"Do Not Fold, Spindle or Mutilate": A Cultural History of the Punch Card

Steven Lubar

One hundred years have passed since Herman Hollerith invented the punch card to tabulate the 1890 census. That's also, almost exactly, the lifespan of the technology. Today, punch cards have vanished from public view. The last few businesses that still use punch cards are phasing them out, replacing punch card systems with computers, optical scanners and magnetic storage media.

But one aspect of the era of the punch card invaded the national subconscious to leave an ironic cultural legacy. The punch card era survives in the phrase "do not fold, spindle, or mutilate." The phrase and the feelings it represents have outlasted the technology, not to mention the billions of cards on which it was printed. Culture changes more slowly than technology. Symbols outlast machines. The signified slides under the signifier.

This cultural legacy is an important vestige of the punch card. Symbols are part reality and part mental image, and so they capture attitudes, feelings and beliefs—immaterial things sometimes hard to find in the historic record. The phrase "do not fold, spindle or mutilate" has stuck so in our heads because it captures a significant facet of American belief about automation, computerization and bureaucratic society. The history of the phrase can help to explain popular reaction to the computerization of American society.

The federal government became the first major user of punch cards when the Census Bureau used them to tabulate the 1890 census. Hollerith's machines soon found wide use in government offices. During World War I, for example, the army used them to keep inventory and medical and psychological records, and the War Industries Board did its accounting on the machines (Reid-Green, Austrian, Cortata).

Businesses also used punch cards. Starting about 1906, railroads replaced the complicated systems of paperwork they used to track operating expenses, the location of rolling stock and goods in shipment with punch card tabulating machines. Insurance companies were not far behind: the Aetna

Life and Casualty company used punch card machines to compile mortality data starting in 1910 (Campbell-Kelly 144, Norberg). The machinery found great favor with management. Using language that we wouldn't be surprised to find in a modern-day report on computerization, one author wrote in 1926:

Punch card systems are a proved means of economically producing facts and figures vital to operating a railroad intelligently, from which business records can be quickly and accurately classified and presented to the executives at the time they are needed in the form best suited to enable action. (Railway Accounting 353-54)

Punch card machines were modern and efficient— what we'd call today "high tech." It's easy to see how they came to symbolize all that was up to date and businesslike.

These early punch cards had no warning written on them. The cards Hollerith used for the first automated census in 1890 were completely blank, unreadable except to machines. Either an attempt to save money, or a piece of bravado, that; but Census clerks soon learned to decipher the holes almost as quickly as the machines could (Austrian 63). In only a few years cards had a variety of symbols on them, to indicate the meanings of the holes, but it was not until the 1930s that the first warnings appeared. This is, as far as I can tell, exactly the same time that the public began to see punch cards. The two events are, of course, related; the public needed to be taught how to deal with the new technology. People had to learn to respect it, and not to get in its way.

Among the earliest punch cards to "go public" were those used by New Deal agencies. New Dealers, familiar with the successful World War I experience with using punch cards to coordinate the military and the economy, put punch card machinery to use in many social and economic programs. The first "punch card checks"—among the first punch cards to be distributed to the "end user," the man and

woman in the street—were issued by the Agricultural Adjustment Administration in 1933. Social Security checks, issued starting in 1936, were also punch cards, and before long, from World War II until just a short while ago, all federal checks—some 600 million in 1985—were punch cards (Figure 1) (Bartlet 29, Beninger 409, Schwartz). The public's first introduction to punch cards was in connection with the introduction of the biggest and best publicized—and most controversial—new bureaucracies. The technology was still exotic, though. The *New Yorker* ran a story in 1940 about the crowds that gathered in front of an office-supply store in Albany to watch punch card sorting machines in action (Gibbs 54ff).

Card punch technology became more widespread in the 1940s. Libraries began to use punch cards to keep track of books ("Automatic Book Charging," Waugh). Police departments used them to track criminals. Their use in payroll and factory management expanded. Newspapers and magazines ran popular articles on the technology. Almost all of the description focused on the machines themselves, reporters outdoing one another with metaphors for the technology's utility. The *Saturday Evening Post* referred to the Los Angeles Police Department's Hollerith machine as "a mechanical Sherlock Holmes," a "crime-hating robot," "The Detective Who Never Sleeps" (Monroe, Soraghan). The 1940 Census starred in a *Colliers Magazine* article that called the punch card machine a "statistical sausage grinder," "the most amazing fortunetelling machines ever devised" (Scheinfeld).

But it was in the 1950s, after the invention of the computer and the beginning of its use in business, that everyone began to see punch cards. Companies sent punch cards out with bills. Telephone companies, utility companies and department stores realized that they could save a step in their billing process, as well as make it easier for them to process the returned check, by using the cards themselves as the bills (*Data Processing Annual*). By the 1960s, punch cards were familiar, everyday objects.

While company employees could be trusted, or required, to take care of the cards, the person in the street could not. Warnings were necessary. In the 1930s the University of Iowa used cards for student registration; on each card was printed "Do not fold or bend this card" (Baehne 32). Cards reproduced in an IBM sales brochure of the 1930s read "Do not fold, tear, or mutilate this card" and "Do not fold, tear or destroy" ("Modern Machine Accounting" 4 and 6). The author and origin of

the canonical "Do not fold, spindle, or mutilate" are lost in the mists of time.

"Do not fold, spindle, or mutilate." Folding seems clear; you might fold a card to fit in an envelope, or a pocket. But you're not supposed to crease these cards; that would jam the machine. Punch cards aren't to be used in *your* ways, for *your* purposes, but for those of the company that issued them. "Spindle" is the word that most confuses people today. Spindling is an old filing system; a clerk would have a spindle, an upright spike, on his or her desk, and would impale each piece of paper on it as he or she finished with it. When the spindle was full, he'd run a piece of string through the holes, tie up the bundle, and ship it off to the archives. (The custom still survives in some restaurants; the cashier spindles the bills as customers pay.) But you shouldn't spindle the cards: they are part of someone else's system of paperwork, not your own; they demand special attention.

"Mutilate" is a lot stronger than the other words. It expresses an angry intention on the part of the mutilator. From the viewpoint of the punch card used, it suggests a fear: people might take out their frustrations on their punch cards. (Indeed, punch cards *were* mutilated. You could buy machines advertised to "recondition mutilated punch cards" [*Data Processing Annual* 45].) Why would people mutilate punch cards? Punch cards were the interface between the public and the billing system. Metaphorically, they were where the public meshed with the corporate world. They became symbolic of the whole system. Earlier, it had been the machines that were the focus of attention; in the 1960s the cards took center stage.

Punch cards became not only a symbol for the computer (MacBride 24), but a symbol of alienation. They stood for abstraction, oversimplification and dehumanization. The cards were, it seemed, a two-dimensional portrait of people, people abstracted into numbers that machines could use. The cards came to represent a society where it seemed that machines had become more important than people, where people had to change their ways to suit the machines. People weren't dealing with each other face-to-face, but rather through the medium of the punch card. All of the free-floating anxiety about technology, the information society, "Big Brotherism," and automation attached itself to punch cards. Examining the metaphorical ways in which punch cards were used lets us understand some of the reaction and resistance to the brave new information world (Terbourgh, MacBride Chaps. 2 and 3, Gilbert 175-81, Michael).

"Do Not Fold, Spindle or Mutilate"

Figure 1. Social Security checks, starting with this first one in 1940, were punch cards. Courtesy U.S. Social Security Administration.

The first place that "do not fold, spindle or mutilate" was taken off the punch card and unpacked in all its metaphorical glory was the student protests at the University of California-Berkeley in the mid-1960s, what became known as the "Free Speech Movement." The University of California administration used punch cards for class registration. Berkeley protestors used punch cards as a metaphor, both as a symbol of the "system"—first the registration system and then bureaucratic systems more generally—and as a symbol of alienation (Edge, Joerges fn 6). The Berkeley student newspaper recognized their symbolic importance when it put the punch card at the top of the list of student lessons. "The incoming freshman has much to learn" the paper editorialized to new students in Fall 1965, "perhaps lesson number one is not to fold, spindle, or mutilate his IBM card" (*Daily Californian* Sept. 15, 1968: 8). The punch card stood for the university, and, of course, students had begun to fold, spindle and mutilate them.

The Berkeley Free Speech Movement had its start in late 1964 when students were prohibited from raising funds for political causes on campus. It opposed what it saw as the increasing conformity and alienation of American society and, more specifically, to the pro-business policies of the University of California's president, Clark Kerr. Mario Savio, a leader of the Free Speech Movement, wrote that the main internal reasons for the revolt

derive primarily from the style of the factory-like mass miseducation of which Clark Kerr is the leading ideologist. There are many impersonal universities in America; there is probably none more impersonal in its treatment of students than the University of California. (2)

Opposition to the bureaucratic organization, standardization and automation of the university, and by extension, modern industrial society, were central themes of the protestors' philosophy (Savio, Draper, Peck). In the most famous speech of the movement, Mario Savio used a memorable technological metaphor:

There's a time when the operation of the machine becomes so odious, it makes you so sick at heart, that...you've got to put your bodies upon the gears and upon wheels...and you've got to make it stop. And you've got to indicate to the people who run it, to the people who own it, that unless you're free, the machine will be prevented from working at all. (Peck 28)[1]

Savio's speech is famous, but few have realized that "the machine" he had in mind was not merely a mechanical metaphor for society; it was, at least as much, a metaphor for information technology.

Berkeley students were well aware of the standard 1960s notion that the United States had become an "organizational society." They believed, with most of the popular sociological writers of the day, that "the shape and tone of our society, indeed the very way we think is dependent upon the products and information processed by large organizations" (Otten 6 and Chap. 7, Kerr et al.). The university, wrote one student, was "a bureaucratic machine" (Levine 12). Another called it a "knowledge factory": "mass production; no deviations from the norms are tolerated" (Draper 40). The "information machine" metaphor was made explicit in Hal Draper's history of the Free Speech Movement. Draper, a participant in the movement, wrote that the student in the "mass university of today" feels that it is "an overpowering, over-towering, impersonal, alien machine in which he is nothing but a cog going through pre-programmed motions—the 'IBM' syndrome" (153).[2] Punch cards were the symbol of information machines, and so they became the symbolic point of attack. Todd Gitlin sums up—and dismisses-the Free Speech Movement as a protest against "suburban blandness, middle-class impersonality, and folding-spindling-and-mutilating universities" (164).

Punch cards, used for class registration, were first and foremost a symbol of uniformity. Mario Savio wrote that individuals were processed by the university, emerging as IBM cards with degrees (Rorabaugh, photograph caption after 50). A student editorial suggested that the inflexibility of the bureaucracy and the impersonal grading system might make a student feel "he is one out of 27,500 IBM cards in the registrar's office" ("The Big U" 8). The president of the Undergraduate Association criticized the University as "a machine...an IBM pattern of education" (Gartner 9). A flyer distributed by Berkeley's W.E.B. DuBois club showed the university as a card punch machine run by big business, its product students as identical to one another as IBM cards (Figure 2). It took a professor of sociology, Robert Blaumer, to explicate the symbolism: he referred to the "sense of imperso-nality ... symbolized by the IBM technology (Berlandt, "Why FSM" 9).

In an ironic twist, students began to use punch cards as symbols themselves. (After all, that was, in their eyes, the way the University saw them.) This was an attempt to claim the authority that was invested in the punch card. Punch cards were, after all, the visible part of the bureaucratic system that held power at the university. People deserved at least the same rights as punch cards. One student
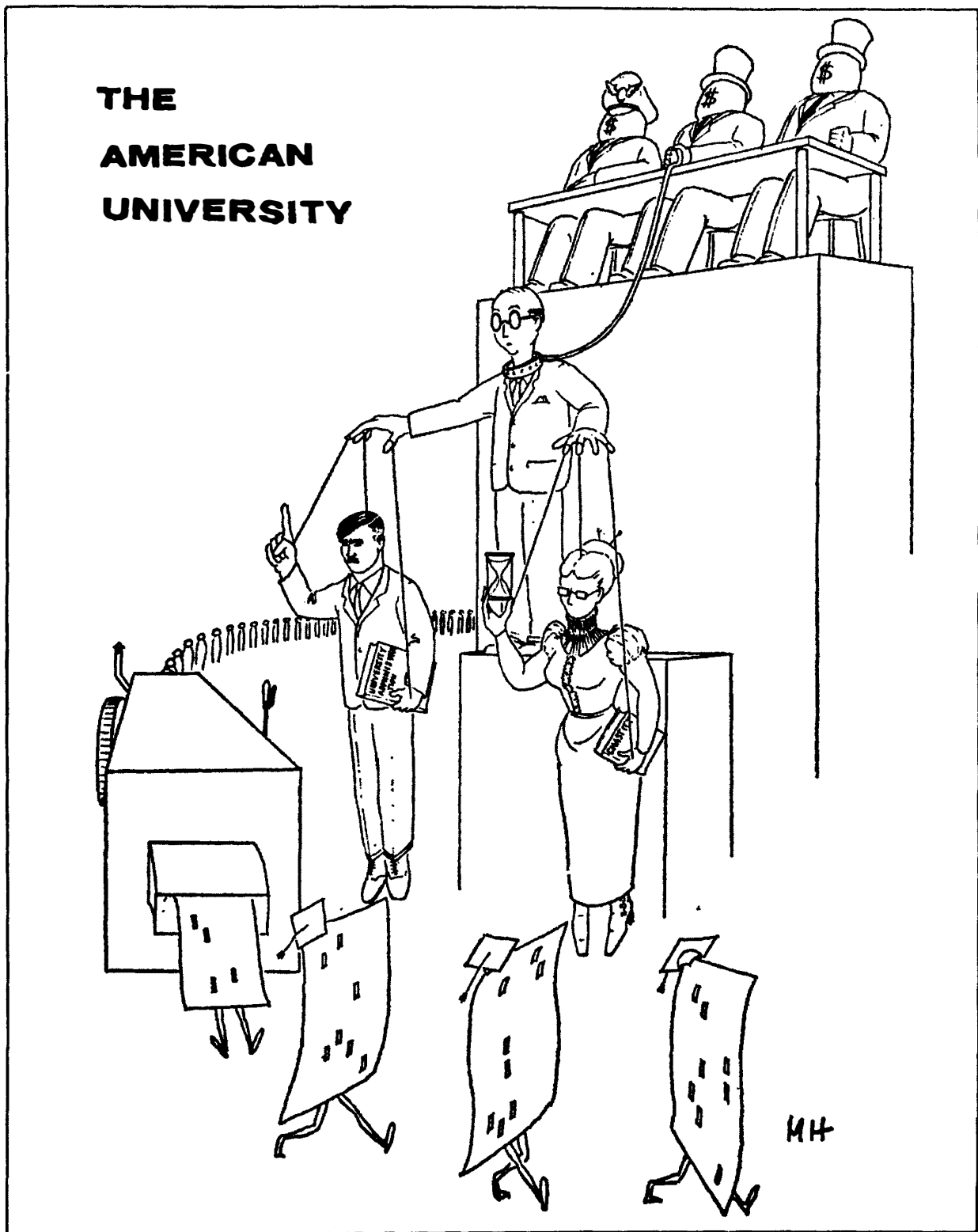
Figure 2. From the W.E.B. DuBois Club newsletter, Bancroft Library, Berkeley. Courtesy Bancroft Library; reproduced from Rorabaugh (after p. 50).

at Berkeley pinned a sign to his chest: "I am a UC student. Please don't bend, fold, spindle or mutilate me" ("Letter from Berkeley" 12; Draper 225). The punch card, its protection by the Establishment guaranteed by the words printed on it, became an ironic model for emulation. But like most metaphors, the metaphor of the punch card cut both ways. An editorial welcoming new students to the university in 1964 suggested that there was small chance of surviving Registration without being "torn, mutilated or spindled by an IBM machine" ("The 'Welcome'" 12). At least one student felt she had failed: she complained, after registration, "I feel like a small number stamped on a computer card" ("Registration, Lines" 3).

Because the punch card symbolically represented the power of the university, it made a suitable point of attack. Some students used the punch cards in subversive ways. An underground newspaper reported:

> Some ingenious people (where did they get this arcane knowledge? Isn't this part of the Mysteries belonging to Administration?) got hold of a number of blank IBM cards, and gimmicked the card-puncher till it spoke no mechanical language, but with its little slots wrote on the cards simple letters: "FSM", "STRIKE" and so on. A symbol, maybe: the rebels are better at making the machine talk sense than its owners. ("Letter from Berkeley" 12; Draper 113)

Students wore these punch cards like name tags. They were thought sufficiently important symbols of the Free Speech Movement that they were used as illustrations on the album cover of the record that the Movement issued (Free Speech Movement) (Figure 3).

Another form of technological subversion was for students to punch their own cards, and slip them in along with the official ones:

> Some joker among the campus eggheads fed a string of obscenities into one of Cal's biggest and best computers—with the result that the lists of new students in various classes just can NOT be read in mixed company. (Berlandt, "IBM Enrolls" 1)[3]

These pranks were the subversion of the technician. The students were indicating their ability to control the machines, and thus, symbolically, the machinery of the university. But it also indicates, like the students' and administrations' shared use of the machine metaphor, something of the degree of convergence of student and administration beliefs and methods. This sort of metaphorical technical subversion rarely rises above the level of prank.[4]

Perhaps more radical, or at least with less confused symbolism, were students who destroyed punch cards in symbolic protest: the punch cards that the university used for class registration stood for all that was wrong with the university, and by extension, America. Students at Berkeley and other University of California branches burned their registration punch cards in anti-University protests just as they burned draft cards in anti-Vietnam protests (Bradley).

The alienation symbolized by punch cards at Berkeley was an aspect of a broader feeling of alienation, the "depersonalization" of being treated like a number, not an individual. This reaction to the demands of information processing technology can be found back at least as far as the introduction of serial numbers for prisoners and members of the military, and of Social Security numbers. The prisoner who loses his name and becomes "just a number" is a staple of country music and prison blues songs. These earlier precedents no doubt influenced reaction to the introduction of social security numbers: a cartoon shows Uncle Sam insisting that a citizen give his number when asked for his name (Figure 4). The impersonality of identification numbers became a staple of 1960s counterculture: In "I'm Goin' to Say it Now," his ballad of student protest based on the Berkeley Free Speech Movement, Phil Ochs sang "You've given me a number and you've taken off my name." The same feeling reached into popular culture: Prisoner Number 6 on the TV show The Prisoner repeated: "I am not a number; I am a person." He summarized his stand against the "system" by saying, in the first episode: "I will not be pushed, filed, stamped, indexed, briefed, debriefed, or numbered. My life is my own" (White and Ali 9-11 and 154-55).[5]

The depersonalization of the punch-card era found its catch phrase in the words on the cards; its ubiquity gave it instant familiarity. One observer of the period wrote that marijuana, the 60s escape from the rigors of the real world, let you see "the strangeness of real unfolded-unspindled-unmutilated life" (Gitlan 202). "Do not fold, spindle, or mutilate" became shorthand for a whole realm of countercultural experience. The ecological movement of the early 1970s, a child of the 1960s counterculture, picked up on it too: a popular poster for Earth Day 1970 showed a picture of the Earth taken from space with the legend "Do not fold, spindle, or mutilate."
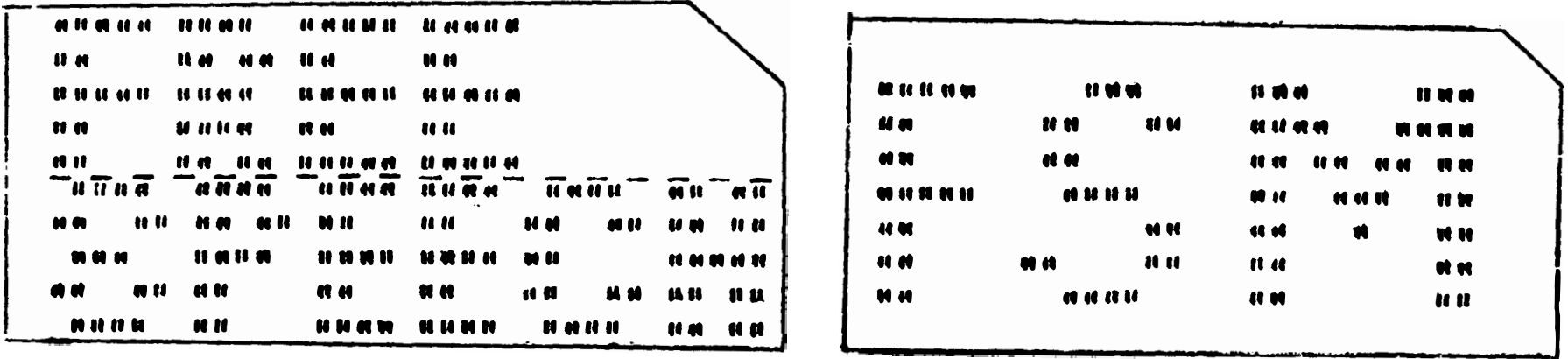
Figure 3. Punch cards punched with words, from the phonograph album cover for "FSM's Sounds & Songs of the Demonstration!" Courtesy Library of Congress.

Figure 4. The citizen as number. Editorial cartoon, 1936. Courtesy U.S. Social Security Administration. Reproduced from Beninger, p. 409.

"Do Not Fold, Spindle or Mutilate"

In the early 1970s punch cards as symbols found their way into everyday use by people well outside the counterculture. A murder mystery was titled *Do Not Fold, Spindle or Mutilate* apparently because its publishers thought it would sell books: the only punch-card related part of the story is a mention of computer dating (Disney). A book of advice to parents about their children was not only entitled *Do Not Fold, Staple or Mutilate!* but was even shaped like a punch card, complete with the top left hand corner chopped off (Curran). Stan Rogers summed up white-collar work in his "White Collar Holler": "No one goin' fold, bend or mutilate me."

When punch cards moved beyond the counterculture they took with them their peculiar juxtaposition of contradictory symbolism. They symbolized modern computer civilization, but also a notion of reaction against the "IBM culture." Consider a birthday greeting card from 1968 (Figure 5). The front shows a punch card punched with large holes in the shape of candles; inside, the greeting reads "That's I.B.M. for happy birthday!" Punching holes in the card is subversive; everyone knows that you're not supposed to do that. Consider also the short-lived tradition of using punch cards as Christmas tree ornaments, or even, combined together, as Christmas trees! (Darling). These popular uses of punch cards show the acceptance of the prime symbol of computerized bureaucracy, the welcoming of it into the home. But the cards are being subverted to uses beyond those allowed by the companies who issued them; there's an undercurrent of disobedience in the popular use—more accurately, misuse—of punch cards.

The same ambiguity can be seen in the ways that images of the punch card were used in advertisements for one of the more popular fads of the sixties, computer dating. [Figure 6] The punch card became the symbol of the modernity of that process. But the punch cards pictured in ads for computer dating services are always changed a little bit. One advertisement for computer dating showed Cupid holding a punch card, with his arrow shot through it; another showed fashionably dressed young men and women overlaid on a punch card (*Daily Californian*, October 18, 1966 14 and November 29, 1966 11). These ads, by symbolically mutilating the punch cards, suggest that the people behind the cards are more important than the cards, and that the computer behind the cards isn't to be taken too seriously.

Across the Atlantic, punch cards had a completely different career—one in which punch cards became a much more serious symbol of oppression. Germany, like the United States, used punch cards in the censuses. The German censuses of 1930 and 1940, though, were rather more terrifying than the American ones—especially for Jews or Gypsies who were asked to provide their religion or national origin. The Nazis were superb record keepers, and punch cards were the best technology for keeping records. According to testimony at the Nuremburg War Crimes trials, one of the first things that arriving prisoners at the death camp at Treblinka saw was a clerk sitting at a Hollerith machine, punching cards to keep track of prisoners (Milton).[6]

The story of punched-card record keeping by the Nazis was largely forgotten, until the 1960s and 1970s, when there was an enormous backlash against census-taking and record keeping in Germany and Holland. "Do not fold, spindle, or mutilate" never became a slogan there, and the reaction against punch cards was not merely against the bureaucracy and anonymity they represented, but, more seriously, against the power of the state that stood behind them.

And now we are at the end of the punch card era. The punch cards have disappeared, and all that's left are the words, the slogan.[7] Is there a moral here? I think that there is. Culture outlasts technology; the human reaction to machines can last longer than the machines. The punch card-or more accurately, the words on the punch card-became a convenient symbol for all that people disliked about the computer and computerized big business and government: its narrow focus on easily quantized details; its refusal to deal with customers or citizens as people rather than bundles of information; its inclination to abstract, mechanize, and computerize; to worry, at best, about the "human interface" and not the human. The survival of these few words as a part of popular culture suggests the depth of ambiguity about computerized progress.

Notes

Figure 5. Birthday greeting card, 1968. Courtesy Archives Center, National Museum of American History, Smithsonian Institution.

Figure 6. Drawing from advertisement for computer dating, from *The Daily Californian*, October 18, 1966 (14).

[1]The Free Speech movement made wide use of machine metaphors; the university was a "factory," a "machine," students "cogs" ("We want a university"). In this, they were, to some extent, picking up on widespread belief: the Free Speech Movement's arch-enemy, University of California's president Clark Kerr, had described the university as a Knowledge Factory, "a mechanism—a series of processes producing a series of results—a mechanism held together by administrative rules and powered by money" (Draper, "Mind" 204-5). As David Edge has noted (310-313), it's not uncommon for one metaphor to mean exactly opposite things to two groups of people. Edge suggests that this indicates basic agreement on the way the world works; I believe that was, to a large degree, true to the Free Speech demonstrators and the University administrators they opposed.

The most widespread use of the machine metaphor was in reference to the war in Vietnam: the Berkeley Vietnam Day Committee, successor (in some ways) to the Free Speech Movement, used as its motto: "Stop the War Machine" (Rubin 33). The "Yippie" branch of the 60s protest movement also used machine metaphors, but to a more radical end: they didn't care if "the machine" ran or not, as long as they weren't part of it. For example Peter Berg, leader of the Diggers, a San Francisco radical street theater group, told a 1967 Detroit meeting of the Students for a Democratic Society: "Don't let them make a machine out of you, get out of the system, do your own thing." Or Abbie Hoffman, swearing at the boring New Left at the same meeting: "You guys are fags, machines" (Free [Abbie Hoffman], 35 and 38).

[2]IBM, by far the largest computer manufacturer, became in itself a symbol of computerization and dehumanization. "Our lives," wrote one student, are "manipulated by IBM machines" (Shaffer 13). Another referred to Berkeley's "alleged 'IBM atmosphere' " (Miner 2). The use of IBM as symbol of the modern age went beyond the Berkeley campus, of course: Tom Wolfe refers to the kids in Greenwich Village in the early 1960s "participat[ing] in discussions denouncing our IBM civilization" (307).

[3]The notion of getting back at computers by punching new holes in the cards that came as bills was widespread (Troxell).

[4]The technical prank—or "hack" as it's known at engineering schools—generally serves to reinforce the importance of technology than to subvert it. Hackers are, for the most part, playing on the surface of technological systems rather than trying to undermine them. Phone hackers in the 1960s and 1970s and computer hackers in the 1980s are good examples of this phenomenon.

[5]The rock group Iron Maiden turned the expression on its head in "Back to the Village": "I don't have a number, I'm a name" (White and Ali 132).

[6]A punch card machine will be featured in Washington, D.C.'s United States Holocaust Memorial Museum (Milton).

[7]The most recent place I've seen it used is on a 1990 mailing label from Microsoft, Inc., one of the largest manufacturers of computer software. The mailing label reads "Do not fold, spindle, mutilate, or x-ray." Folding, spindling, or mutilating make no sense in this context, and so I feel sure that Microsoft is using the expression with an awareness of its historical echo, and with humorous (and perhaps ironic?) intent. My thanks to Kenneth Lubar for bringing this label to my attention.

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