

MATTERS OF GRAVITY

Special Effects

and

Supermen

in the

20th Century

SCOTT BUKATMAN

DUKE UNIVERSITY PRESS *Durham & London 2003*

2

Gibson's Typewriter

Our writing materials contribute their part to our thinking.

Friedrich Nietzsche

Typewriter: It types us, encoding its own linear bias
across the free space of the imagination.

J. G. Ballard

That's Not Writing. That's Typing!

This is what we know about it: it's green (actually green and black), with celluloid keys of canary yellow. It's heavy; it's flammable; it's a "tough and elegant" Swiss machine from the shop of E. Paillard et Cie S.A., Yverdon. It was once owned by a journalist, but it remained in the family. It was expensive. It's a Hermes 2000. William Gibson wrote *Neuromancer* on it.

It is a tale often told in cybercultural enclaves and English departments: William Gibson wrote *Neuromancer* on a manual typewriter. There is something charming about the anecdote, and it is not difficult to locate the source of that charm. A simple bit of irony is at work in the apparently singular fact that this novel all about computers, the novel that invented cyberspace (sort of), the hippest, highest novel of the 1980s, should have been written on such an antiquated device. That this primal work of electronic culture was produced, not on a word processor or even an electric typewriter but on an archaic piece of nineteenth-century technology, seems worthy of continual note.

But there might be more at stake in the compulsive repetition of this little cyberfable. Ironies are rarely simple, while we know that laughter or amusement can mask anxieties that lurk only slightly beneath the surface. In this instance, the anxieties center on contemporary relations to history, technology, and language. In the telling of this story, two separate communities come into existence. The first, comprised of hackers and cyberdrolers, share a dedication to the sheer coolness of new technologies. Come on, they

say, a *typewriter*?! The story enables those involved to position themselves as part of the new breed (what's a typewriter?). It's a funny story of personal idiosyncrasy, like finding out that Gibson rode a unicycle and wore pantaloons while he wrote. And then there is the more conservative community—English professors, let's say—that forms around the relief generated in linking this high-tech figure to the traditional world of letters (typewritten letters) and literature.

What our two anecdotal communities share is their regard of the typewriter as an obsolescent technology. For the more conservative group, *Neuromancer* is reinserted into canonical understandings of literature, as the terrors of the electronic age are displaced to a safe distance. The cyberheads become hacker undergrounders through the story: its telling constructs them as cyberspace cowboys with abilities superior to even those of cyberspace's architect. For this group, *Neuromancer* is situated as an instantiating text, as history is reduced to an ironic gloss. This very urgent history of mechanical technology becomes an absurd footnote within a cybercultural history that only believes in the newness of all phenomena, as though the world itself had been entirely reborn in the electronic era.

To an extent, I am sympathetic to (and complicit in) the construction of this ahistorical teleology. The ultimate effect of the electronic refiguring of the world remains indeterminate; the boundaries of new technological powers are still uncertain while all ontological categories are seemingly up

Figure 3. The Hermes 2000 typewriter.



for grabs. There is no question that *something* new is at work while we all slip into a state of terminal identity. But, despite this future-shocking onslaught, the discourse surrounding (and containing) electronic technology is somewhat surprisingly prefigured by the earlier technodiscourse of the machine age. Machines have become the metaphors that enable comprehension of postindustrial technological proliferation—even the high-tech, rust-proof sheen of *Mondo 2000* is just a seductive exercise in denial. Hence an examination of earlier technocultures is the movement of the moment (see Gibson and Sterling's novel *The Difference Engine* for Victorian era cyberpunk or "steampunk"). After all, the disappearance of history was proclaimed more than ten years ago by Jameson, Baudrillard, and their progeny. While a new "cultural dominant" has yet to emerge, many salient characteristics of postmodernity have waned or shifted terrain. Within this tumult, history can make—has been making—its necessary return. Perhaps its disappearance was little more than a trope of the postmodern text.

Some attention to the typewriter may therefore be warranted in order to type history back into *Neuromancer*. What emerges from a consideration of Gibson's typewriter, or at least what can be teased out of that consideration, are several overlapping tropes that tie cyberculture to its historical forebears. Reinstating the history of the typewriter indicates that *Neuromancer's* disembodied informational cyberspaces are anticipated by the "obsolescent" rhetorics and technologies of what Mark Twain, the author of the first typewritten manuscript, once called "machine culture."

The Industrialization of Language in the Nineteenth Century

The history of the nineteenth century is, of course, marked by the pervasive spread of industrial technologies, which affect more than the conditions of production or even consumption. As the historical research of Wolfgang Schivelbusch demonstrates, industrialization resulted in a phenomenological reconfiguring of urban existence (through the introduction of new building materials, the impact of the railroad, and the adoption of the electric lighting of both interior and exterior spaces) as well as a pervasive reconception of spatiotemporal experience (through the convenient/marvelous/traumatic experience of railway travel and the related technologies of the telegraph and the cinema).¹ To these we might add that the telegraph, telephone, automated typesetting machine, and typewriter constitute a far-reaching industrialization of language in the nineteenth century. As Nietzsche remarked, in a typewritten letter from 1882, "Our writing materials contribute their part to our thinking."²

While Schivelbusch rejects technological determinism, he maintains that technological development so marks the nineteenth century that it must become the central issue for historians of that era. This same reasoning certainly also applies to the subsequent, and equally rapid and pervasive, developments of the Electronic Age.

The Typewriter and Its History: Improvements Wanted

The repression of the typewriter's historical significance in the *Neuromancer* anecdote has its analogue in the annals of technological history. No serious academic investigation of the typewriter has been published to my knowledge, and almost all curious writers seem to rely on the same two texts: *Typewriters and the Men Who Made Them* (hmm . . .) and, even better, *The Wonderful Writing Machine* (wow!), both highly positivist texts from the 1950s. The saga of the typewriter's development lacks a heroic central figure such as Edison, Whitney, or Bell (or Alan Turing, Steve Wozniak, or Bill Gates). In fact, the saga seems more of a case study of American manufacturing methods in the later nineteenth century, not exactly biopic material.³

There had been a number of attempts to construct writing machines in the eighteenth century. The first machines were developed for use by the blind and were designed to make a tactile impression on the page. The machine was to make it possible to process information despite a loss of visibility. A similar desire operates through the metaphor of Gibsonian cyberspace: a space in which the invisible processes of information circulation are recast in visual and tactile terms (the metaphor resides in the status of cyberspace as a narrated rather than an actual space). Typewriters accomplish their goals by spatializing information—the letters of the alphabet are dispersed in a standardized arrangement, each immediately available to the user. Information is rendered accessible, despite the lack of visual interaction: "Spatially designated and discrete signs—that, rather than increase in speed, was the real innovation of the typewriter."⁴

This arranged keyboard was the innovation of a Milwaukee newspaper editor, Christopher Latham Sholes (or the "father of the typewriter," as he is inevitably called). Earlier prototypes were usually characterized by a dial and a lever. Dial a letter, press the lever, and an impression is made on the paper (hidden from view). Release the lever, and the paper advances one space. The method was slow, and far removed from the flow of writing by hand. The machines were insufficient extensions of existing modes of human communication (to be McLuhanesque about it). Sholes had responded to a challenge published in *Scientific American* that exhorted its gadget-oriented readership

to produce a writing machine that would improve on existing models (it was a 1987 *Scientific American* article that introduced virtual reality, or cyberspace, to a more general readership).⁵ Inspired by the key of a telegraph sender, he constructed an array in which each piece of type was operated by a separate lever, all spread out before the user's gaze and hands.

Sholes was a colorful advocate of strange technological happenings. "Think of it!" he proclaimed in predicting the arrival of telegraph lines to Milwaukee. News from the East Coast would reach the city ten minutes after it was sent. "Language fails to convey anything like the sensations which the certainty of such an event must create." (This is not just a case of the technological sublime in action—Sholes was also interested in other forms of communication, as his active participation in midcentury spiritualist fads attests.)⁶ We witness in Sholes's rhetoric a vested interest in an information revolution: his euphoria is a function of the speed and power of information technologies that would immediately empower the citizenry—a position espoused today by technoprophet Alvin Toffler. Late in his life he foresaw the obsolescence of his own medium, as news would be delivered to each home via little wireless teleprinters (this became a favorite fantasy of the twentieth century within the pages of *Popular Mechanics* and endless SF stories).

Advances in industrialism produced the enabling technologies that were fundamental to the execution of a reliable and durable typewriting mechanism (Hoke asserts that "The typewriter was the most complex mechanism mass produced by American industry, public or private, in the nineteenth century").⁷ But a successful industrial invention equally implies successful economic exploitation. Newspaper publisher James Densmore worked with Sholes and his partners on simplifying the typewriter mechanism so that the device could be successfully and economically manufactured. Densmore then successfully marketed the invention to the Remington Firearms company, who, in the years following the Civil War, were retooling their munitions factories to produce sewing machines and other complex machines for American industry.⁸

A Typewriter Warned in Hell: Typewriters Go to War

The juxtaposition between the technology of firearms and the machinery of the typewriter is provocative. In *Neuromancer*, a disassembled typewriter in Deane's office—Gibson's own machine making a cameo appearance—hides a weapon: "It's on all the time," Deane said mildly, taking a gun from behind the exposed works of his old mechanical typewriter and aiming it carefully



Figure 4. The typewriter goes to war. (Courtesy of the Library of Congress.)

at Case. It was a belly gun, a magnum revolver with the barrel sawn down to a nub."⁹ And, from *The Wonderful Writing Machine*:

In millions of homes the typewriter is really as important as the washing machine; it's just that the members of the family seldom think of mentioning that fact. A young man or woman would hardly consider going off to college without a portable (sometimes the same machine that Father used, with the tattered remnants of the school colors still sticking to the battered case). And—perhaps the ultimate test—when man goes into war he keeps his typewriter close by his side. The captain of a battleship insists that there be fifty-five typewriters on board before he feels fully equipped to meet the enemy. On the ground, as the army moves forward, there are more writing machines within four thousand yards of the front lines than medium and light artillery pieces combined.¹⁰

Learning to Type

Initial returns on the typewriter were surprisingly small. Businesses were originally loath to make the capital investment (machines and training) and were further concerned that typewritten correspondence would lack a "personal touch" and might prove offensive to clients. Journalists were surpris-

ingly slow to adopt the new machine. Nietzsche procured an early machine to compensate for his failing eyesight, but he was unable to adapt to its rigors.

What rescued the machine from oblivion were the economic shifts that America underwent following the Civil War. In the move from an agrarian to an overwhelmingly industrial economy, businesses expanded enormously. The male office worker, traditionally a clerk who copied documents by hand, was simply unable to cope with the new volume of business-related paperwork. Of course, there was a vast, literate, potential work force available for employment at lower wages—middle-class women.¹¹ There was thus a major shift in the composition of the work force around the introduction of this new information-processing technology (cyborg fans will want to note that the women who worked on typewriters were themselves known as typewriters).

In his history, Richard Current stresses the increased output of information that resulted from the introduction of the typewriter: “the writing machine swelled tremendously the output of recorded words.” He further notes that once concise attorneys and businessmen, now dictating to a typist, revealed a tendency to wax loquacious. More documents, more words, more typewriters (the machine and the worker). As Current argues, “The multiplication of records not only measured but made possible a growing complexity of life. In particular, it facilitated the rise of both Big Business and Big Bureaucracy.”¹² Industrial culture and information culture arise together in a flood of typewritten symbols. Future shock and the overload of the Information Age here make their initial appearance. In the late twentieth century, computers developed into text-processing machines precisely in order to control the informational cyberblitz produced by all the typewriters in the world.

Information Overload in the Atomic Age

The Wonderful Writing Machine describes the rise of a profession that accompanied the indisputable success of the typewriter in the twentieth century. As “the growing accumulation of old typewriting began to overwhelm businessmen and business offices,” a new figure emerges—the files-disposal expert. “He is a man, essentially, who knows how to throw typewriting away.” This “essential man” is a figure of the Atomic Age. The author writes (with striking glibness for 1954): “The files disposal business boomed in about 1947 when the atom bomb threatened to clean out everybody’s files with one whoosh, and businessmen thought that, if they didn’t have such an awfully bulky lot of stuff to keep, they might save a few of the more important things in caves

or underground vaults.”¹³ Here, in miniature, is the cold war experience of abundance and expansion subverted by a continual sense of physical vulnerability and paranoia. Protecting the files would at least close the potential information gap in a postapocalyptic international business setting.

The *Différance* Engine

In *Discourse Networks, 1800–1900*, Friedrich Kittler applied the language strategies of poststructuralism to the technologies of discourse. For Kittler, the introduction of the typewriter to the field of textual production has profound and lasting effects, which are described in terms that bring us to the edge of cyberspace. What first characterizes typing as an act of writing is an effect of disembodiment: the first typewriters did not permit the user to see the printed characters until several lines later. Not until Underwood’s refinement did “visible writing” become a possibility. Angelo Beyerlin, Germany’s foremost typewriter manufacturer, wrote: “In writing by hand, the eye must constantly watch the written line and only that. It must attend to the creation of each written line, must measure, direct, and, in short, guide the hand through each movement. For this, the written line, particularly the line being written, must be visible. By contrast, after one presses down briefly on a key, the typewriter creates in the proper position on the paper a complete letter, which not only is untouched by the writer’s hand but is also located in a place entirely apart from where the hands work.”¹⁴ Even a visible typewriter hides the empty space that lies before the writing (the field of potentiality). Thus, “Underwood’s innovation unlinks hand, eye, and letter” in a historically unique moment of disjuncture.¹⁵ The hands appear *here*, while writing appears *there*. Typing thus produces an information space divorced from the body: a protocyberspace.

This disembodiment results from the emphatic standardization already described as a consequence of the keyboard array. If the act of handwriting had been a “continuous transition from nature to culture,” that is, from prelinguistic thought to sign, then the act of typing was “selection from a countable, spatialized supply.”¹⁶ Following the precepts set forth by Derrida in *Speech and Phenomena*, Kittler makes a valuable distinction between a handwriting that appears as a direct emanation from the body, from nature, and a typewriting that is clearly mediated by cultural systems.

The described effect of a disembodied textual mechanics separates Kittler from the more utopian version of typing history provided by Marshall McLuhan. Like Richard Current before him and Kittler after, McLuhan empha-

sizes the structural impact of the typewriter and related technologies (although his main source seems to have been *The Wonderful Writing Machine*: "A modern battleship needs dozens of typewriters for ordinary operations"). As one might expect, however, McLuhan's emphasis on technology as "the extensions of man" leads him to stress, not the displacements of disembodiment but the integration of functions that occurs through typing: "At the typewriter, the poet commands the resources of the printing press. The machine is like a public-address system . . . as expeditor, the typewriter brought writing and speech and publication into close association. Although a merely mechanical form, it acted in some respects as an implosion, rather than an explosion."¹⁷ All these disparate functions are brought together and introjected within an increasingly empowered body. Cyberspace becomes the ultimate terrain for this implosive integration of functions, as human and data are made equivalent. McLuhan's utopian technoneurology serves a function similar to Gibson's cyberspace, as a metaphor that "naturalizes" technology to compensate for the human's alienation from the speed, power, and pervasiveness of contemporary technological configurations. (Gibson's formations seem by far the more richly complex of the two.)

Typecasting

The keyboard standardized the appearance and spacing of letters, and some worried that the typewriter spelled an end to the ability to write. The typewriter would thus yield a loss of bodily control, or perhaps even a loss of the body itself. The result, however, was a handwriting that aspired to the perfection of the typewritten standard. The typewriter thus makes potential cyborgs of us all, in our attempt to match its machine-tooled perfection. Ironically, the computer age has also introduced personalized fonts, developed from the handwriting of the user. The computer now simulates the human's fallible and uniquely shaky scrawl, albeit in a new standardized and storable form. Is it live, or Personal Font™?

(For the nostalgic, however, the computer can recall and reproduce the hyperbolic regularity of Machine Age typewriting. What exactly is the Courier font, in all its clunky glory, doing on my Mac?)

Speed Typing

In 1839, Michel Chevalier wrote about the American in motion that "he is always in the mood to move on, always ready to start in the first steamer that comes along from the place where he has just now landed. He is devoured with a passion for movement; he must go and come, he must stretch his limbs

and keep his muscles in play. When his feet are not in motion, his fingers must be in action; he must be whittling a piece of wood, cutting the back of his chair, or notching the edge of the table, or his jaws must be at work grinding tobacco." "We are born in haste," says an American writer. "Our body is a locomotive going at the rate of twenty-five miles an hour; our soul, a high-pressure engine."¹⁸

Ever the technophile, Mark Twain was one of the first to purchase a typewriting machine (the story of his purchase appears, with suspiciously minimal variation, in every typewriter history). He praised it with reckless enthusiasm. But Twain's attitudes toward technology are truly ambivalent; as his *Connecticut Yankee* demonstrates, machination can produce unparalleled devastation. Nevertheless, one biographer argues that "The Yankee and the Machine were twinned in his mind. Both were tests of a perfectible world in which, contrary to all his insights and experience, friction and mechanical difficulties were equivalents of ignorance and superstition. Both expressed a secular religion which had as an unexamined article of faith a belief not in eternal life but in *perpetual motion*."¹⁹ Perpetual, agitated kinesis marks the American spirit. The body is a machine, perfectible and progress oriented, while—at the same time—the machine becomes a body.²⁰

The symbiosis of typewriter (machine) and typewriter (user) probably reached an apotheosis around the speed-typing exhibitions that swept the country for about thirty-five years beginning in the late 1800s. "Typewriter speed queens and kings were celebrities of a minor luminosity."²¹ Before the battles, typewriter manufacturers had been content to boast that typing was twice as fast as the hand, but now these typewriter cyborgs, these carbon paper cowboys, left the natural hand far behind on the evolutionary ladder. One charming and slightly scary photo shows the 1926 amateur (!) champion, Stella Willins, posing in a motorcycle sidecar with her typewriter (of course) perched precariously before her. It's as though her typing must be measured in mph instead of wpm.

Unlike *Neuromancer's* renegade cowboys, these jocks were largely corporate owned—perhaps they belonged to the Underwood Speed Training Group or a similar organization. They did, however, have their own "decks": "Each typist had his own racing typewriter. . . . He carried it to matches, or on exhibition tours, in a big plush-lined case . . . and he worried about it the way a concert violinist worries about a Stradivarius. . . . The machines were stocked models but souped up, like a hot-rod racing automobile."²² The "speed queens" (and kings) displayed intense concentration during a match, their fingers endlessly moving in conditioned-reflex perfection. "The slight-

est trace of self-consciousness was a fatal drawback.”²³ (In *Neuromancer*, Case, too, yearns for the “bodiless exultation of cyberspace,” the dissolution of self within the information vectors of the machine. For Gibson, though, this is both a dissolution of self and a self regained.) Kinesis alone produces the technologized subject.

Keep Jane’s Fingers Dancing

Of course, there is another step in this cyborg dance. Despite the sporting aspects of these thoroughbred competitions, speed typing also represents the apotheosis of the Taylorist vision in which every gesture is designed to maximize productivity. *The Wonderful Writing Machine* reports that “motion studies” of the new electric typewriter revealed a 6 percent energy savings, “Which is pure bonus as long as the boss doesn’t expect his patient stenographer to accomplish 20 per cent more, now that he’s broken down and bought her an electric.”²⁴ Throughout Bliven’s book, secretaries are presented as a naive, patient, but secretly controlling group of girls (or ladies, to be more polite), coddled by bosses who can’t afford to lose them. Yet the increase in the speed of office information processing calls forth a commensurate increase from the human user. The not so shocking truth is that the shift to electric typewriters was not grudgingly performed by gruff but lovable bosses giving their secretaries a bonus but by managers determined to maximize profits. The trend has obviously continued: Jeremy Rifkin reports that whereas a secretary once averaged about thirty thousand keystrokes every hour, a worker at a Video Display Terminal is expected to average eighty thousand.²⁵ Some bonus.

Surveillance of worker output is also so much easier in cyberspace, since every terminal can measure and report the number of keystrokes to a central managing position. *Processed World* magazine once featured a parodic ad for “Press®,” a product designed to monitor employee pace: “If Jane’s [keystroke] count drops below your chosen margin for more than three minutes, a subliminal warning flickers at the top of the screen. And if Jane still hasn’t pulled herself together after two more minutes, a healthy 1-second jolt of 50 volts pulses out of her specially modulated keyboard and grounds harmlessly through her chair. It’s guaranteed to get her moving again!”²⁶

The Mysterious Interior of Machine #HH 5166247

The Wonderful Writing Machine features a chapter that concentrates on the labor of “final adjusting” as it is performed by Horace Stapenell (“a mod-

est man”), as employee (“one of the best”) of the Royal Typewriter company in Hartford, Connecticut. The author provides Horace’s name, address, and biography before moving into a detailed explanation of his job. Just as Horace is a fairly ordinary guy, so the machines he works on are “standard-width carriage machine[s] with a standard keyboard.” Those Johnny-come-latelies, the portables and the electrics, get their adjustments, mysteriously enough, “in other departments in other parts of the factory.” Horace works in Department 10-C, and “10-C men hang around together.” The chapter then becomes a tour through the inside of the typewriter, as we watch Horace make minute adjustments to bring the entire complex mechanism into alignment. The lines must be straight, the spacing even, the mechanism smooth and unresistant.

Horace is a real typewriter cowboy (“typewriters have been the focus of his whole working life”), fully jacked into his machine (“All his senses except taste are involved”). Once again, a symbiosis operates as man and machine are each explored simply in terms of the other. The figure of the human exists to present the space of the machine, and the machine is thereby humanized. Unlike the human typewriters and secretaries, Horace’s work is measured by how *slowly* he proceeds: he “spends as much as three hours adjusting a single typewriter.” And despite the monotony of his labor Horace has developed his own system, subtly different from those of the other workers around him (“They are the distinctions between working as at a craft and *working as a machine*”).

The chapter details all the operations that Horace is likely to make, elaborately fetishizing each mechanism of the complex whole. The chapter frankly reads like ad copy: the more clarity the descriptions offer, the more the machine is mystified and mythified. An assembly line worker is inscribed within the rather different history of skilled handcraftsmanship, while the “standard” typewriter is itself invested with the precise workmanship of a town clock in Switzerland. It is as though the loss of *the hand* in the switch from handwriting to typewriting calls for its reappearance at some other part of the “discourse network,” and so the writing machine is machined by a particularly careful, knowing, but very human hand.²⁷

Dylan Goes Acoustic (or Clapton Unplugged)

Thus, the wonderful writing machine is invested with all the romance of a pretechnological mechanical marvel, like an elaborate automaton. In his volume on postmodernism, Jameson offers an interest reading of the modern-

ist text: "Modern art . . . drew its power and its possibilities from being a backwater and an archaic holdover within a modernizing economy: it glorified, celebrated, and dramatized older forms of individual production which the new mode of production was elsewhere on the point of displacing and blotting out. Aesthetic production then offered the Utopian vision of a more human production generally; and in the world of the monopoly stage of capitalism it exercised a fascination by way of the image it offered of a Utopian transformation of human life."²⁸

Despite the postmodern trappings of *Neuromancer*, Istvan Csicsery-Ronay Jr. located the significant modernist impulse at work in the subtextual celebration of art and creation that underlies much of Gibson's writing.²⁹ Its mode of production on a manual (hand-powered) typewriter links the work to Jameson's theory of modernism and uneven technological development. The typewritten manuscript belongs to a different historical moment than the postmodern cyberspaces of *Neuromancer*; in this sense, Twain was far more progressive than Gibson. When Twain, around 1883, produced the first typewritten manuscript, *Life on the Mississippi*, he was distancing himself from older modes of textual production, while with *Neuromancer*'s manuscript Gibson proclaims his fidelity. (It's tempting to regard *Neuromancer* as the last typewritten manuscript, even if it isn't true.)

The Mechanics of Fiction

Spatialization of information, disembodiment, exaggerated kinesis, information overload (cyberblitz), and the passage into the realm of the machine—these are the familiar tropes of Gibson's *Neuromancer*. But those figures are prefigured by a range of earlier discourses surrounding emergent information technologies, including those from the later nineteenth century (Twain, Sholes) as well as the middle of the twentieth (McLuhan, Bliven) and later (Jameson, Kittler).

Twain had invested fortunes in a typesetting machine developed by a James Paige (with fulsome praise, he compared it to all the most marvelous recent inventions, including the difference engine developed by Charles Babbage). The machine "became 'an inspired bugger,' 'a cunning devil,' and, after passing through a 'sick child' stage, a 'magnificent creature' ranking second only to man."³⁰ Justin Kaplan argues that through this anthropomorphism Twain expressed both his hopes and "his basic layman's ignorance, his credulity in the face of what seemed to him a divine mystery only because he knew hardly anything about mechanics."³¹ Twain thus relies on nature for the concep-

tual metaphors that will render the mechanical susceptible to thought; he reaches with eagerness for the inconceivable, but can only do so in terms of the already conceived.

Gibson might be understood to do the same, but instead of nature he draws on the paradigm of industrial technology. Thus, cyberspace is as mathematically precise as a blueprint ("the cool geometric intricacy of Zurich commercial banking"), and, despite "the horizonless fields," its data systems comprise "an endless neon cityscape" and even "the old RCA Building" makes an appearance. ("The Kuang program dived past the gleaming spires of a dozen identical towers of data, each one a blue neon replica of the Manhattan skyscraper.")³² Case, the cyberspace cowboy, loses his body but becomes a vehicle.

Case had the strange impression of being in the pilot's seat in a small plane.

A flat dark surface in front of him suddenly glowed with a perfect reproduction of the keyboard of his deck.

"Two an' kick ass—"

Headlong motion through walls of emerald green, milky jade, the sensation of speed beyond anything he'd known before in cyberspace. . . . The Tessier-Ashpool ice shattered, peeling away from the Chinese program's thrust, a worrying impression of solid fluidity, as though the shards of a broken mirror bent and elongated as they fell—

"Christ," Case said, awestruck as Kuang twisted and banked.³³

Relentless kinesis is one aspect of *Neuromancer*'s postmodern amphetamine rush, but it also evokes the locomotives, automobiles, and aeroplanes of the Machine Age when, as industrial designer Norman Bel Geddes proclaimed, "*Speed is the cry of our era, and greater speed one of the goals of tomorrow.*"³⁴ If cyberspace is a "consensual hallucination" that enables computer users to make sense of both their actions and the circulation of information, then that hallucination works by continually referencing the kinetic urban landscapes of Machine Age modernity.

Gibson shared Twain's "basic layman's ignorance" of the new machine's real operations. He relates in an interview: "When I started writing this stuff, I'd never touched a computer. And I think it gave me a certain strange edge in terms of imagination, in that I wasn't really hindered by what was possible." After he got a computer, he began to understand their real world mechanics: "I somehow thought that they were these silent, crystalline engines. I never

really thought about how they worked. [Elsewhere, Gibson writes that he 'assumed the data was just sort of, well, *held* in a *glittering mesh* of silicon.'] And then I realized it was this piece of clumsy Victorian technology. . . . And at that point I sort of lost something, you know?"³⁵

Rust Never Sleeps

While Gibson may have written *Neuromancer* on a manual typewriter, the Voyager Company let me read it on my Powerbook. A single floppy contained the entire trilogy: *Neuromancer*, *Count Zero*, and *Mona Lisa Overdrive*.³⁶ Using the search engine, I pretend to determine the prevalence of machine culture references in Gibson's writing. Did you know that there are twelve references to "rust" in the first book, nineteen in the second, and a whopping twenty-six in the last? Accelerated decrepitude, as Pris says in *Blade Runner*.

The Adding Machine

William Burroughs is an acknowledged and obvious influence on Gibson's writing. Together, Burroughs and Brion Gysin developed the cut-up and fold-in methods of rearranging typewritten text, releasing the words from the mechanically determined linearity. "You cannot *will* spontaneity," wrote Burroughs, whose family was responsible, incidentally, for the Burroughs adding machine, "But you can introduce the unpredictable spontaneous factor with a pair of scissors."³⁷ The typewriter is liberated from the mechanics of instrumental reason through these dadaist interventions. In "Technology of Writing," Burroughs had this advice for new writers: "One more thing: Sinclair Lewis said: 'If you want to be a writer, learn to type.' This advice is scarcely necessary now. So then sit down at your typewriter and write."³⁸ David Cronenberg's adaptation of *Naked Lunch* featured a typewriter that talked out of its ass.

The virus is one of Burroughs's most pervasive metaphors: the cut-up is a virus that destroys syntax and the rational domination of meaning. He once advocated the use of a Silence Virus to escape from the controllers of language, who are also then the controllers of the self (David Porush observed that the "noise" generated by the cut-up is a form of silence).³⁹ In 1992, Gibson released *Agrippa*: a software text with a built-in computer virus that would erase the text as it was read, and a book of illustrations that would fade more slowly over time.⁴⁰ The permanence of data is undermined by Gibson's own viral play. The author becomes an exterminator, a files-removal expert.

Afterword: Gibson's Afterword

Nothing kills a good critical analysis like an author who beats you to it. The Voyager Company's electronic edition of the cyberspace novels featured an afterword written by Gibson in the summer of 1992. He discusses his Hermes 2000 in loving terms, his subsequent forced experiment with a nightmarish Royal, and his latest acquaintance with an Apple computer. He recognizes the perceived irony of his writing *Neuromancer* on a manual machine but rejects it ("Some readers, evidently, find this odd. I don't.") The books may "pretend, at times, and often rather badly, to be about computers, but really they're about technology in some broader sense." At the heart of *Neuromancer* lies the continuity of machines and history. "I suspect they're actually about Industrial Culture," he wrote, "about what we do with machines, what machines do with us, and how wholly unconscious . . . this process has been, is, and will be."⁴¹