler, it was possible to believe that the Earth was the stable center of the universe, and that God took a special interest in our affairs. Afterward, the Earth became a lonely wanderer in an obscure galaxy in a hidden corner of the universe, and we were left to wonder if God had any interest in us at all. The ordered, comprehensible world of the Middle Ages began to unravel because people no longer saw in the stars the face of a friend.

And something else, which once was our friend, turned against us, as well. I refer to information. There was a time when information was a resource that helped human beings to solve specific and urgent problems of their environment. It is true enough that in the Middle Ages, there was a scarcity of information but its very scarcity made it both important and usable. This began to change, as everyone knows, in the late 15th century when a goldsmith named Gutenberg, from Mainz, converted an old wine press into a printing machine, and in so doing, created what we now call an information explosion. Forty years after the invention of the press, there were printing machines in 110 cities in six different countries; 50 years after, more than eight million books had been printed, almost all of them filled with information that had previously not been available to the average person. Nothing could be more misleading than the idea that computer technology introduced the age of information. The printing press began that age, and we have not been free of it since.

But what started out as a liberating stream has turned into a deluge of chaos. If I may take my own country as an example, here is what we are faced with: In America, there are 260,000 billboards; 11,520 newspapers; 11,556 periodicals; 27,000 video outlets for renting tapes; 362 million TV sets; and over 400 million radios. There are 40,000 new book titles published every year (300,000 world-wide) and every day in America 41 million photographs are taken, and just for the record, over 60 billion pieces of advertising junk mail come into our mail boxes every year. Everything from telegraphy and photography in the 19th century to the silicon chip in the twentieth has amplified the din of information, until matters have reached such proportions today that for the average person, information no longer has any relation to the solution of problems.

The tie between information and action has been severed. Information is now a commodity that can be bought and sold, or used as a form of entertainment, or worn like a garment to enhance one's status. It comes indiscriminately, directed at no one in particular, disconnected from usefulness; we are glutted with information, drowning in information, have no control over it, don't know what to do with it.

And there are two reasons we do not know what to do with it. First, as I have said, we no longer have a coherent conception of ourselves, and our universe, and our relation to one another and our world. We no longer know, as the Middle Ages did, where we come from, and where we are going, or why. That is, we don't know what information is relevant, and what information is irrelevant to our lives. Second, we have directed all of our energies and intelligence to inventing machinery that does nothing but increase the supply of information. As a consequence, our defenses against information glut have broken down; our information immune system is inoperable. We don't know how to filter it out; we don't know how to reduce it; we don't know to use it. We suffer from a kind of cultural AIDS.

Now, into this situation comes the computer. The computer, as we know, has a quality of universality, not only because its uses are almost infinitely various but also because computers are commonly integrated into the structure of other machines. Therefore it would be fatuous of me to warn against every conceivable use of a computer. But there is no denying that the most prominent uses of computers have to do with information. When people talk about "information sciences," they are talking about computers -- how to store information, how to retrieve information, how to organize information. The computer is an answer to the questions, how can I get more information, faster, and in a more usable form? These would appear to be reasonable questions. But now I should like to put some other questions to you that seem to me more reasonable. Did Iraq invade Kuwait because of a lack of information? If a hideous war should ensue between Iraq and the U.S., will it happen because of a lack of information? If children die of starvation in Ethiopia, does it occur because of a lack of information? Does racism in South Africa exist because of a lack of information? If criminals roam the streets of New York City, do they do so because of a lack of information?

Or, let us come down to a more personal level: If you and your spouse are unhappy together, and end your marriage in divorce, will it happen because of a lack of information? If your children misbehave and bring shame to your family, does it happen because of a lack of information? If someone in your family has a mental breakdown, will it happen because of a lack of information?

I believe you will have to concede that what ails us, what causes us the most misery and pain -- at both cultural and personal levels -- has nothing to do with the sort of information made accessible by computers. The computer and its information cannot answer any of the fundamental questions we need to address to make our lives more meaningful and humane. The computer cannot provide an organizing moral framework. It cannot tell us what questions are worth asking. It cannot provide a means of understanding why we are here or why we fight each other or why decency eludes us so often, especially when we need it the most. The computer is, in a sense, a magnificent toy that distracts us from facing what we most needed to confront -- spiritual emptiness, knowledge of ourselves, usable conceptions of the past and future. Does one blame the computer for this? Of course not. It is, after all, only a machine. But it is presented to us, with trumpets blaring, as at this conference, as a technological messiah.

Through the computer, the heralds say, we will make education better, religion better, politics better, our minds better -- best of all, ourselves better. This is, of course, nonsense, and only the young or the ignorant or the foolish could believe it. I said a moment ago that computers are not to blame for this. And that is true, at least in the sense that we do not blame an elephant for its huge appetite or a stone for being hard or a cloud for hiding the sun. That is their nature, and we expect nothing different from them. But the computer has a nature, as well. True, it is only a machine but a machine designed to manipulate and generate information. That is what computers do, and therefore they have an agenda and an unmistakable message.

The message is that through more and more information, more conveniently packaged, more swiftly delivered, we will find solutions to our problems. And so all the brilliant young men and women, believing this, create ingenious things for the computer to do, hoping that in this way, we will become wiser and more decent and more noble. And who can blame them? By becoming masters of this wondrous technology, they will acquire prestige and power and some will even become famous. In a world populated by people who believe that through more and more information, paradise is attainable, the computer scientist is king. But I maintain that all of this is a monumental and dangerous waste of human talent and energy. Imagine what might be accomplished if this talent and energy were turned to philosophy, to theology, to the arts, to imaginative literature or to education? Who knows what we could learn from such people -- perhaps why there are wars, and hunger, and homelessness and mental illness and anger.

As things stand now, the geniuses of computer technology will give us Star Wars, and tell us that is the answer to nuclear war. They will give us artificial intelligence, and tell us that this is the way to self-knowledge. They will give us instantaneous global communication, and tell us this is the way to mutual understanding. They will give us Virtual Reality and tell us this is the answer to spiritual poverty. But that is only the way of the technician, the fact-mongerer, the information junkie, and the technological idiot.

Here is what Henry David Thoreau told us: "All our inventions are but improved means to an unimproved end." Here is what Goethe told us: "One should, each day, try to hear a little song, read a good poem, see a fine picture, and, if it is possible, speak a few reasonable words." And here is what Socrates told us: "The unexamined life is not worth living." And here is what the prophet Micah told us: "What does the Lord require of thee but to do justly, and to love mercy and to walk humbly with thy God?" And I can tell you -- if I had the time (although you all know it well enough) -- what Confucius, Isaiah, Jesus, Mohammed, the Buddha, Spinoza and Shakespeare told us. It is all the same: There is no escaping from ourselves. The human dilemma is as it has always been, and we solve nothing fundamental by cloaking ourselves in technological glory.

Even the humblest cartoon character knows this, and I shall close by quoting the wise old possum named Pogo, created by the cartoonist, Walt Kelley. I commend his words to all the technological utopians and messiahs present. "We have met the enemy," Pogo said, "and he is us."