METAPHORS THAT UNDERMINE HUMAN IDENTITY

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A TWO-FOLD PROCESS, DISCOVERABLE in our language about computers and about people, is subtly undermining our human identity.

This process involves, first, the externalization of human qualities onto machines; and second, the internalization of machine qualities into humans. Occurring through our choice of metaphors, the process has consequences for the debates in our culture over the nature of humanity, intelligence, mind and machinery.

It makes a difference whether we speak of a computer as having a "memory" or a "data-storage capacity." By attributing human qualities to machines, especially computers, we lose sense of what is human, have less understanding of how humans differ from machines, and construct an image of powerful machines and frail humans. The metaphorical undermining of human identity is only intensified by the careless use of language; it may be partly preventable by proper use of language and care with our metaphors.

Granted, the metaphorical use of human terms, such as "memory" for computer capacity, is a way to make complex technological functions more understandable. While this is a desirable goal, serious confusion arises from such semantic practices. I do not believe that computers "think" or have "memories"; neither do I believe that humans are machines. Linguistically confusing people and machines amounts to a serious category mistake which has consequences for how humans regard themselves. To discover the tendency to externalize human qualities onto machinery, we can examine the changing definitions that lexicographers report.

As source material, I use definitions from the series of *Webster's Collegiate Dictionaries,* vols. one (1898) through nine (1983). In particular, I pay attention to the appearance of new definitions from one edition to the next. In this way, semantic change can be observed historically.

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I will focus here on certain commonly used terms in computerese: "memory," "machine language," "words," "intelligent," "brain" and "conversation." Tracing new definitions of these terms in the dictionaries clearly exhibits the externalization of human qualities onto machines.

As early as 1963, in the seventh edition *Collegiate,* a new definition of "memory" included "electronic computing machines." (By 1973, in the eighth edition, certain plastics were held to have "memory," as well.)

By 1973, a new definition of "brain" was: "An automatic device (as a computer) that performs one or more of the functions of the human brain for control or computation."

A new definition of "conversation" in 1973 was: "An exchange similar to conversation, especially real-time interaction with a computer, especially through a keyboard."

These conversations could occur because machines were held to have their own "language." "Language" itself took on a new definition in the 1963 edition, which referred to computer operations. "Machine language" appeared for the first time in the 1973 *Collegiate,* along with "machine readable" (directly usable by a computer).

Since the machine could read language, it is not surprising to see computer information described as "words" by 1973, as well.

In 1983, a new definition of "intelligent" was:

> *3. able to perform computer functions (an intelligent terminal) also able to convert digital information to hard copy (an intelligent copier)*

Intelligence is not just for people any more. Also in 1983, "artificial intelligence" appeared. "The capability of a machine to imitate intelligent human behavior." While this latter term retains some differentiation between machines and humans, the former definitions do not.

This linguistic externalization of human qualities onto computers will probably only be intensified as robots come into more prominence. But this projection of mind into machines is already serious. For, while language does not completely determine thought, it can influence habits of thinking which shape our world-view in important ways. (1) Any discussions of computers—or humans, for that matter—using the anthropomorphized vocabulary above will be subtly pressured toward certain conclusions.

Do computers think? Do they have rights? Are they conscious? Such questions are being discussed, and the language in which they are discussed can be crucial. (2) If the computer is held to have a "memory," and the ability to "read" "words" and translate them into its own "language," thereby to make "intelligent" choices, the terms themselves will dictate a conclusion that computers are conscious, thinking beings, with attendant rights and responsibilities.

But if we say that computers have "data storage capacities" (instead of "memory"), that they can "input" and "scan" information in their own "codes" and perform "mathematical choice-functions," then the conclusion will be

biased in another way: toward a more mechanical view that computers do not really think, are not really conscious in the human sense, etc.

Here is a case in which real confusion can result in our thinking from the language that we use. We have a choice in this matter; we do not need to use anthropomorphized language to accurately describe computer operations.

This issue is not trivial, for it involves our definition of ourselves as human beings, which is somewhat uncertain at present. In fact, a new definition of "human" in 1973 betrays some problems with our human identity:

> *3b. susceptible to or representative of the sympathies and frailties of man's nature (such inconsistency is very human).*

Here humanity is seen as frail and inconsistent, as contrasted with the stronger, more consistent machinery which surrounds it.

Problems of human self-definition will only become more acute in the future. For, as there has been a process of externalizing human qualities onto machines, there has also been a process of internalizing machine qualities into humans.

We can trace this internalization from the 19th century, when mechanistic terms started to be applied to biological phenomena. (3) In the *Collegiate,* first edition (1898) we find as a definition of "machine":

> *3. Figuratively, any person controlled by another's will, or a collection of individuals working as an organized force.*

The application of "machine" to humans thus had a negative connotation, which, however, is missing by 1963, when a new definition appears: "A living organism or one of its functional systems." This definition is an outgrowth of the philosophy of "mechanism," which first appeared in the *Collegiate* in 1936 as "the doctrine that natural processes are mechanistically determined and capable of explanation by the laws of physics and chemistry."

A more recent application of mechanical terms to humans is found in the term "program," which in 1983 took on the following new definitions:

> *3b. to control by or as if by a program*
> *c. (1) to code in an organism's program*
> *(2) to provide with a biological program (cells that have been programmed to synthesize hemoglobin)*
> *4. to direct or predetermine (as thinking or behavior) completely as if by computer programming (children programmed into violence)*

In addition, Merriam-Webster's dictionary of new words issued in 1983, *9000 Words,* (4) lists "deprogram":

> *to dissuade from convictions usually of a religious nature often with the use of force (parents lure their children away from the communes so that he can deprogram them)*

These new uses of the word "program" summarize many of the issues in the undermining of human identity. We see mechanistic biology programming

cells, unnamed forces programming children and parents struggling to deprogram cult members who have lost their separate identities.

This application of mechanical terms to humans is just as momentous as the application of human terms to machines. It confuses our thinking about crucial questions. Are people machines? If so, they are clearly inferior to the faster, bigger models; and they inevitably will become obsolete. Are biological processes determined by the laws of chemistry and physics? If so, why bother giving people all those troublesome rights and freedoms, which are illusory anyway? How do you campaign for the rights of a population of mechanized automatons programmed into preordained patterns?

In discussing these issues, the language we use can crucially affect the conclusions we draw.

Humans are not machines, computers cannot think. Each term may resemble the other in certain respects, but they should be kept conceptually separate. If not, we may wind up granting greater rights to computers and at the same time taking them away from humans.

Pointing out a problem is frequently easier than solving it, even if a first step. Perhaps all we can hope for in this situation is a widespread education into an awareness of the metaphorical nature of the anthropomorphized computer terms and mechanical biological terms.

If enough people are aware of the metaphorical language they use when describing computer "memories," etc., their thoughts may be less trapped by the implications of their terminology.

Instead of speaking of computer "memories," we should say "data-storage capacity." Instead of "machine language," "machine codes." Instead of "brain," let's say the computer is a "processor." We don't have a "conversation" with a computer, we "enter" information. The computer doesn't "read" our inputs, it "processes" them. We "read" the computer output. We are "intelligent," computers are "data processors."

These are simply suggestions; perhaps more accurate and euphonious terms can be found. Yet a linguistic separation between terms applying to humans and those applying to computers will greatly assist thought about the two, which currently is quite confused.

As the philosopher John Searle points out, some thinkers conclude that since computers can simulate mental operations, that means they must have minds, awareness and consciousness. Yet, he points out, computers can simulate almost anything. Nobody expects that a computer simulation of a five-alarm fire will actually burn down the neighborhood, or a simulation of an internal combustion engine will actually power a car. (5) Why, then, the confusion about computer simulations and mind? The terminology being used to discuss the issue contributes immensely to the problem.

An important contribution of critical communication scholarship ought to be to illuminate the forms of consciousness and patterns of practice that emerge from particular metaphors. This is not to claim that the choice of metaphors

determines social practice. It is only to say that metaphorical choices have consequences in the production of coherent social life. (6)

A change in terminology for computers may be impossible to "program," but if people who feel strongly about this issue change their own uses of the terms, that will be a start. The processes of language-change are anonymous and unpredictable but must start somewhere.

In this century, when so much of our reality-constructing potency seems taken away from us, we must try to maintain control over our own language. If we use it wisely, with full and articulate awareness of the dangers of metaphorically confusing humans and machines, we can take back into our own control some of the reality-construction process.

NOTES AND REFERENCES

1. Whorf, Benjamin. (1956). *Language, Thought, and Reality.* Cambridge, Mass.: MIT Press.
2. A point not sufficiently stressed in the thoughtful book by Turkle, Sherry. (1984). *The Second Self.* New York: Simon & Schuster.
3. Barfield, Owen. (1985). *History in English Words.* West Stockbridge, Mass.: Lindisfarne Press.
4. Mish, Frederick. (ed.) (1983). *9,000 Words.* Springfield, Mass.: Merriam-Webster.
5. Searle, John. (1982). "The Myth of the Computer." *New York Review of Books,* April 29, 3-6.
6. The novels of Philip K. Dick explore the undermining of human identity in an imaginative way.