The Magical Computer

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Two years ago, I had the privilege of giving the opening address at the first CAMCON. I opened that address by posing the question "Does God love Computers?" Today I would like to start with a related question. What makes computers loveable?

Perhaps the question is not quite right. Perhaps I should not assume that computers ARE loveable. Apart from the Macintosh with its compulsory pet mouse, it is hard to see your average personal computer -- a monitor perched on a nondescript box -- as something that could excite feelings of love. Certainly, all of us know people -- many people -- who are completely devoid of ANY positive feelings for the computer -- even for the less intimidating, semi-lovable MAC.

"What makes a computer loveable?" Let me explain my question. Ever since the day -- nine years ago now -- that I bought my first computer, I have been obsessed by them. The moment I typed in my first simple program -- and it actually worked --I have had what I can only describe as a passion for the technology. From the experience of my own love affair with the computer, I have been able to recognize it when it happens to others. A friend will buy a computer -- usually for a good (i.e. sensible) reason-- like word processing. He will take it home, turn it on, load the word processing tutorial and suddenly, he is hooked. The next time you see him there is a glint in his eye. He begins to spend his time wandering through computer stores. Word processing gets forgotten. He starts talking about disk utilities and serial ports and extended RAM. He many even begin to write his own programs. Sooner or later he begins to declare that computer programming is a spiritual discipline.

My question about what makes a computer lovable refers to this phenomenon. What is it about computers that can excite this kind of passion in some people? What attracts people to computers?

Let me begin by saying that computers are not sexy. Cars are sexy-- or, at least, they used to be. One of Marshall McLuhan's earlier works was entitled "The Mechanical Bride." The "mechanical bride" was the automobile, a reference to the fact that there is a sublimated sexuality in the care that many men lavish on their cars. The sexuality of the automobile was less than fully sublimated in automobile advertisements. In the real world, the car was a means of transportation. In the landscape of the male imagination, the car became a mistress. The car was a mate designed to carry us to ecstasy in our journeys through space.

Automobile ads today are not what they used to be. Today the average automobile ad shows pure car, uncluttered by people -- male or female. I imagine that the women's movement has made the advertisers more sensitive to the sexism of their work than they used to be. But if you looked at automobile ads of a decade or two ago, women would not be hard to find. They were there as adornments. They were the playmates who embodied the message that the advertiser wished to convey to the male imagination.

Computer ads do not include many women. The few women who appear in computer ads are rarely there as sex objects. They represent either clerical staff -- obediently implementing the will of male managers, or they are powerful figures, women managers who exude an air of competence, women whose sexuality is
expressed as a form of power. In computer ads women, whether dominant or subservient, are few. The world of computer ads is a male world.

The computer is not sexy. What, then, is its attractiveness? Where does the computer fit in the landscape of our imaginations?

Power. The attraction of the computer is the attraction of power. The images that appear and reappear in advertisements for computer hardware and software are images of power. In our imaginations, we associate the computer with power.

A look through computer ads will verify that. To buy a computer is to buy power. To buy computer software is to buy power. Again and again, the adjective "powerful" is used to entice us to buy this piece of hardware or that software package. The computer is a power machine. To buy a computer is to acquire power.

The advertisement that really made me conscious of the place of power in the promotion of computer technology was a little gem setting forth the virtues of a Toshiba lap top. Significantly enough, I did not see the ad in a computer magazine. I saw this advertisement in a magazine sent to the members of a frequent flier program of a Canadian airline. The ad was directed to people who might want to use a laptop and who could afford one. The ad was not placed to reach the people who would be impressed by the technical details that are typical of ads placed in computer magazines. The ad shows a picture of a Toshiba 5100, the "top of the line" lap tops. And just above the laptop, it shows a common ant. In bold large print, the ad reads:

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Only two creative forces
could make something so extraordinarily
small and powerful.
First nature
Now Toshiba
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What was striking about that ad, was not just the association of the computer with power. The ad makes a claim for its product that verges on the theological. "First nature" That seems to be a secular way of saying "God". "Now, Toshiba" For a sum of quite a few thousand dollars, you can buy a little bit of divinity. Nature made the ant. Toshiba made the T5100. That is the power that can be yours!

As I reflect on my own experience with the computer, the appeal of power is not hard to find. It began in the simplest of ways. I plugged in my first computer and turned it on. The computer responded with the word "READY" glowing clearly on another wise dark screen. Ready for what? Ready to do my command. My manual assured me that my computer was waiting for me to tell it what to do. So I told it to do something. I started with a simple command: 'PRINT "HELLO"', I typed. Then I pressed a key labeled ENTER. Lo and behold, right below my command and with no discernable delay, the word "HELLO" appeared on my screen. Below "HELLO" was the word READY. Not only had my command been carried out. The computer was ready for more!
I have never been able to give myself a satisfactory explanation of why that was so exciting. What earthly use could I have for a machine that said "HELLO"? The fact was, the experience gave me a sense of power. A machine that could be instructed to say "HELLO" could be instructed to do many other things. Ever since that computer obediently performed that first trivial command, I have not ceased to thrill at seeing a machine carry out instructions that I type into it. Trivial or not, it was a feeling of power. It was a feeling of magic.

Using a computer does feel like magic. Indeed, it does not take much imagination to translate from the language of computers into the language of magic.

Imagine a simple program. Using BASIC, I type into a computer: 'CLS: PRINT 4 + 5'. Then I press ENTER. The screen clears. Then, almost instantaneously, the number "9" appears.

We can describe that in the language of programming. We can say that the computer translates a set of instructions from a programming language like BASIC into an equivalent set of instructions which can then be executed directly by the machine. In response to the BASIC command "CLS" the central processing unit fills the portion of memory with blank characters. Next it returns the cursor to the first position in the video memory. Then the CPU places the number 4 in whichever register is used to perform arithmetical functions. It then finds the second number, 5, and adds it to 4. The result, which exists in the binary form 00001001 is then added to another binary digit 00110000 to give the result 00111001, which is the ASCII code for the number 9. This digit is then placed in the video memory at the cursor position and the cursor position is advanced. (My apologies to all the technical experts who are aware of all the things I have skipped over in this description!)

That is what happened when the computer performed my program. But that is not what I experienced. I did not experience any translation of my command into another language. I did not experience any of the activities of the CPU as it juggled binary digits back and forth. I did not see anything binary. What I experienced was not something technical. It was something magic. I cast a spell using a strange incantation: "CLS: PRINT 4 + 5'. And as soon as I had cast my spell, the magic happened. The screen cleared. The number 9 appeared. I had spoken and the machine had obeyed. It was power. It was magic. The appeal of the computer is the appeal of magic power. And that is a powerful appeal.

To associate computers and magic may sound to you to be a criticism of the appeal of computers. To most of us, I think, the word "magic" will not have good connotations. Magic, in our minds, is associated with superstition, with ignorance, with the occult. Magic is a primitive delusion that is inconsistent both with modern intelligence and with Christian faith. Whatever the merits of that prejudice (and it is a prejudice), it does not help us to understand properly the appeal of magic. It is the appeal of magic which, I am arguing, undergirds the base of the appeal of the computer.

It may be helpful to sketch some of the history of our prejudice about magic. During the middle ages, magic maintained an uneasy tension with Christian faith. The church included both practitioners and critics of magic. There were two types of magic: high magic and low magic. High magic included astrology, alchemy, the Tarot. High magic was the magic practice in the educated upper classes. High magic was, or became, urbane magic. It was the magic of the affluent, educated townsperson. Low magic, on the other hand, was rural magic.
It consisted of rituals, spells, folk medicine. High magic tended to be male. Low magic was female.

It was low magic that was first attacked. This attack was primarily religious. Even before the reformation, the inquisition, using the anti-witchcraft manual, the Malleus Maleficarum, had begun a war on the practitioners of folk magic. The victims, called witches, were primarily women. The religious persecution of witches was intensified by the reformation. Catholics and Protestants were at least united in their readiness to attack witches.

The Reformation proved to be even more radical in its rejection of magic. Both high and low magic were condemned. The charge of magic was laid by the reformers against the church of Rome. The practice of magic pervaded the Roman Church, in the eyes of the reformation. The practice of indulgences was magic. The claim of the church to have power over the forgiveness of sin was magic. The belief that an element like bread could become the very body of the Lord simply by the utterance of a sacred incantation was magic. The charge of magic lay at the root of the protestant rejection of the Roman Church and its theology. In protestantism, the priority of grace precluded, in a radical way, any attempt to manipulate sacred things by rituals and incantations.

The attack on magic was, at first, religious. In its next stage, the attack took a more secular form in the emergence of rationalism. Rationalism replaced faith and tradition with reason as the ultimate arbiter of truth. While magic had attempted to invoke a world of spirits to explain the power of its rituals, rationalism banished the world of spirits. Modern thought could appeal only to a very concrete material world ruled by cause and effect.

Power, technology and magic. The three words belong together. Technology and magic have a long historical relationship. We might call it a sibling rivalry. Magic is technology's older sister. Both magic and technology can be described as means of controlling and manipulating power. Technology, as we commonly know it, was concerned with the creation of machines and other devices, to protect people from a hostile environment. Technology existed to help human beings dominate their environment. Magic, on the other hand, worked with myth and ritual to accomplish the same ends: protection and domination. Both technology and magic aimed at putting power over the environment in the hand of its user.

The suppression of magic in our culture has come about through an alliance between religion and technology. Religion -- that is, Christianity -- joined forces with technology to combat the practice of magic. The succession of the Reformation and Counter Reformations, the Enlightenment, and the Industrial Revolution represents a long attempt by the elites in Western Society to despiritualize the world. By removing the spirits, magic was discredited. The interests of the owners of technology and was not, of course, identical to the interests of the Church. But that fact often passed unnoticed. That magic represented a form of power that was controlled neither by the church nor by capitalism provided sufficient reason for the church, the academy and the marketplace to join in the suppression of magic.

Whatever the rights or wrongs of the modern critique of magic, we need to understand one thing. Nomatter how hard theology or rationalism or capitalism has tried to rid the world of the spirits to which magic appeals, the suppression never quite succeeds. The spirits appear in new forms. Christianity suppressed the gods of paganism. They reappeared as saints and angels. Protestantism suppressed the cult of the saints. They reappeared in the spirit-filled world of the charismatic movement. Western civilization ignored and
suppressed the spirits of nature that surrounded the aboriginal peoples of this continent. The spirits have reappeared in a revitalized "native spirituality". While our heads may tell us that there are no spirits and no magic, but only God and technology, our hearts keep telling us something else. We despiritualize the world, but we still long to live in a world of magic.

The confrontation between technology, religion and magic has always involved a struggle for power. The protestant charge of magic against the Catholic mass was an attempt to undermine the claim of the Roman Church to spiritual power and authority. The destruction of native traditional rituals, the persecution of native shaman, was a necessary phase of movement of European civilization to take native lands and reduce native peoples to impotence. The witch hunts of the late middle ages and the early modern period was motivated by a fear on the part of the persecutors of the power of the black magic of seemingly powerless women.

Now, you might want to ask, what does all this have to do with computers? What I have been trying to say is that the spell that computers seem to cast on us is similar to the spell of magic. That spell has two sides to it. Some of us are attracted to the magic of the computer. The sense of power that we get from using the technology excites us to the point of obsession with the technology. Others who sense the power of computers are frightened. They approach a keyboard with fear and trembling. While they convince themselves that they cannot control a computer, they fear that someone, somewhere is using the computer to control them. They fear the power of the computer in much the same way that the witch hunters feared the power of the women with their traditional lore whom they persecuted. In a sense, the technology that was rooted in magic has reintroduced magic into our lives. As religious people, we have to deal once again with a power like the power of magic.

We will do well to recall just why it was that the church felt that it had to combat magic. Quite apart from the question of whether the power of magic was real, the church recognized the power of the belief in magic. To believe in the power of magic, in the minds of the Christian critics of magic, was, to that extent, to disbelieve in the power of God. Magic, as the theologians saw it, was to indulge in the manipulation of the spirits. It was, at worst, a manipulation of God. It was a denial of the freedom of God to exercise power when and where God willed. It was to make God subject to the will of the magician.

But what was this power of God that the theologians were trying to protect? Was it the power of the omnipotent God, the God who could and would exercise arbitrary power just to show who is boss? Was it the God who lent credibility to the absolute monarchs and all the other tyrants in church and state who could use God's power to oppress who they would in God's name? If that is our idea of the power of God, we will treat the power of the computer similarly. We will see the computer as a powerful instrument of control. If we are in a position to control, we will want to use computers to help us control more efficiently and more completely. We will trust the omniscience and omnipotence of computer technology to give us the control we deserve as the agents of God, as the guardians of righteousness. If, on the other hand, we are not in a position to control, then we will fear the power of the computer. We will see the computer as the enemy, as the agent of dehumanization and oppression. We will fight the power of the computer with the same passion that our ancestors fought what they perceived to be the power of magic.

Is that the power of God - the arbitrary omnipotence of the tyrant of the universe? Karl Barth, in a passage written well before the creation of the first computer, had this to say about the power of God:
To define [God] in terms of power in itself has as its consequence, not merely a neutralization of the concept of God, but its perversion into its opposite. Power in itself is not merely neutral. Power in itself is evil. It is nothing less than freedom from restraint and suppression.; revolt and domination. If power by itself were the omnipotence of God it would mean that God was evil, that he was the spirit of revolution and tyranny par excellence.

When Barth attempts to define the true omnipotence of God, he puts it this way: God is able, able to do everything; everything that is, which as His possibility is a real possibility. God has possibilities-- all the possibilities which, as the confirmation and manifestation of His being, are true possibilities.

To translate that to less formidable language, what Barth is saying is that the power of God, and therefore legitimate and proper power, is not sheer force. Rather, to have power is to have possibility. God, then, is not to be understood as the ultimate force, standing above all the world as the theatre of God's forcefulness. Rather, God is the ground of all possibility. God's power is the power of an open future, the power of ever new possibilities. God's power does not oppress. God's power enables. God's power makes possible.

I was struck by the similarity between what Barth says about the power of God and the phrase I have often used to describe the computer: the possibility machine. The power of the computer is the power of the possibilities it holds. The appeal of the computer-- its magic -- is the appeal of endless possibilities waiting to be made real.

The power of possibilities is like unto the power of God. That does not mean that the computer is a godly machine. The danger that the theologians of the 16th and 17th centuries thought that they saw in magic could be a danger for us with our new magic. If we begin to think that we can program the kingdom of God, we would, indeed, be substituting the power of God with the power of a cheap substitute.

There are two temptations of power that the computer offers us. The one temptation -- the temptation of the manager, the politician, the bureaucrat -- is the temptation of control. We attempt to use the computer to limit the possibilities of the people who we seek to bring under control. The other temptation is that we become beguiled by the possibilities that the computer offers us. We begin to see the computer as a new messiah, as the new magic that frees us from our dependence on grace.

Those temptations constitute the dark side of computer technology. That dark side is real. But it is not the last word about computers. If computers do allow us to create new possibilities, if computers are at the heart of a new stage in human culture, then those possibilities include the possibilities that the lame will walk, the hungry will be fed, that the victims of violence will be free from fear. The gospel, if I hear it correctly, calls us to create possibilities. The computer is a possibility machine. It is appropriate, then, that the computer be as much at home in the church as it is in other institutions of society. Power needs to be treated with care. Power can dominate. Power can oppress. Power can destroy. Yet the power that creates new possibilities is a power that serves, a power that liberates, a power that heals. Let us use this new magic in the service of the future to which we know we are called by God.

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