

Technology and American Culture: An Introduction

KLAUS BENESCH

The man who builds a factory, builds a temple.
Calvin Coolidge

During one of his first appearances as new House speaker, Newt Gingrich, the staunch Republican from Georgia, suggested "that the poor ought to be given a tax credit to allow them to buy computers so that they will not be left behind in the current information revolution."¹ Cynical political stance as this may seem, it epitomizes after all that technology still has a firm grip on even the most conservative of American minds. As one can readily see, Gingrich's ambiguous proposal to carry the poor with us into the information age is warped simply by the fact that, even *if* every teenage mother, every homeless and unemployed American should be equipped with a laptop, what, one has to ask, would they use it for except becoming exposed to an even more elaborate market of discourses in which they will never be able to participate? However, the proposal is not just another representation of America's dearest constitutional myth: equal opportunity. Behind this Republican's belief in the right—as the *International Herald Tribune* quipped—to "life, liberty and laptop computers," there lurks also an equally strong, and indeed very American, belief in the redeeming powers of technology.

As various historians have pointed out, the coupling of technology and conservative Republican ideas is in fact almost as old as American society itself. For the Founding Fathers, though apprehensive of the negative impact of the machine on communal life (i. e., urbanization and the establishment of an impoverished, morally loose proletariat), technological expertise seemed essential not only as a means to serve the needs of the individual citizen but to promote the Republic's higher humanitarian goals. To Robert Fulton, who had just successfully invented a new steamboat, Jefferson wrote in 1810: "I am not afraid of new inventions or improvements, nor bigoted to the practices of our forefathers. It is that bigotry which keeps the Indians in a state of barbarism in the midst of the arts."² Having contrived a plethora of me-

¹ "Newt's Notion: Laptops for All," *International Herald Tribune* 7-8 January 1995: 3.

² Quoted in Hugo A. Meier, "Thomas Jefferson and a Democratic Technology," *Technology in America: A History of Individuals and Ideas*, ed. Carroll W. Pursell, Jr. (Cambridge, MA: MIT Press, 1990) 17-33; 21. This negative ascription of the Indian as pre- or anti-technological was to become a staple of nineteenth-century American iconography: In John Gast's famous painting "Westward-ho" or "American Progress" (1872), the Indians—together with buffalos, wild horses, bears and other animals—are depicted to be fleeing from "Progress incarnate," a fair, barely dressed maiden who is about to unroll a skein of telegraphic wire. Only four years earlier, a Currier and Ives lithograph, called "Across the Continent: Westward the Course of Empire Takes Its Way" (1868), had taken a similar stance. In this stunning visualization of old vs. new technologies, an ever progressing, smoke-spurting railroad bypasses—and thus literally leaves behind in the ongoing technological revolution—a dwindling number of Natives (all either on horseback or in canoes) who are forced to look on in disbelief and awe.

chanical gadgets himself, Jefferson—to an even greater extent than Benjamin Franklin—ideally embodied the image of the *tinkering American*. Hence his view of technology, a term that was brought into general usage in America by Jacob Bigelow and his influential *Elements of Technology* (1829), was utterly utilitarian. As Secretary of State under Washington, he had helped to pass the nation's first patent law whose standards for inventions, aside from their novelty, were based equally on utility and social importance. "A smaller agent, applicable to our daily concerns," he declared in 1815, "is infinitely more valuable, than the greatest which can be used only for great objects. For these interest the few alone, the former the many."³

As the new century progressed, the idea of a *democratic* or republican *technology*, the notion that the machine could be put to use for the advancement of republican values, gained even more relevance. If we follow the numerous critics of nineteenth-century cultural discourse, the impact of the machine on the consciousness and imagination of antebellum Americans must have been considerable. "As the machine turned country into city," writes H. Bruce Franklin, "serf-like peasants into slave-like workers, distance into time, hours into minutes, land into capital, and the ideal of a primitive arcadia into the idea of a highly industrialized utopia, it loomed huge in the everyday consciousness of almost everybody."⁴ That the ongoing mechanization of American life, as Leo Marx and, especially, Cecelia Tichi have shown, could have been fitted so well into its leading ideologies, Puritanism and the Pastoral, is indeed striking.⁵ But not only did Americans manage to modify their utopian conception of America to that of the "middle landscape" (Marx's term for the adoption of the machine into the pastoral idea of the *garden*) or an "engineered New Earth" (Tichi), they increasingly came to view technology as the only creative force there is. Convinced of the aesthetic and moral superiority of the machine and its inventor, parochial advocates of technology professed, according to John Kasson, "that the distinction between technological pursuits and supposedly more lofty and refined artistic enterprises was at heart artificial, [and] that mechanical achievements evinced creative intelligence as great in its way as did poetry or painting."⁶

To this challenge American artists, from the mid-nineteenth century to the present, responded in manifold ways. Not all of them, as numerous scholars have shown, sided with the nation's greatest bard, Walt Whitman, to celebrate the marvelous inventions of an arising technological society. Whitman's achievement, according to cultural historian Miles Orvell, was precisely to have rooted his art in the most characteristic features of his time: the new forces of science and technology.⁷ In so doing,

³ Quoted in Meier 28.

⁴ H. Bruce Franklin, *The Future Perfect: American Science Fiction of the Nineteenth Century* (New York: Oxford UP, 1978) 141.

⁵ Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (London: Oxford UP, 1964); and Cecelia Tichi, *New World, New Earth: Environmental Reform in American Literature from the Puritans through Whitman* (New Haven, CT: Yale UP, 1979).

⁶ John F. Kasson, *Civilizing the Machine: Technology and Republican Values in America, 1776–1900* (New York: Grossman Publishers, 1976) 147–48.

⁷ See Miles Orvell, *The Real Thing: Imitation and Authenticity in American Culture, 1880–1940* (Chapel Hill: U of North Carolina P, 1989) 3–32.

Whitman provided a model especially for those twentieth-century poets, writers and painters—such as, to name only a few, Hart Crane, John Dos Passos, Wallace Stevens, Claes Oldenburg or Andy Warhol—who would again turn to the machine as topic and inspiration. In his essay “The Artist Looks at the Machine: Whitman, Sheeler and American Modernism,” Orvell examines how the machine has become not only a central theme in the work of one of the leading Precisionist painters, Charles Sheeler, but an important factor in the process of painting itself (by way of an intricate interplay of camera and brush). What is more, as “conceptual” representations of the industrial cityscape, Sheeler’s works are apt to shed light on the revisionist paradoxes inherent even in the most ardent defenders of American technology.

In his pioneering book *Technological Utopianism in American Culture* (1985), the historian Howard P. Segal examined how the age-old idea of America as a potential utopia was coupled—sometime during the nineteenth century—with a strong belief in technological progress. Despite its unceasingly strong impact on contemporary Americans, Segal was convinced that unchecked technotopian euphoria would ultimately make way for a more balanced, “mature” advance of technology, or, in his own words, a “technological plateau.” Yet as Segal, in his most recent publication *Future Imperfect: The Mixed Blessings of Technology in America*, now looks at the still “uncritical faith in technology’s ability to solve all problems, . . . his former optimism, never overwhelming, has since been tempered further.”⁸ The repeated malfunction of “high-tech” achievements—most obvious, for instance, in nuclear power plants—and the (irrevocable) pollution of the environment notwithstanding, America remains a stronghold of Technological Utopianism. It is with this adamant belief in technological improvement in mind that Manfred Pütz questions the author of *Ecotopia* (1975) about the role of technology in an ecotopian world. In his interview with Ernest Callenbach, which was culled from an ongoing transatlantic correspondence, Pütz tries to expose the ambivalent and shifting line between nature and technology in contemporary ecotopian thinking. As even the founding father of Ecotopia must admit, “technology *can* be beautiful—though it is more often kitschy or downright ugly—and sometimes it can verge on the sublime.”

In recent theories of the cultural and social impact of technology, the idea of a “one-dimensional” technology, of technology as *the* driving force, the most powerful determining factor in human history, has given way to a more complex and rather shadowy picture. Not only has it become quite difficult to distinguish between the *human* (or natural/social/cultural) and the *technological* (just think of bio-engineering and its privileging of replacement and design over traditional medical treatment), but modern technologies turned out to be remarkably resilient to both technophilic embracement and technophobic lament. As of today, no major technological innovation has ever caused the kind of cataclysmic change repeatedly predicted by cultural commentary. Over the long range, new technologies tend to integrate rather smoothly

⁸ Howard P. Segal, *Future Imperfect: The Mixed Blessings of Technology in America* (Amherst: U of Massachusetts P, 1994) 1.

into existing social patterns, interacting, competing with, modifying—but rarely simply replacing what is already there. This seems precisely the view put forward by science fiction writer and cyberpunk novelist Bruce Sterling, who points out that “Radio didn’t kill newspapers, TV didn’t kill radio or movies, video and cable didn’t kill broadcast network TV; they just all jostled around seeking a more perfect app.”⁹ Moreover, according to sociologist Stanley Aronowitz, in “technocultures” such as the United States it is no longer possible to differentiate between the various subcultures according to their use (or the presumed abdication) of technology. There are many American cultures, says Aronowitz, “yet each is a technoculture”:

Truckers and cyberpunks, rap musicians and concert pianists, even hippies and the Amish all employ technologies in such a way that their cultural activity is not intelligible separate from the utilization of these technologies. The Amish have their wagons and farm equipment, the hippies their Volkswagen buses. The rap DJ has his or her turntable, which is employed differently from the turntable of a commercial radio DJ; the cyberpunk has a computer complete with modem, and this utilization differs from the accountant at his or her computer console.¹⁰

Given the pervasiveness of modern technology, no clear-cut distinction can be made between the advocates and apostates of the technological worldview. This holds especially for minority or third-world cultures which—at a time of burgeoning ethnocentric ideologies—are often considered less or even *pre-technological*.¹¹ As in the case of Native Americans, however, some of these cultures not only applied highly developed technologies in their own right, they are now actively participating in economic enterprises which widely depend on computational and information technology (gambling, tourism, publication, etc.) Yet Native Americans, as Jon-K Adams suggests, appear to be informed by a more pragmatic, down-to-earth attitude towards the dominant high-tech culture(s). In his survey of technology and the Native American novel, he traces the various responses of Native American fiction to a society which in its naive, quasi-religious belief in technological progress becomes often the target of playful criticism and satire. As one can easily see, Adams’s “post-tribal” Indian is a far cry from Jefferson’s barbaric Native kept by primitive bigotry from the blessings of modern technology. Even though the contemporary Native American hero remains deeply embedded in his own cultural tradition, he joins the poststructuralist critique of the ideology of the Enlightenment and, as Adams claims, the manifestation of that ideology in the form of technology.

Of all icons of modern technology television, the “tube,” as it came to be called by a receptive public, stands out as at once the most American and controversial. Ever

⁹ Bruce Sterling, “Dead Media,” *BOING BOING* 14: 28–30. Quoted in Joseph Tabbi, “A Review of Books in the Age of Their Technological Obsolescence,” *American Book Review* 17.2 (Dec./Jan. 1995–96): 1, 30; 30.

¹⁰ Michael Menser and Stanley Aronowitz, “On Cultural Studies, Science, and Technology,” *Technoscience and Cyberculture*, ed. Stanley Aronowitz, Barbara Martinsons, Michael Menser, and Jennifer Rich (New York: Routledge: 1996) 7–28; 10.

¹¹ For a historical account of how non-Western cultures have deployed technology (or technologies) for their own—political/cultural/military—purposes see Gilles G. Deleuze and Félix Guattari’s *A Thousand Plateaus*, trans. Brian Massumi (1981; Minneapolis: U of Minnesota P, 1987).

since its nationwide inauguration during the late 1940s, it has helped to shape and to spread American cultural values to an extent as yet unrivaled by any other mass media. Television did not only play a crucial role in the process of accommodating to a wider public the (originally Fordist) idea of mass consumption and consumerism, it also had tremendous impact on our perception of time, history, and reality at large. By its attachment, as David Harvey points out, "to surfaces rather than roots, to collage rather than in-depth work, to superimposed quoted images rather than worked surfaces, to a collapsed sense of time and space rather than solidly achieved cultural artefact," television was clearly instrumental in promoting postmodernist aesthetic ideas.¹² While modern writers felt repelled by the tube's "excess of pleurability, repetition, [and] lack of innovation," postmodernists seemed to embrace television precisely because it emphasized collage and the stitching together of widely divergent phenomena.¹³ It is in view of this ambiguous response to the products of televised mass media that Julika Griem examines the numerous ways in which television is both inscribed and written off in contemporary literary texts. In her essay "Representations of Television in Contemporary American Literature," Griem convincingly shows that "during the last thirty years, American literature has been increasingly influenced, threatened, and inspired by television." Even if the more recent upsurge of cyberpunk and computer fiction seems to render television eventually a "dead metaphor," a thing of the past, novels such as Pynchon's *Vineland* suggest, according to Griem, that it might be used also in a more positive sense: as a medium of (meta-) historical narrative.

Today, the most far-reaching playground of the American technological imagination is certainly the computer and its corollary electronic networks. Not only does the computer extend our sensibilities into fictitious, digitalized (cyber-) space, it also threatens to discard—even further than in purely pictorial media—the borders of imitation and authenticity, of the *sham* and the *real* thing. (Think only of films such as *Forrest Gump* or *In the Line of Fire*, where highly sophisticated computer collage—the so-called "morphing"—helped to rebuild fictive human images into historic documents.) Two of the essays collected here deal with this new field of (electronic) discourses. Franco Minganti, an Italian colleague and expert on electronic storytelling, is concerned with the gains, losses and implications of computer fictions or, rather, computational forms of narration. Hanjo Berressem, on the other hand, is interested more in the topology of hypertext and its relation to contemporary critical theory. In trying "to anchor the technology of hypertextual praxis in a theoretical framework," Berressem links its ideology to that of Derridean dissemination, because—and here it comes close to Derrida's deconstructive philosophy—"hypertext is opposed to a search for an enigmatic, inherently transcendent, global truth or meaning hidden in the text."

Finally, I have to mention Joseph Tabbi and Michael Wutz's essay on "Narrative

¹² David Harvey, *The Condition of Postmodernity* (Blackwell, 1989) 63.

¹³ Umberto Eco, "Innovation and Repetition: Between Modern and Post-Modern Aesthetics," *Daedalus* 114.4 (Fall 1985): 161–84; 162.

in the New Media Ecology." This essay, a strong and cohesive text in its own right, is actually derived from the introduction to their book *Reading Matters: Narrative in the New Ecology of Media*, which will be published by Cornell UP in 1997. As the authors open up the discussion for future research in the discursive domain of literature, technology, and media theory, they also take up themes and questions raised by many of the essays in this issue. For example, Tabbi and Wutz are hesitant about conflating hypertext technology and poststructuralist theory as proposed by Hanjo Berr-essem. Nothing will be gained, they argue, if we go on constructing "an expanded knowledge base of undifferentiated complexity" instead of giving shape—not simply adding to—the "ultracommunicativity" produced by modern information technology. Rather, they advocate an approach that is oriented toward a differentiated revaluation of narrative, an "energetic reconstruction of relations between authors and readers, text and graphics, virtuality and materiality." By thus probing the future of narrative in the changing media environment, these critics seek to define and provide new avenues for literary scholarship in the Age—to modify Tabbi's provocative appropriation of Benjamin's phrase—of its technological obsolescence.¹⁴

¹⁴ See Tabbi, "A Review of Books in the Age of Their Technological Obsolescence."