

THE CORRUPT COMPUTER

Electric Language:
A Philosophical Study of Word Processing
by Michael Heim

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The computer lets you write easily for the same reasons it lets you write badly. A blank sheet of paper contains far more terrors than a blank computer screen. The blank page offers nothing but emptiness, silence, and dread. The blank screen glows with anticipation of the words it so readily accepts. No one but a solitary writer can fill the vacancy of the blank page. The computer itself is always ready to fill the screen with menus, messages, or instructions as soon as you touch a key. The screen asks little from a writer. You can fill it by typing fewer words than are needed to fill a five-by-eight card.

And behind the screen stands the invisible order of a word-processing program with its promise of regimented safety. Like any tyrant, a word-processing program both threatens and comforts. Obey its arbitrary inflexible rules, and it rewards you with tireless service in rearranging, removing, even correcting your words. Disobey its rules, and it responds either by issuing a warning beep and a terse instruction or by dissolving months of labor into scattered electrons. In millions of offices, the computer fulfills the tyrant's dream: it forbids everything that it does not permit.

When you work at a computer, you accept constraints as strict as barbed wire and watchtower. The screen's flickering energy captures your attention and narrows it to the screen's confines. Only the most determined will can shift its focus from the active screen to the static waste of books and papers that lie around it. When you work at a typewriter, it takes no effort to look from the page you are writing to the pages you have written already. You read the page on the desk and the page in the typewriter with the same eye movements, and your pupils need not adjust to changes in the intensity of light. But when you work at a computer, the light and action on the screen overwhelm not only the words on any printed pages nearby, but also the meaning of the words on the screen itself. The glow becomes more fascinating than the content.

Just as the dullest television soap opera captures your attention in a darkened room, so the dullest prose glitters irresistibly on the word-processing screen.

But within its guarded borders, the computer screen can seem like a playground that grants infinite freedom. Don't look outside, don't question the rules, and you can play forever and without rebuke. Inside the screen, no milestones, no boundaries, no landmarks give any sense of rhythm, limit, or location. When you work on paper, you must pause at the end of each page and take the trouble to start again on another. The top and bottom of a sheet of paper are its unmistakable beginning and end, and you always know where you are. But when you work at a screen, you might as well be anywhere. You write on an imaginary surface with no beginning and no end. You can add anything without effort or interruption. Aristotle might have defined the dramatic plots written at a computer as having a middle, a middle, and a middle.

With typed or handwritten pages you can easily compare the beginning and the end for logic and consistency, or you can examine a dozen pages on a desk at once. With a computer, after much distracting effort, you can display a few lines from two or more sections of your work on the screen at the same time, but the effect is like studying a mural by comparing two brush strokes. The computer lets you forget while you write that a skeptical reader will someday read your prose in print and be able to turn effortlessly from one page to another, filling the margins with ironic comments on your forgetfulness and illogic. The computer lets you make small-scale revisions to individual sentences with an ease unimaginable on paper, but it can't help you revise the shape of the large-scale work whose scale it encourages you to forget.

Every writer should have one anyway. If you compose a first draft on paper and then revise a final draft on the computer, you can combine structural solidity and elegance of detail in the same piece of

work. And two kinds of writing always turn out better when drafted entirely on a computer. Anything shorter than around a thousand words (the exact threshold differs for every writer) gains from the ease of correction. And anything written for a newspaper gains from the ease with which paragraphs can be shuffled from one place to another. Reporters use the inverted-pyramid construction, in which the weightiest fact occupies the opening paragraph and everything else follows in diminishing order of importance. A computer lets a journalist spew out paragraphs pell-mell and shift them up and down the pyramid at will. And it lets an editor cut off the story at any point without leaving loose ends.

But with any extended prose that seeks to analyze or comprehend, any narrative that recognizes the link between act and consequence, any writing that knows that lives can have purpose or direction, any words that seek to influence or illuminate, the computer eases the mechanical task of composition while quietly undermining coherence and truth. The author who produced books, when he worked on paper, that were lucid and compact now sits at a computer and writes flaccid maunderings that convince no one. When he worked on paper, he discovered that a forced and tendentious argument gave more trouble in the writing than a valid one; when the sentences were agonizing to write, the content was probably wrong. Now that he has a computer, he writes everything easily, and is convinced by any self-contradictory nonsense that he tosses on the screen. On the writing desk, as on the stock trading floor, the computer gives wings to high flyers—until the crash.

Writers who use a computer swear to its liberating power in tones that bear witness to the apocalyptic power of a new divinity. Their conviction results from something deeper than mere gratitude for the computer's conveniences. Every new medium of writing brings about new intensities of religious belief and new schisms among believers. In the 16th century the printed book helped make possible the split between Catholics and Protestants. In the 20th century this history of tragedy and triumph is repeating itself as farce. Those who worship the Apple computer and those who put their faith in the IBM PC are equally convinced that the other

camp is damned or deluded. Each cult holds in contempt the rituals and the laws of the other. Each thinks that it is itself the one hope for salvation.

Each of these cults corresponds to one of the two antagonists in the age of Ref-ormation. In the realm of the Apple Macintosh, as in Catholic Europe, wor-shippers peer devoutly into screens filled with "icons." All is sound and imagery in Appledom. Even words look like dec-orative filigrees in exotic typefaces. The greatest icon of all, the inviolable Apple itself, stands in the dominating position at the upper-left corner of the screen. A central corporate headquarters decrees the form of all rites and practices. Infalli-ble doctrine issues from one executive officer whose selection occurs in a sealed boardroom. Should anyone in his curia question his powers, the offender is ex-communicated into outer darkness. The expelled heretic founds a new company, mutters obscurely of the coming age and the next computer, then disappears into silence, taking his stockholders with him. The mother company forbids fi-nancial competition as sternly as it stifles ideological competition; if you want to use computer programs that conform to Apple's orthodoxy, you must buy a computer made and sold by Apple itself.

AS IN Protestant Europe, by contrast, where sects divided endlessly into smaller competing sects and no church dominated any other, all is different in the fragmented world of IBM. That realm is now a chaos of conflicting norms and standards that not even IBM can hope to control. You can buy a com-puter that works like an IBM machine but contains nothing made or sold by IBM itself. Renegades from IBM con-stantly set up rival firms and establish standards of their own. When IBM re-cently abandoned some of its original standards and decreed new ones, many of its rivals declared a puritan allegiance to IBM's original faith, and denounced the company as a divisive innovator. Still, the IBM world is united by its dis-trust of icons and imagery. IBM's screens are designed for language, not pictures. Graven images may be tolerated by the more luxurious cults, but the true IBM faith relies on the austerity of the word.

A religion gives fanatics something to be fanatical about, but it also sustains and codifies the moral principles by which fanaticism might be judged. A computer encourages fanatics and does nothing to restrain them. Religious his-

torians will have no trouble identifying the varieties of computer fanaticism. At one end of the scale is the ascetic stylite, who renounces the disorder of humanity to stare raptly at the screen. At the other end is the technological visionary, who rants endlessly about the utopia that will be ours when the computer comes into its kingdom.

Technological visionaries devise gleam-ing prisons that they imagine as the ideal society, and they cannot be shaken from the delusion that everyone will want to live there. The leading example of an earlier generation of visionaries was Buckminster Fuller, who never stopped talking about dymaxion houses and geo-desic domes. Fuller's successor is Ted Nelson, whose 1974 *Computer Lib/Dream Machines*—two books bound back to back—has just been reissued by Tempus (a branch of Microsoft Press) with mer-ciful cuts by the author, and a blurb by Timothy Leary. Nelson never stops talk-ing about "hypertext," which is a way of storing information in a computer so that you can jump from one item to any other item remotely associated with it, until you reach a state of total befuddle-ment. Hypertext is designed for people whose attention span is no wider than a computer screen. If you want to move instantly from an economic analysis of diamond mines to a picture of a baseball diamond to a recording of "Diamonds Are a Girl's Best Friend," hypertext is for you. Nelson is convinced that his plan to convert all human knowledge into hypertext has been blocked only by narrow-minded bureaucrats and other unidentified spoilsports, and he devotes many pages of his new edition to the co-nundrum that if Ted Nelson is so smart, why isn't he rich?

Technological visionaries can never recognize the distinction between the feasible and the desirable. If a machine can be made to perform some dazzlingly complicated task, then the visionary as-sumes that the task is worth performing. The moral silliness of computer visionar-ies is a benign version of the moral stu-pidity that drives nuclear engineers to invent bigger and better bombs.

IN Michael Heim's *Electric Language*, the first philosophical study of word pro-cessing, all these issues are either fumb-led or ignored. The fault probably isn't the author's. His project was doomed from the start for two reasons: the book was written on a word processor, and it is a work of academic philosophy. A work-

man is no better than his tools, and the tools of philosophy and the computer prove hopelessly unequal to Heim's task. Heim never seems to notice that anything is wrong, but that is because he denies himself the use of any instruments except those that conceal the problem.

Heim's argument, when detached from all his philosophical throat-clearing, is simple. Books used to be created by au-thors who contemplated their ideas in private. This was a good thing. Comput-ers replace the contemplation of ideas with an automated manipulation of words, while those words are linked to all other words through electronic net-works. This is a bad thing. Yet its bad-ness is mitigated by the fact that Heim finds computers fun to play with. They beep at him amusingly, and "it is nearly impossible to avoid some amount of fooling around with the power of pro-grammed, automatic writing."

LIKE MOST recent work in academic philosophy, *Electric Language* takes far more interest in itself and in philoso-phy than in its ostensible subject. Heim never misses a chance to remind us that he is writing on a computer—in fact, on two computers. (He took one of them to the Acropolis so that the opening words of the book could report that those words were written on the Acropolis.) His introduction philosophizes about the problem of introduction. His first chap-ter talks about first principles. Almost half the book summarizes earlier philoso-phy by Heidegger, and by the author of Heim's dust jacket blurb, W. J. Ong, on changes in the nature of writing.

Heim's style turns poignant when he contemplates the solitary splendor of phi-losophy. "To seek to make connections fully explicit and coherent is the fate of philosophy, making it stand alone and apart," he writes. This sentence is typical of Heim's style. The word "fate" is mis-placed—it belongs in the phrase about philosophy's aloneness—and seems to be a euphemism for pretension or vanity. Besides, Heim's argument keeps contra-dicting itself. The utopian clichés of the early chapters (including an inevitable page about hypertext) are refuted by the later chapters' reports of research studies on the effects of computers.

Heim swallows the visionaries' guff as if it were ambrosia, and imagines that computers can create a new "collabora-tive interaction" and a "gradually emerg-ing sense of a new kind of community." Three chapters later he reports that com-

puterized message systems instead foster a "confrontational style" of insult and aggression. On one page he affirms that, whether we like it or not, "we are approaching the paperless society." On the next page he reports that one effect of the computer is that "far more pages are produced as the ancillary function of corporations and government agencies than by all the traditional book, magazine, and newspaper publishers combined." Reviewing his achievement at the end of the book, he writes: "Our speculation has striven for consistency."

When Heim writes about the effects of computers on writing, he alternates between wide-eyed exultation at the ease with which he can move sentences around and thin-lipped warnings against the division of the written word from the contemplating mind. Early in the book he quotes some writers' anecdotal descriptions of word processing but dismisses these anecdotes as unworthy of philosophy. By the middle of the book he starts reeling off very similar anecdotes of his own. Philosophers' anecdotes are evidently more telling than other people's; and no matter how foolish or irrelevant the answers Heim gets from philosophers, he keeps coming back for more.

Heim insists on obscuring even his better points in a syntactical fog. For all his concern about metaphor, he is deaf to the metaphors in his own prose. He uses the phrase "digital writing" as if writing at a computer meant writing in binary digits, or as if writers had not been writing with their digits—their fingers—from the start. Heim describes the act of shuffling paragraphs around a computer screen as "restructuring" one's prose, a word that suggests a very dim notion of what prose structure means. His sense of history is dimmer still. He devotes a chapter to the invention of printing and its consequences without mentioning the Reformation. He summarizes the history of Western music as a decline from "sacred chant . . . to classical objective complexity to . . . the jingle and the hit song." If music used to be so dignified, one wonders what Shakespeare was joking about when one of his clowns claimed to have "a reasonable ear in music" and called for the tongs and the bones.

Heim recognizes that the speed and the ease of the computer leads to increased pressure to produce—pressure from the office worker's boss, pressure from the writer's superego. He intro-

duces his alternative in grand style: "Our concrete proposals for influencing self-transformation at the interface are guided by the broad paradigm of contemplative concentration as found in the discipline called meditation." This means that when you work at a computer, it's a good idea to stop and think every now and then. Heim doesn't say how this solution will help the office worker whose keystrokes are monitored by the central computer in the personnel office, and who will be fired if the keystrokes-per-hour figure doesn't match the corporate quota.

The most disconcerting sentences in *Electric Language* were written by the German historian and theologian John Trithemius early in the 16th century, when the printing press, like the personal computer today, was both new and everywhere. Trithemius was certain that the printed book made learning effortless and therefore superficial. To ap-

proach the deepest meaning of a book, he wrote, one must copy it laboriously by hand, as scribes do: "Every word we write is imprinted more forcefully on our minds since we have to take our time while writing and reading." Heim doesn't notice that Trithemius on printing is an updated version of Plato on writing. Plato was certain that we understand the words we hear more fully than the words we read. But Heim suspects that Trithemius may have known what he was talking about. As he hurtles through the hyperspace of his word-processed prose, Heim pauses in baffled tribute to this defender of the written word and the human hand.

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