Project
MUSE®

Today's Research. Tomorrow's Inspiration.

http://muse.jhu.edu

David F. Noble, 22 July 1945 to 27 December 2010

THOMAS J. MISA

It was a surreal experience seeing *Billy Elliot* the day I learned of David Noble's unexpected and untimely passing. That evening, the popular musical's commodification of working-class life struck the wrong note. Adapted from the 2000 film by screenwriter Lee Hall, with uplifting music composed by Elton John, *Billy Elliot* tells the story of a young working-class boy in a coal-mining community in northern England who has unusual talent for ballet dancing—to the mortification of his father and older brother. Billy's personal journey to achieve artistic fulfillment plays out against the backdrop of the 1984–85 coal-miners' strike, an epic twelve-month battle in which Margaret Thatcher's government crushed the dying embers of old-labor militancy. Pitched street battles are conveniently offstage in the musical, while onstage the striking miners and the strike-breaking policemen have a lively ensemble dance. In a "consolatory fantasy of personal escape," Billy successfully makes it to the Royal Ballet School in London, even while it is made clear that the loss of the strike means that it is curtain time for the miners. They intone, with evident resignation: "The ground is empty, and cold as hell / But we all go together when we go."[1]

Thomas J. Misa, director of the Charles Babbage Institute at the University of Minnesota, is editor of *Gender Codes: Why Women Are Leaving Computing* (2010). The second, revised edition of his *Leonardo to the Internet: Technology and Culture from the Renaissance to the Present* is in press with Johns Hopkins (2011). The author sends special thanks to Roe Smith and Denis Rancourt for assistance in preparing this essay.

1. The "consolatory fantasy of personal escape" is from Alan Sinfield, "Boys, Class and Gender: From Billy Casper to Billy Elliot," *History Workshop Journal* 62 (2006): 166–71. It is not easy to align the working-class background and socialist sympathies of screenwriter Lee Hall, who grew up in Newcastle during the 1980s, with the sentimental tone of the blockbuster musical. For instance, the miners' song seems an unwitting echo of Tom Lehrer's satire "We Will All Go Together When We Go" (1959) about nuclear annihilation.

David Noble described himself as a scholar, a journalist, and an activist. For him, history was authentic and contested, and the miners' strike was (sorry to put it this way) nothing to be dancing about. Across more than three decades, he published seven major books of which *America by Design* (1977) and *Forces of Production* (1984) are likely the best known to readers of this journal. His corpus of scholarly work and activism had an underlying logic and overall direction. With these two books he made a critical and historical appraisal of technology from a Marxist perspective. His subsequent critique of the Western ideology of progress, which he traced back to the religious inspirations and impulses behind Western science and technology, appeared in *A World Without Women* (1992), *The Religion of Technology* (1997), and *Beyond the Promised Land* (2005). A series of polemical essays found their way into *Digital Diploma Mills* (2001), which targeted computer-driven online education, while *Progress Without People* (1993, 1995) brought together his activist-journalism and congressional testimony on the social effects of machine-tool automation.[2]

A native of New York City, David Franklin Noble grew up in Miami, attended the University of Florida (majoring in chemistry and history), then moved north to the University of Rochester to earn his Ph.D. with Christopher Lasch, the notable historian and prominent social critic. Of Lasch, one of his students noted: "I do not think any other historian of his generation moved as forcefully into the public arena." Knopf had published Lasch's two books on the radical tradition in American politics (1965, 1969), which not only chronicled the intellectual antecedents of the New Left, but sought to shape that movement, as well as a volume of essays that appeared after he joined the University of Rochester's history department in 1970. In 1977 Lasch published *Haven in a Heartless World*, on the family in capitalist society; and two years later his quirky *Culture of Narcissism* hit the best-seller lists. Lasch, according to one reviewer, "insists on the integrity . . . of the intellect as a guide through the swamps of feeling." I believe that David Noble shared this sentiment. Among the other notable graduate students at Rochester—working with Lasch, Eugene Genovese, and, for a time, Herbert Gutman—were Leon Fink, Russell Jacoby, Bruce Levine, Maurice Isserman, and William Leach.[3] Noble's dissertation, completed in

2. *America by Design: Science, Technology, and the Rise of Corporate Capitalism* (New York, 1977); *Forces of Production: A Social History of Industrial Automation* (New York, 1984); *A World Without Women: The Christian Clerical Culture of Western Science* (New York, 1992); *Progress Without People* (1993; reprint, Toronto, 1995); *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York, 1997); *Digital Diploma Mills: The Automation of Higher Education* (New York, 2001); *Beyond the Promised Land: The Movement and the Myth* (Toronto, 2005).

3. An insightful essay on Lasch's idiosyncratic politics and scholarship is Fred Siegel, "The Agony of Christopher Lasch," *Reviews in American History* 8 (1980): 285–95. See also Russell Jacoby, *The Last Intellectuals* (New York, 1987); and Jacoby, "Christopher Lasch (1932–1994)," *Telos* 97 (1994): 121–23, quote on 123. In 1962 Columbia University

1974, was titled "Science and Technology in the Corporate Search for Order: American Engineers and Social Reform, 1900–1929."

Published just three years later as *America by Design: Science, Technology, and the Rise of Corporate Capitalism*, Noble's first book, with a foreword by Lasch, was published by Knopf to unusually prominent reviews.[4] Robert Heilbroner in the *New York Review of Books* wrote that Noble "makes us see technology as a force that shapes management in an industrial capitalist society," while the *New York Times* called the book a "significant contribution" owing to its uncommon leftist perspective on American technology.[5] Scholarly appraisals by Glenn Porter, John Kasson, W. David Lewis, Nathan Reingold, Paul Israel, and others appeared in the principal historical journals, and a ten-page essay review appeared in *Michigan Law Review*.

In *Technology and Culture* Alfred Chandler, fresh from publishing his *Visible Hand* (1977), did a lengthy and searching review of nearly 1,300 words. Chandler lauded the "careful mining [of] a mass of essential source materials" on professional engineering, management, and industry, concluding, in a phrase seemingly minted for a publicist, that "his study marks an essential advance in our understanding of the creation of the modern American capitalist economy." Chandler said little about Noble's evident Marxism, instead arguing that the book overgeneralized from the science-based industries to the capitalist economy as a whole, as well as that it failed to distinguish between the "operational requirements of a technology and those of capitalism," for instance, in the routinization of work processes.[6]

In *American Historical Review* Merritt Roe Smith, then at Ohio State

---

Press published Lasch's dissertation, which was completed at Columbia the year before, as *American Liberals and the Russian Revolution*. For his politically turbulent years at the University of Rochester, see Eric Miller, *Hope in a Scattering Time: A Life of Christopher Lasch* (Grand Rapids, Mich., 2010), 136–267.

4. The year 1977 saw major works published by Noble, Chandler, and Smith, as well as Langdon Winner's *Autonomous Technology* (Cambridge, Mass., 1977). For respective evaluations, see Richard R. John, "Elaborations, Revisions, Dissents: Alfred D. Chandler, Jr.'s, *The Visible Hand* after Twenty Years," *Business History Review* 71 (1997): 151–200; Steven W. Usselman, "Still Visible: Alfred D. Chandler's *The Visible Hand*," *Technology and Culture* 47 (2006): 584–96; and Roger D. Simon, "The Machine in Context: Merritt Roe Smith's *Harpers Ferry Armory and the New Technology: The Challenge of Change*," *Technology and Culture* 51 (2010): 1010–17.

5. Heilbroner reviewed Chandler, Noble, and Stuart Ewen's *Captains of Consciousness* in "Getting Down to Business," *New York Review of Books*, 9 February 1978. The *NYRB* reviewed three of Noble's books, including *Forces of Production* and *Religion of Technology*. Other historians of technology receiving reviews in *NYRB* include Geoffrey Parker (2), Richard Rhodes (2), Donald Worster (2), Thomas Hughes (1), Emily Thompson (1), and Tom Crouch and Peter Jakab (1). Surprisingly, Daniel Headrick and David Nye received none.

6. Alfred D. Chandler Jr., review of Noble, *America by Design*, in *Technology and Culture* 19 (1978), 569–72, quotes on 571–72.

and with his *Harpers Ferry Armory and the New Technology* (1977) just out, was more direct: *America by Design* was a "daring study" that illustrates the "growing sophistication of radical historiography." While identifying many positive attributes, Smith found fault at the core: that Noble "constructs a model that is a bit too neat and dramatic to account for the inherent complexities of industrial development." Drawing explicitly on Chandler's treatment of railroads and implicitly on John Kasson's *Civilizing the Machine: Technology and Republican Values in America, 1776–1900* (1976), Smith observed that the timing and character of modern managerial capitalism had deeper roots than Noble's focus on the chemical and electrical industries of the 1890s, extending back to the early decades of the century and the textile and firearms industries.[7] In his 1979 survey of the field Thomas Hughes wrote that Noble successfully "sustains the thesis [of corporate control of technology] with a thoroughly informed account of the history of the technological and industrial institutions increasingly organizing modern America."[8]

MEMORIAL

At MIT initially as a Mellon Fellow in the newly organized STS program[9] and then as a tenure-track assistant professor, Noble began research on MIT's role in the numeric-control machine-tool industry, which would appear in *Forces of Production* (1984). The book had a distinctly polarized reception. An early essay of Noble's, "Social Choice in Machine Design: The Case of Automatically Controlled Machine Tools, and a Challenge for Labor"—published in the journal *Politics & Society* and later appearing in Andrew Zimbalist's collection *Case Studies on the Labour Process*—deftly linked the established labor-process and emerging social-construction camps in STS (and this essay, repeatedly anthologized, remains something of a staple in STS even today).[10] In *Forces of Production* Noble argued that

7. Merritt Roe Smith, review of Noble, *America by Design*, in *American Historical Review* 83 (1978), 817–18, quotes on 817. Historians of technology have not confirmed one part of Noble's thesis: that U.S. capitalism was consciously "designed" by engineer-managers; see the explicit critique of this in W. Bernard Carlson, "Academic Entrepreneurship and Engineering Education: Dugald C. Jackson and the MIT-GE Cooperative Engineering Course, 1907–1932," *Technology and Culture* 29 (1988): 536–67, esp. 538–40. U.S. scholars, at least, have not directed as much attention to a second part of Noble's thesis: namely, that the character of capitalism changed owing to the rise of the science-based industries around the turn of the century. German historians and some economic historians have explored "organized capitalism."

8. Thomas P. Hughes, "Emerging Themes in the History of Technology," *Technology and Culture* 20 (1979): 697–711, quote on 708.

9. See Sarah Slaughter, "The Growth and Development of STS Education—Three Examples," *Science, Technology and Human Values* 5 (1980): 31–35. In 1975 Noble shared an office at MIT with Sally Hacker, at whose "insistent urging" he first began to consider the "gender dimension in science and technology"; see Noble, *World Without Women* (n. 2 above), xi.

10. David Noble, "Social Choice in Machine Design: The Case of Automatically Controlled Machine Tools, and a Challenge for Labor," *Politics & Society* 8 (1978): 313–

postwar industrial automation was shaped decisively by the U.S. military's preference for and lavish funding of high-tech "numerical control" technology over a middle-tech "record playback" option, despite the absence of clear economic advantages.

In the *New York Review of Books* journalist James Fallows hailed the book as "a detailed, gripping, and convincing work of social history." Not all agreed. In a stinging review in *Science* David Brody, author of an influential book on labor in the steel industry, stridently critiqued the several "difficulties . . . [that] permeate this book," including a notable gap between the visions of the military and corporate industry, concluding that "the dogmatism of his approach" does a "disservice to the thesis he is advancing" (shared by Brody, David Montgomery, Herbert Gutman, and other advocates of new labor history) about workers' control on the shop floor.[11]

Most academic reviews were positive. In *Technology and Culture* Bill Leslie praised Noble for raising "some fresh, troubling questions about the course and context of post–World War II technology" and for adopting "a more subtle and compelling interpretation" of institutional dynamics at MIT, while in *American Historical Review* Carroll Pursell's detailed and entirely positive review concluded, ringingly, that "this book will be a classic in the field." In *Reviews in American History* Smith praised the "rich and absorbing book, the product of a prodigious research effort," while again noting the political content of Noble's writings. Clearly appreciative, he indicated that "its subject matter is so fresh, so original, that there is yet no comparable body of scholarship against which it can be measured" (which, remarkably enough, might still be observed today).[12] Yet Smith did find several shortcomings, including a troubling "inattention to basic chronol-

---

47; and published a year later in Andrew Zimbalist, ed., *Case Studies on the Labour Process* (New York, 1979), 18–50.

11. James Fallows, "A Parable of Automation," *New York Review of Books*, 27 September 1984; and David Brody, "Systems of Control," *Science* 227 (4 January 1985): 47–48. See also David Brody, "The Old Labor History and the New: In Search of an American Working Class," *Labor History* 20 (1979): 111–26. Curiously enough, Noble's name does not appear in a comprehensive index of books reviewed (1960–2001) in that journal (*Labor History* 43 [2002]: 129–212).

12. Historians of labor and computing exploring automation include Greg Downey, "The Place of Labor in the History of Information Technology Revolutions," *International Review of Social History* 48 (2003): 225–61; Thomas J. Misa, ed., *Gender Codes: Why Women Are Leaving Computing* (Hoboken, N.J., 2010), chaps. 4, 5, 7; Sally H. McCallum, "MARC: Keystone for Library Automation," *IEEE Annals of the History of Computing* 24 (2002): 34–49; Jonathan Aylen, "Promoting the Prosaic: The Case for Process-Control Computers," *IEEE Annals of the History of Computing* 32 (2010): 95–96; and David Steigerwald, "Walter Reuther, the UAW, and the Dilemmas of Automation," *Labor History* 51 (2010): 429–53. For more general accounts, see Amy Sue Bix, *Inventing Ourselves Out of Jobs? America's Debate over Technological Unemployment, 1929–1981* (Baltimore, 2000); and Shoshana Zuboff, *In the Age of the Smart Machine: The Future of Work and Power* (New York, 1988).

ogy" and the disregard of economic interpretations of innovation in favor of social and political ones.[13]

With his "continuously careening academic career," Noble seemed eagerly and willingly to seek out controversy and conflict. He had special penchant for critically scrutinizing the institutions where he was employed, publicizing with special energy what he saw as undue and unhealthy corporate influence on universities. Noble's lifelong campaign against power and institutions was no accidental matter. According to his dissident-physicist colleague Denis Rancourt, Noble was inspired by Michel Foucault's belief

> that political power also exercises itself through the mediation of a certain number of institutions which look as if they have nothing in common with the political power. . . . One knows . . . that the university and in a general way, all teaching systems, which appear simply to disseminate knowledge, are made to maintain a certain social class in power; and to exclude the instruments of power of another social class. . . . It seems to me that the real political task in a society such as ours is to criticise the workings of institutions, which appear to be both neutral and independent; to criticise and attack them in such a manner that the political violence which has always exercised itself obscurely through them will be unmasked, so that one can fight against them.[14]

At MIT, despite having published two notable books on the history of technology and being an inspiring classroom teacher (of which more in a moment), he was denied tenure owing, he charged, to bias against his left-wing political views and public statements. He remarked years later that *America by Design* got him hired at MIT, while *Forces of Production* got him fired.[15] Famed linguist Noam Chomsky, himself a trenchant critic of insti-

13. Stuart W. Leslie, review of Noble, *Forces of Production*, in *Technology and Culture* 27 (1986), 158–60; Carroll Pursell, review of Noble, *Forces of Production*, in *American Historical Review* 94 (1989), 545–46; Merritt Roe Smith, "Social Processes and Technological Change," *Reviews in American History* 13 (1985): 157–66, quotes on 163.

14. Noble, *Digital Diploma Mills* (n. 2 above), quote on xi. See Rancourt's homage in *Counterpunch*, 30 December 2010, www.counterpunch.org/rancourt12302010.html (accessed 29 January 2011). The more complete version of the Foucault quote cited here, made while debating Noam Chomsky in 1971, is from www.chomsky.info/debates/1971 xxxx.htm (accessed 23 January 2011).

15. See the comments made in David Noble's talk, "Breaking the Rules," at the unSchooling Oppression conference, 5 November 2007, recordings available at www.archive.org/details/breakingTheRules-DavidNoble (accessed 11 February 2011). "MIT demonstrated the limits of self-criticism in its handling of the David Noble affair, where an influential young historian of technology seemed to have been denied tenure primarily because he had written a study of numerically controlled machine tools that attacked prominent faculty and administrators at the Institute," noted Stuart W. Leslie in "Re-establishing a Conversation in STS," *Bulletin of Science, Technology & Society* 19 (1999): 271–80, quote on 276. Noble's subjects included Gordon S. Brown and Norbert Wiener;

tutional power and militarism, suggested that Noble was "a bit too radical" for MIT.[16] The tenure battle was contentious. "His dismissal from M.I.T. came despite a unanimous recommendation in favor of tenure by an M.I.T. committee that screens candidates for tenure," reported the *New York Times*. "The school's decision to overturn the recommendation was publicly questioned by a number of Dr. Noble's colleagues at M.I.T. and other schools."[17]

He then moved to the Smithsonian Institution for two years as a curator, proposing an exhibit focusing on resistance to automation that included a rare surviving artifact of the nineteenth-century Luddite revolts, a hammer. That didn't fly. He taught next at Drexel University for five years, then in 1991 moved to York University in Toronto. At Harvey Mudd College as the inaugural Hixon-Riggs visiting professor during 1997–99 he organized conferences on "Digital Diploma Mills" and, with Ralph Nader, on "Engineering/Science, Universities, and Corporations: The Roles of Conscience and/or Consent."[18]

In the midst of his public campaign against online education he was

—————

see their "Automation, 1955: A Retrospective," *IEEE Annals of the History of Computing* 6 (1984): 372–83.

16. "A bit too radical" appears in Barry Pateman, ed., *Chomsky on Anarchism* (Edinburgh, 2005), 225. "As for David Noble, it's always hard to make judgments about such issues, but my own is that it wasn't primarily his (quite outstanding) dissident work that led to the tenure denial" is Chomsky's measured assessment, reported in Robert F. Barsky, *Noam Chomsky: A Life of Dissent* (Cambridge, Mass., 1997), 143.

17. See "Professor Sues M.I.T. Over Refusal of Tenure," *New York Times*, 10 September 1986. An overview of the subsequent legal proceedings can be gleaned from the MIT campus newspaper: "Judge weighs Noble evidence," 17 January 1990, tech.mit.edu/V109 /N59/noble.59n.html; "Noble tenure case will go to trial," 13 March 1990, tech.mit.edu/ V110/N12/noble.12n.html; "Noble wants MIT salary data," 12 October 1990, tech.mit. edu/V110/N41/noble.41n.html; "MIT to review tenure policy," 8 March 1991, tech.mit. edu/V111/N11/nobii.11n.html (all accessed 28 January 2011). National coverage included Kathleen Hart, "Is Academic Freedom Bad for Business?" *Bulletin of the Atomic Scientists* 45 (1989): 28–34; "Mass. Judge Reveals Details of Tenure Dispute at MIT," *Chronicle of Higher Education*, 4 April 1990; "An Outspoken Critic Campaigns against Campus Ties to Industry," *Chronicle of Higher Education*, 17 July 1991. MIT's newspaper *The Tech* (13 March 1990) reported the STS faculty vote—a split 5–4 vote against Noble—including the names of those who voted for and against. The negative department-level vote, as Roe Smith recalls the events, prevented Noble's tenure case from moving forward to the next administrative level. Thus the *New York Times* reference to the "school's decision" does not properly refer to the MIT School Council, at the dean's level. The first-level vote was taken by a tenure review committee (reported in *The Tech* of January 17, 1990) and not the STS faculty as a whole.

18. Noble's conference on "Digital Diploma Mills," according to Langdon Winner (himself a Hixson-Riggs professor at Harvey Mudd College during the spring of 2001), "featured some of the most intense, personally moving discussions I have ever heard in a scholarly setting." See Dick Sclove and Langdon Winner, "Technology in Higher Education," *Loka Alert* 5 (17 June 1998), www.loka.org/alerts/loka.5.3.txt (accessed 29 January 2011).

selected by a faculty hiring committee for Simon Fraser University's J. S. Woodsworth Chair in the Humanities. The endowed position focuses on social justice and community involvement, and his appointment was approved at the department level and sent on to the dean. At that moment, in January 2001, the university's president Michael Stevenson, with whom Noble had tangled when Stevenson was academic vice president at York during a faculty strike, directed his vice president for academics: "I'd avoid this appointment like the plague."[19] Subsequently, the job offer was canceled. Simon Fraser, years later, admitted "that it made mistakes" that were consequential in the handling of the appointment, which had "personal impact on Dr. Noble."[20] He brought debate and controversy also to York, where he taught up until his death, publicly sparring with the university administration over the influence of pro-Israel donors (Noble himself was of Jewish background).[21]

In his campaign against online instruction, Noble offered the positive image of the traditional classroom as "sacred space." Seemingly a quaint notion, I think he was entirely serious.[22] At MIT during 1979–80 I took his evening seminar in the STS program on "Technology as a Social Process" and the experience was singular and inspiring. You went to class knowing that there were big insights about technology to be gleaned from Karl Polanyi, Rachel Carson, E. F. Schumacher, Lewis Mumford, and Karl Marx (Jacques Ellul was critically considered "too pessimistic"). Brilliant graduate students from Harvard and Brandeis debated the fine points. Earnest debates on technological determinism and the Industrial Revolution and twentieth-century automation spilled out into the hallways. Noble impressed on us a conviction that the critical study of technology mattered to the world.[23] His course prompted me to work with other notable STS fac-

19. Michael Arnone, "E-mail Message Fuels Controversy Involving David Noble," *Chronicle of Higher Education*, 7 September 2001, chronicle.com/article/E-Mail-Message-Fuels/32409 (accessed 5 January 2011).

20. Brock Read, "Canadian University Settles with Professor Who Says His Views on Technology Cost Him an Appointment," *Chronicle of Higher Education*, 26 July 2007, chronicle.com/article/Canadian-University-Settles/123495/ (accessed 5 January 2011). For Noble's perspective, see letter, David F. Noble to Jim Turk and Neil Tudiver (of the Canadian Association of University Teachers), 26 March 2001, http://libr.org/juice/issues/vol4/LJ_4.17.html#6 (accessed 29 January 2011). For a faculty member's perspective from Simon Fraser, see Jerry Zaslove, "Humanitas: A Commentary," *Journal of the Institute for the Humanities* 1 (2002), journals.sfu.ca/humanitas/index.php/humanities/article/view/20/24 (accessed 21 January 2011).

21. See David F. Noble, "The New Israel Lobby in Action," *Canadian Dimension* 39 (2005): 30–36; and Noble, "Reviving the Radical Critique of Religion," *Canadian Dimension* 40 (2006): 24–25.

22. "Sacred space" was a touchstone also for MIT technical faculty resisting computer-driven simulation during the 1980s, according to Sherry Turkle, *Simulation and Its Discontents* (Cambridge, Mass., 2009), 19–30.

23. My seminar paper for Noble's class at MIT evolved into my chapter "Military

ulty, including Langdon Winner, Kenneth Keniston, and Merritt Roe Smith (somehow I had taken an American literature course with Leo Marx while being entirely unaware of his fame). Noble and Smith wrote letters that got me into graduate school.

Noble consistently sounded a critical voice on the institutional control of technology. With Nader and Al Meyerhoff he founded the National Coalition for Universities in the Public Interest. His own critical essays in *The Nation*, *Monthly Review*, and other publications were strongly argued and imaginatively written, always alliterative and often humorous. Standing-room-only audiences frequently attended his public talks. "He greatly influenced a number of graduate students to be more critical of their evaluation of technological developments," noted Tom Hughes.[24] In his writings he had little patience for the back-to-the-land critique of technology voiced by Wendell Berry and Bill McKibben, although their names occasionally appeared together on activist petitions and he enjoyed summers in the Vermont countryside as much as anyone.[25] Noble was a thoroughgoing modernist, I think, in that he saw no possibility of any return to, let alone restoration of, a bygone past. For him history was made in the present day, and it led to the future.[26] That was why history mattered as an intellectual discipline. It was up to us, as scholars, community members, and citizens, to make the best of it. Work by our colleagues Susan Douglas, Michael Adas, and Andrew Feenberg, it seems to me, continues and extends this tradition of critical engagement and scholarship.

While a brilliant strategy for public history, it was perhaps a liability for an academic historian that Noble's books and essays, and especially his presentations, seemed always poised on the cusp of some momentous change. If the nineteenth-century Luddites had somehow prevailed in the cheese riots or machine wrecking, the Industrial Revolution would have turned out differently; or if longshoremen's battles against containerization on the

---

Needs, Commercial Realities, and the Development of the Transistor, 1948–1958," in *Military Enterprise and Technological Change*, ed. Merritt Roe Smith (Cambridge, Mass., 1985), 253–87.

24. Quoted in Jeffrey R. Young, "David Noble's Battle to Defend the 'Sacred Space' of the Classroom," *Chronicle of Higher Education*, 31 March 2000, chronicle.com/article/David-Nobles-Battle-to-Defend/2308 (accessed 5 January 2011). For an update on this, see Ellen Schrecker, *The Lost Soul of Higher Education: Corporatization, the Assault on Academic Freedom, and the End of the American University* (New York, 2010); and Hans Radder, ed., *The Commodification of Academic Research* (Pittsburgh, 2010).

25. Kirkpatrick Sale, in *Rebels against the Future: The Luddites and Their War on the Industrial Revolution* (Reading, Mass., 1995), 240, gestured to the "learned support of a new wave of technology critics" that included Noble, Berry, and McKibben, as well as Winner and others.

26. "Present-tense technology" was a chapter title in *Progress Without People* (and the title for his article "Present Tense Technology," *democracy* 3 [1983]: 8–24), while a focus on the "here and now" is a major theme in Noble's *Beyond the Promised Land* (n. 2 above).

San Francisco harbor had gone differently, then that more recent history would not be the same.[27] Noble took relish in reconstructing the rationale of underdogs in the battles over technology, while knocking down the pretensions of the powerful. He made the point that many labor protesters—sometimes dismissed as anti-technology Luddites—often did forestall the technological changeovers for some consequential number of years and thus resisted the imposition of an alien way of life. Today, as academics facing online education and pervasive computer-driven simulation in many fields, we might just be in the same boat.[28]

MEMORIAL

The last book Noble published, *Beyond the Promised Land* (2005), is not so much an academic history of technology as it is a critical reflection on the ideology of progress in Western culture. This book completed a trilogy that began with his earlier *World Without Women: The Christian Clerical Culture of Western Science* (1992) and *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (1998). All three books took up an essentially old-fashioned history-of-ideas approach, giving broadly thematic interpretations of classic texts in Western religious and cultural history, along with memorable anecdotes about the scientific and industrial revolutions and contemporary technological developments. Notably absent was any sustained Marxist perspective.[29] These books relied mostly on Noble's readings in the primary literature of medieval and early modern history, and not to any great extent on the extensive secondary literature in these areas.[30] In *The Religion of Technology* his avowed aim was "to demonstrate that the present enchantment with things technological—the very measure of modern enlightenment—is rooted in religious myths and imaginings." "Literally and historically . . . the technological enterprise has been and remains suffused with religious belief."[31]
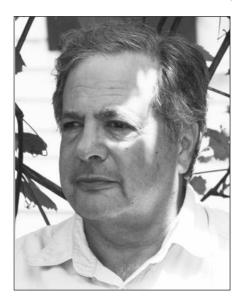
Academic reviewers seemed to struggle with how to interpret these

27. On the longshoremen's battle against containerization, a key source was Stan Weir, a former longshoreman and professor of labor relations, as well as the author of *Informal Workers' Control: The West Coast Longshoremen* (Urbana-Champaign, Ill., 1975) and *Singlejack Solidarity* (Minneapolis, 2004).

28. University professors "have embraced some uses of certain Internet technologies—email, for example—but have rejected others, such as Web-based distance learning, electronic publishing, and course management software," notes Nathan Ensmenger, "Resistance Is Futile? Reluctant and Selective Users of the Internet," in *The Internet and American Business*, ed. William Aspray and Paul E. Ceruzzi (Cambridge, Mass., 2008), 351–87, quote on 368.

29. Compared with the explicit Marxist framing of *America by Design* and *Forces of Production*, in *Religion of Technology* Marx appears, meaningfully, on only one page (87), where Noble writes that Marxism "evolved" into a "hymn to a technological apocalypse" that is equated with an influential "prophetic system" of a twelfth-century ascetic Cistercian abbot (all works cited in note 2 above).

30. Noble did specifically thank medievalist George Ovitt in both *World Without Women* (n. 2 above) and *Religion of Technology*, and Bert Hall in *Religion of Technology*.

31. Noble, *Religion of Technology*, 3, 5.

books' pointed treatments of monasticism, the Royal Society, freemasonry, and millenarian Christianity alongside artificial intelligence, spaceflight, and genetic engineering; the books' evident critique of masculine dominance in the sciences seemed to echo academic feminists such as Sandra Harding and Evelyn Fox Keller. I believe that Noble's true target was the underlying stance of perfectionism and appeal to transcendence common to much of Christianity and Western science and technology and a wide swath of modern thinking in the wake of the Enlightenment. His own critique of what the SHOT community labels "progress talk" was deeply skeptical of the Judeo-Christian religious tradition, as well as any dominant thought system like economics or technology that was "suffused with religious belief." *Beyond the Promised Land*, especially, is best understood as an essentially philosophical tract that expresses Noble's own disenchantment with all ideologies of progress—Western, liberal, Marxist, religious, or secular.

Beyond the Promised Land traces an immense arc from the place-based, locally grounded, nontranscendent *Epic of Gilgamesh* through to the contemporary global-justice and ecofeminist movements that, he believes, share these same attributes. In a scant 200 pages it traces the rise and fall of the Western ideologies of progress that counsel us to accept the difficulties of the present, because we will be rewarded in the glorious future. The core chapter skewers long-standing beliefs in progress that are buttressed by history, economics, and technology. His inspirations came from the student uprisings of the late 1960s and the ecological and feminist movements, as well as the contemporary anti-globalization movement. What was new with the global-justice movement, he thought, was the *absence* of any transcendent appeal to the future and instead an insistence on realizing justice in the present.[32] Karl Marx appears chiefly in the book's first chapters as one of the apostles of progress, due for a fall, while it is Mikhail Bakunin and Friedrich Nietzsche who, "in defense of life," took on and "repudiated the religious foundation of the Western psyche," while "their intellectual heirs," such as Henri Bergson, Peter Kropotkin, George Orwell, Karl Polanyi, and, in a stretch, Jean-Paul Sartre, did "repudiate as well its transcendent notions of history, technology, and the market" (156, 163). Echoing the Paris Commune of 1871, where workers ran and controlled the city for

32. So-called progressive Marxist union leaders might even welcome technologies that clearly weakened the position of the working class. See Dick van Lente's essays on the Rotterdam dock workers confronting mechanization: "Machines and the Order of the Harbour: The Debate about the Introduction of Grain Unloaders in Rotterdam, 1905–1907," *International Review of Social History* 43 (1998): 79–109; and "Ideology and Technology: Reactions to Modern Technology in the Netherlands, 1850–1920," *European History Quarterly* 22 (1992): 383–414; and Hugo van Driel and Johan Schot, "Radical Innovation as a Multilevel Process: Introducing Floating Grain Elevators in the Port of Rotterdam," *Technology and Culture* 46 (2005): 51–76.

David F. Noble in Toronto during the summer of 2010. (Photo: Denis Rancourt, Creative Commons Attribution-Share Alike 3.0 license.)

two months, Noble presents a short though moving account of the May 1968 events in Paris, where (for a time) students and workers united behind the banner, loosely translated, that "beneath the cobblestones is the beach."[33]

Scholars and citizens seeking a means to understand, critique, and, indeed, change technology were inspired by his vision and analysis and, sometimes, even by his politics. You can discern his influence in the work of the Loka Institute and varied efforts at participatory or constructive technology assessment, as well as in the new institutional means for democratic deliberations on technology. I believe that you can ground these efforts to invent new ways of using technology wisely by starting with an observation from *Digital Diploma Mills*. The underlying problem in current polarized discourses on technology, he wrote there, was the

> Manichean worldview of the ideology of technological progress which, like other dogmatic belief systems, allows for only orthodoxy or heresy. . . . It is precisely the mind-numbing effect of such meaningless and dangerous categories that has been the focus of nearly all of my work. A critic of technological development is no more "anti-technology" than a movie critic is "anti-movie." . . . The aim

33. For a full account, see Andrew Feenberg and Jim Freedman, *When Poetry Ruled the Streets: The French May Events of 1968* (Albany, N.Y., 2001), vi, 13–26.

of criticism is not indiscriminate rejection but rather sober, serious, and sustained scrutiny and evaluation as the basis for informed and enlightened discrimination. The point is neither to embrace nor to reject technology but to use it wisely.[34]

The dedications to David Noble's books create a notable gallery, including his first wife—the philosopher Cheryl Noble—the activist-longshoreman Stan Weir, Mary Ann O'Connor and their three daughters, and many historians and fellow activists. He is survived by his wife Sarah Dopp of Toronto, his three daughters, Clare O'Connor, Helen O'Connor, and Alice O'Connor, as well as by his sister and two brothers, including the educational activist Douglas D. Noble.

34. Noble, *Digital Diploma Mills* (n. 2 above), xii.