
Steven E. Jones
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Dedication

To the memory of Alvin Addison Snider

Contents

Acknowledgments

Everybody knows that writing a book requires a network of distributed support and production. In writing this one I was helped by other scholars, curators, Webmasters, collectors, friends, and family. I'm grateful first of all to the self-described Luddite informants I cite anonymously (and, I hope, sympathetically) in the Introduction and Chapter 7. Among my colleagues, Kevin Binfield, then at the University of Nottingham, shared his work in progress on Luddite texts (we once exchanged e-mails on the punctuation of "General Ludd's Triumph," I in the coffee shop at the Public Record Office outside of London, he at that time here in the U.S.). Later he offered valuable advice on this book in progress, and he has continued to share knowledge and texts. Adriana Craciun invited me to Nottingham for a lecture at just the right time and saved time in my schedule for some reading in the library as well as a wonderful special tour of Byron's Newstead Abbey. Huddersfield local historian Lesley Kipling was very helpful in correspondence. So was John H. Rumsby,

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Introduction

Are you a Luddite? Do you know someone who is? Someone who is fed up with technology and resists its dominance over our daily lives — even if in little ways, by avoiding computers or video games, the daily commute in the car, or a cell phone? Or, since it seems increasingly impossible to relinquish or escape from these forms of ever-present technology, at least the contemporary Luddite may (with some irony, to be sure) speak out against its dominance, may question the authority of technology even as it continues to be exercised all around him or her. What else can one do? Is it even possible any more (if it ever was) to resist technology? This book addresses the question of what it might mean nowadays to call oneself a Luddite — to take a position against technology.

On the urban campus where I teach, just like on campuses everywhere, students walk along with one iPod earbud dangling free so they can talk on their cell phones while listening to music. When evening classes let out, their ring tones begin to play all at once as the phones flip open, screens glow, and they migrate across the lawns like giant

schools of cyborg jellyfish. Of course, many of these students also have in their backpacks laptops on which they write papers and store huge collections of MP3s, some to be transferred to their iPods, most of them probably downloaded in their dorm rooms using peer-to-peer file-sharing programs over the same network that allows them to register for classes and instant-message their friends. The network also allows me to input their grades, post syllabi, create course Weblogs, or access their transcripts. Every year some of these same students tell me that they think there is too much technology in modern life. Some of them, usually green-activists , ironically refer to themselves as Luddites — but this does not necessarily mean they're not just as wired, as saturated with technology, as their classmates. They assume, like everyone else, that technology is a fact of life — the air they breathe, the water in which they swim, like it or not.

I know that many of these students will go on to careers in what is called "knowledge work." More of them than ever before will make their living by producing or maintaining or processing technology and (even more likely) the forms of information and commerce that technology makes possible. Even many of those with less obviously technological jobs will spend their leisure hours engaged with technology and media, video games and large-screen TVs and personal computers. The degree to which they get it (or don't) when it comes to this governing idea — that technology is the central fact of the modern global economy — will often help to define their status, determine their livelihoods, and shape their work and leisure time. This is not about having specific technical skills — I'm not talking about engineers and computer science graduates. It's about the willingness to buy into two widely shared assumptions: (1) that technology's place in our daily lives is central; and (2) that it will inevitably increase in the future.

In the face of this seeming inevitability, this done-deal with technology, a low-level anxiety persists about what technology is doing to us: the environmental consequences of genetically modified foods, children's dependence on antidepressants, reduced social interaction among the "pod-people" lost in their own soundtracks or people who compulsively flip open their phones every time they are out in public. Everyone participates but everyone from time to time worries — often

with a wry irony that only partly covers their anxiety — that technology is taking over, dominating our lives. The revival of interest in Isaac Asimov's theories of robotics, as seen in the recent movie, *I, Robot* (2004), by which humankind attempts to formulate laws to prevent such a takeover, is only one symptom among many of this persistent cultural anxiety. Some worry enough to adopt an attitude of general resistance, an antitechnology philosophy based on doubts about the whole idea of technological progress. Nonetheless, these quixotic dissidents within the technological society often share with happy technocrats the fundamental assumption that technology is taking over — or has already done so, for all practical purposes. Those who resist the inevitable (so the story goes) by adopting a general antitechnology philosophy are called Luddites. Some defiantly pin the label on themselves, as if the name itself counted as a form of resistance. But today what does it mean to identify yourself as a Luddite?

First, it's often an ironic gesture, even a kind of gallows humor. Many assume that to resist technology is a folly (if a noble one). The original historical Luddites in England circa 1811, the workers from whom we get the name, have mistakenly been made into the poster children for this assumption. Today "Luddite" often means "deluded technophobe," even to some self-declared neo-Luddites. The historical record suggests something altogether different. The original Luddites were in fact skilled English laborers, mostly textile workers, who from about 1811 to 1817 organized into secret bands, sometimes referred to as an "army of redressers" under the supposed leadership of "General Ned Ludd." They systematically smashed the kinds of machinery they saw as unfair to their craft and their trade. For the most part, this book is not about those historical Luddites. Instead, it's more about how they have been interpreted and mythologized. It's about how British workers in Yorkshire and Nottinghamshire and Lancashire somehow came to stand for a global antitechnology philosophy, how an anonymous collective movement came to be identified with an individualistic personal conviction. How determined weavers and cloth finishers, skilled artisans demanding fair wages and control over their own trade, were often wrongly interpreted as champions of the simple life and of nature, as voluntary primitives and Romantics. In other words,

this is a book about the image and the *myth* of the Luddites, how the myth was made and how it was transformed over time into modern neo-Luddism.

I'm an English professor, not a historian. But I do study and interpret literary works from the past, along with their historical and cultural contexts. I'm deeply interested in both Romantic poetry (written roughly 1789–1832) and the history of technology (including its uses in the present), and I work in humanities computing as well as in literary studies. Industrialization and the story of the Luddites have always formed part of the historical context of the Romantic-period literature I study and teach. Since the mid 1990s, especially, I've noticed that the history of the Luddites has increasingly become a pressing "text" in itself, a topic that keeps coming up in class discussion, keeps getting cited in our reading, and seems to require interpretation in its own right. My students' reactions to Luddite texts suggest that the Luddites were as much a part of our historical moment as of their own (circa 1811). At the beginning of the twenty-first century, the Luddites still seem like our contemporaries.

But of course they are not. The alien qualities of historical events, the vast differences between the past and the present, often provide more profound lessons than simplistic identifications or too-easy connections. The widespread use of the term "Second Industrial Revolution" is a prime example of the kind of oversimplification I have in mind, since it's a term that assumes exactly what it should be examining: the distance traveled between then and now — the birth of the factory system and the current global economy.

So I began skeptically to think about and research the cultural history of the *idea* of the Luddites, how Luddism has been mediated and translated by way of various representations — novels, poetry, films, images in popular culture, activist subcultures — between 1811 and the present. My goal was to take seriously the dialectical, historical differences between then and now, between Luddites and neo-Luddites. Only in this way, I believed, could we understand the roots *and* specific branches of our own profound anxieties about technology.

While doing research, I asked people I talked to on campus, on the street, and at parties if they knew anything about the Luddites. More

than one person thought the Luddites must have been an obscure religious sect. But many responded confidently that a Luddite is anyone who hates technology (by which in most cases they turned out to mean anyone who hates computers or doesn't watch television or refuses to carry a cell phone). Some went further and equated Luddites with politically "green" environmentalists or anyone who longs for unspoiled nature — the rainforest instead of the city. A few mentioned Ted Kaczynski, the notorious Unabomber. Wasn't he the most famous recent Luddite? A few fellow academics compared the Luddites to British Romantic authors such as Wordsworth and American Romantics such as Thoreau in their veneration of nature and hatred of factory smokestacks.

Some of those I spoke with, especially among my academic colleagues or younger political activists, actually knew a little about the history of the British textile workers in the early nineteenth century who were threatened with redundancy and fought back under the banner of General Ned Ludd, and many of those who knew about the original Luddites viewed them sympathetically, as doomed and tragic fighters against "progress" and the factory system of the Industrial Revolution. But even those who began with only a vague knowledge of the historical Luddites, once I began to tell about them, often leapt to identify with what they took to be the Luddite cause or philosophy (though I had been careful *not* to explain the events of 1811 to 1816 in those terms). Whereas I told the story of, say, Yorkshire Luddites protesting new cloth-finishing machines by smashing them with sledgehammers, they would extrapolate from this and eagerly express their agreement and solidarity with the Luddites' "philosophy," by which they meant that they often feel too dependent on their cars or enraged at their desktop computers. This extrapolation — so evidently asymmetrical and so forced — interested me. It seemed significant that people nowadays moved so quickly from the Luddites' story to their own philosophy or lifestyle, and I began to realize that I was hearing in their excitement the power of a persistent myth. Through this myth, I came to understand, the Luddites get transformed into today's neo-Luddism — a kind of sleight-of-hand trick that conceals important shifts in meaning around the topic of technology.

The desire to connect with the past, to find lessons in history, is of course admirable, but simply leaping across the gap of two hundred years can only distort the history one seeks to understand. It's a kind of short-circuit: from them to us, then to now, mechanized loom to digital computer, more willful analogy than real historical understanding and, as I began to see, also an interesting cultural symptom. "So did the Luddites" or "just like the Luddites," so many recent explanations begin. Historical connections that seem this obvious and automatic — like the one between Luddites and neo-Luddites — often turn out to paper over a whole series of transformations and unconscious assumptions. Neo-Luddism ultimately derives from *representations of* the historical Luddites, texts and myths and legends, which are all we really have, as well as the not-always-conscious influence of those representations. Someone may have read or heard the basic plot of Charlotte Brontë's *Shirley*, say, and also read a sonnet on nature by Wordsworth, learned about agricultural enclosures and the birth of the factory system, then put that together with a phrase about "Satanic Mills" from Blake. To them, all this is bound together as "Luddism." They may have once read Mary Shelley's *Frankenstein* (or seen one of the many movies and other cultural artifacts it inspired), and applied that story metaphorically to the recent history of the mad-scientist Unabomber, Ted Kaczynski. They may even have read the historical and political interpretations of Kirkpatrick Sale (who read E. P. Thompson's social history) and have come to accept the vague collective wisdom that all of these cultural products and events have one thing in common: "the Luddite philosophy."

In connecting the dots, however, they are in fact constructing the very philosophy they claim to discover in all this "history." This book aims instead to trace the history of this history, to examine some of these popular assumptions and representations — including poetry, novels, films, works of history and popular culture — in order to look at how the idea of the Luddites has been translated over time, and in order to see what has been lost (or added) in the translation. The influence of the original Luddites is sometimes even more powerful when people have a distorted understanding of their history, what they did and what they "stood for" — which, aside from its primary political

meaning (as in "take a stand"), is also a way of saying what they *stand* for, are signs for, what they represent.

Even many self-described neo-Luddites unwittingly participate in what historian E. P. Thompson called the "enormous condescension of posterity" by confusing the Luddites with clichés associated with Romantic poetry, for example, or by giving the Luddites too little credit for helping to make their own myths. Some assume that Luddism is just another form of Romanticism, a version of the transcendental philosophy that would rise above its own times and reject "the future," projecting an alternative, utopian possibility that, paradoxically, involves a nostalgic return to an older way of life, one reconciling humanity and nature in voluntary simplicity.

This oddly philosophical, abstract view of Luddism has very little to do with the historical Luddites. It overemphasizes the Romantic idea of nature and the problem of individual consciousness (and "ideas" and "problems" in general) when the actual movement (or labor subculture) was all about anonymous, collective action. It ignores the engagement of the Luddites in the hotly contested moment of their own hard-fought history. In general, to Romanticize the Luddites is to read the modes of thought and expression associated with academic philosophy or the history of ideas back into a working-class subculture with its own, very different discursive traditions. More subtly, I think, it is to project a tone of earnest piety (which is how Romantic idealism is itself usually imagined) onto a movement rooted in a very different, very old, but highly adaptive guild-ethos, one that was often satirical and irreverent (think of the invention of "King" or "General" Ludd himself, who may very well have been named after a simpleton), violent in its rhetoric and as direct as a sledgehammer in its actions.

It's not the primary purpose of this book to correct such distortions. One point I make repeatedly in the pages that follow is how inevitable are distortions of this kind in symbolic or mythic acts of transhistorical identification. People will make what they need to make out of the mythical past. A historian might well wish to correct such distortions of hindsight, as far as this is possible. A literary and cultural critic like me, however, wants primarily to show how those distortions reveal their own meanings, and, like others who interpret dreams and visions,

wants to trace the patterns revealed in the swerves and distortions as well as in the apparently clearer memories of the past. Instead of clearing away all distortions to reveal what the Luddites really did or meant to do, I choose to ask: What do people *say* the Luddites did, and why do they say it (and then become convinced that the Luddites did it)? What have the Luddites meant to later antitechnologists and what do they continue to mean today? In the process, I hope to reveal the truly interesting and complex features of the Luddite legacy, which is too often oversimplified as a linear descent or the "inheritance" of a social or political legacy (to allude to the title of one of the Luddite novels I discuss below). The legacy of the Luddites includes our own meaningful (if not always conscious) distortions of Luddite history.

So what is the fascination of the Luddites? Why are they still remembered with such fervor? I think many people today look back to the Luddites to find what they are afraid we have lost forever. Mostly intellectuals or middle-class white-collar workers, today's neo-Luddites look to the Luddites for the moral authority of working-class experience, a grounding in material realities that seem increasingly elusive in today's alienated, technologically mediated, virtual economy. Disaffected neo-Luddites also look back to the historical Luddites to identify reassuringly clear-cut targets — machines one could still destroy with a sledgehammer — in an age of ubiquitous computing, biotech agents, micro-surveillance, and data mining, a seemingly omnipresent and increasingly autonomous, "liquid" technology. Some neo-Luddites look back to the Luddites as a model of an effective subcultural style, of a "made" identity that inspired fear and hope in a national audience long before the media age. These are causes of great anxiety for neo-Luddites: the immateriality of intellectual labor, the ubiquity and autonomy of the oppressive system, and the lack of effect on the hyper-mediated public consciousness of any appeal for change or opposition. But connecting with the original Luddites is not that simple, and often involves one of several forms of distortion.

As I have suggested, neo-Luddites often Romanticize the Luddites, one form of which is to naturalize them. Given today's concerns about the global ecology, it is common to read the original Luddites as anticipating our need to defend nature against industrial (and now

postindustrial) development. Romantic poetry written at the time of the Luddites does frequently idealize nature apart from what humanity has done to it (which is one definition of technology), and it is tempting to see the Luddites' reaction against certain developments in their trade as a reaction to the loss of nature. More generally, recent sympathizers often bring to their study of the Luddites a very modern, highly abstract concept of "technology" itself. The Luddites and their contemporaries spoke of "machinery," and the early Victorian writer, Thomas Carlyle, for example, saw it increasing its influence over everyday life. Others began to use the term to name a problem: in Victorian parlance, "the machinery question." But that was still a long way from the kind of inhuman and yet personified power often attributed to technology today. Modern technology is commonly seen as a monolithic, autonomous, and malevolent force with a life of its own. Technology serves to give a local habitation and a name to a host of modern evils (which are often enough very real). Since the mid-twentieth century, as writings by everyone from Jacques Ellul to Langdon Winner and Edward Tenner have argued and documented, we have increasingly spoken of technology as "wanting" something, as tending to "bite back" or "take over" or dominate us, of "threatening" to rule over us after the fashion of Victor Frankenstein's unfortunate creature. (Mary Shelley's novel is repeatedly cited as a prophecy of this recent condition.)

By contrast, we have to remember, the historical Luddites were themselves technologists — that is, they were skilled machinists and masters of certain specialized *technes* (including the use of huge, heavy hand shears, complicated looms, or large, table-sized cropping or weaving machines), by which they made their living. That living and their right to *their* technology was what they fought to protect, not some Romantic idyll in an imagined pretechnological nature.

Along with technology's increasing abstraction and autonomy, many today assume its ubiquity. Technology seems to be everywhere at once, pervading every aspect of life, leaving us no refuge from e-mail or voice mail — or the vague guilt that comes from not paying attention to these things even for a weekend. A side effect of this perceived increase in the autonomy and ubiquity of technology is a general anxiety and suspicion of anything technological, an anxiety that borders on a collective form

of apophenia (the tendency to see patterns everywhere), which is only one step away from paranoia.

Since the rise of what Dwight D. Eisenhower named the "military-industrial complex," and especially since Hiroshima and Nagasaki, we have lived with the feeling that technology itself (autonomous and omnipresent) is a system not to be trusted, that it is out to get us, and, concomitantly, that whatever is systematic and is out to get us is likely to be insidiously technological. Anyone who has read Thomas Pynchon's or Don DeLillo's novels or seen reruns of the *X-Files* on TV or films like *The Matrix* or *I, Robot* understands this commonplace feeling. (For many, this feeling was only ironically reinforced by events such as the tech-stock bust of spring 2000, the great North American blackout of August 2003, or the almost-weekly invasions of new computer viruses.) What is less often acknowledged is that a kind of not-fully-abandoned utopian wish for an appropriate, even benign kind of technology, a machine in the garden humans could live with, lives alongside or lies behind modern neo-Luddism and, more often than not, is the symmetrical flipside to the paranoid suspicions of the neo-Luddites. Many neo-Luddites react to the secrets and lies, the broken promises, of technological progress with the profound disappointment of the brokenhearted.

The chapters that follow focus on contemporary neo-Luddism (Chapters 1 and 7), on historical moments when Luddite or neo-Luddite myths began to be made (Chapters 2 and 6), and on readings of literary works, films, or other cultural representations of the Luddites (Chapters 3–5). Chapter 1 begins near the present, tracing some of the forms taken by neo-Luddism in the age of the tech-stock boom and bust and antiglobalization protests. In Chapter 2 I look back at the original Luddites as makers of their own myth, as those who set in motion the process of Luddite mythmaking still at work today. Chapter 3 examines the popular association between the Luddites and Romantic poetry, where the association makes a certain limited sense but where it has nonetheless created a distorting lens through which to perceive Luddism. Chapter 4 takes up the great Romantic-period work of science fiction, *Frankenstein*, and tries to explain how it has come to be read as the first Luddite novel. The chapter looks at the

ongoing reception of the Frankenstein myth alongside the Luddite myth — including in the numerous films and other popular variations on the Frankenstein story. Chapter 5 offers a practical survey of key novels about the Luddites, from Charlotte Brontë's *Shirley* to relatively obscure Victorian fiction, twentieth-century historical novels, and one "steampunk" fantasy novel. But I also include in the list Frank Peel's novelized local history and E. P. Thompson's highly influential social history, which owes something to Peel and other novelizers and has been immeasurably influential on modern ideas of the Luddites. Whether modern neo-Luddites are aware of it or not, their idea of the original Luddites has been powerfully influenced by the novelization of Luddite history.

But neo-Luddism is also a product of larger cultural shifts in the very meaning of technology, including what it means to resist it. Chapter 6 locates a crucial historical moment in the 1960s, when modern neo-Luddism surfaced from the midst of the counterculture to become a powerful and popular social attitude in the culture at large. This midcentury neo-Luddism, I suggest, was born of a deep ambivalence, beginning with a counterculture already split along the line of utopian technophilia and apocalyptic technophobia — but closely and uncertainly split along this (fine) line. Finally, in Chapter 7, I return to the recent past and the present by way of a look at the Unabomber in the 1990s and beyond — a troubling exemplar of many of the characteristics of neo-Luddism in this age of terror. It is clear that any future position against technology will take shape in an environment of potential techno-terror as well as the terrifying threats posed by technology itself.

I researched this book mostly in the traditional way, by reading and taking notes (often on a computer) in historical archives and libraries in Chicago, New York, London, Kew, and Nottingham. But research these days inevitably includes the Internet, which, as everyone likes to point out — usually in an ironic voice — is chock-full of Web pages on Luddism. As this book will make clear, this is not so surprising, since modern neo-Luddites are often fighting an idea of technology from within the information culture. I have made a point of citing relevant online resources, in part to demonstrate the role the net has played in

spreading the idea of Luddism. At any rate, the Internet was a logical place for me to look, since I was already online all the time, doing a great deal of my own work there, including various digital scholarly editing and humanities computing projects. Some of my research was conducted and my writing was done in coffee shops as I traveled or in a beach house in Florida, over a wirelessly networked laptop, a constant reminder of what is means today to be a "knowledge worker," and how different that is from the kind of work done by the original Luddites.

Sometimes while researching and writing I would take a break, close the laptop, and go for a walk. Often I'd talk to neighbors, such as my friend the retired educator and organic gardener. She loves Rachel Carson's books, monitors the population of local birds, worries about the environment, and proudly calls herself a Luddite — but, for obvious ecological reasons, also drives a complex, computerized, hybrid gas-electric car. On another walk I might drop in on another neighbor and friend, a professor who says he hates computers but of course has had to use one almost every day of his professional life. He's another self-identified Luddite, at least in certain moods, but he put in a wireless Internet connection so he can answer e-mail and conduct research while sitting in the back corner of his lavish, nineteenth-century-style perennial garden.

I don't mean to imply that these two thoughtful and ethically aware friends are being hypocritical — far from it. Many in my experience are, like them, Luddites in the philosophical sense, with strong convictions mixed with a sense of irony, who are pained by the compromising situations of modern society. In fact, as I began to suspect, their neo-Luddism is often a product of those very compromising situations, the result of being themselves deeply embedded within technology and uncomfortable about what that might mean. Like the enslaved pod-people of *The Matrix* — though somewhat less dramatically — they fear that they are being used. They engage in impassioned debate and voluntarily give up certain specific technologies — choose to do without TV or (less often, since many of them are, after all, knowledge workers) avoid computers — but they would never actually smash a machine, except perhaps as performance art. Mostly this is because they know that things are not that simple.

But I wrote Chapter 7 after talking with two antiglobalization and ecology activists. Some of the protesters in their circle may have worn "Ned Ludd Lives!" T-shirts to demonstrations, but I have absolutely no reason whatsoever to believe these two ever engaged in or condoned any sort of violence against property, whether SUVs, earth-moving equipment, power lines, or Starbucks windows. But some in their widely distributed and decentralized network may very well have at least encouraged or applauded such acts of symbolic direct action. And these two were at least at one time not necessarily opposed, in principle, to such acts.

One night at the kitchen table, one of the activists told me bluntly that if I wanted the real story on contemporary neo-Luddism I should just "write to Ted" — and it took me a startled moment to realize he meant Ted Kaczynski, the infamous Unabomber. On another occasion I noticed that his friend carried a notebook with a black-and-white sticker on it: Kaczynski's scary, bearded face (just after his arrest) looking out from beneath the words: "be like ted, just undo it!" The motto (with its ironic echo of not one but two of Nike's ad campaigns) united the Unabomber's neo-Luddism with the antiglobalization, anticapitalist movement. While I was immediately repulsed by the image of the serial killer on the idealist's sticker (and by the often simplistic justifications of the murders by the Unabomber and his apologists), I was reminded of similar, deliberately offensive gestures by punk rockers in the 1970s, the use of swastikas and images of Charles Manson, for example, and I tried to understand this identification with "Ted" in context, as a dark joke, a symbolic rallying point and, at bottom, a gesture of subcultural style meant precisely to shock middle-class liberals like me. In fact, as I discovered, some form of qualified, more or less ironic, sympathy for the Unabomber can be found among all sorts of people who identify themselves as neo-Luddites, not all of them radical anarchists. I know that my friends the ecologically mindful gardener and the anti-computer professor would be repulsed by the use of the Unabomber as an icon; but on a great deal else when it comes to technology and its evils I suspect that they and the more radical neo-Luddites displaying Ted's face would probably agree.

What about my own views on technology? Well, I do some of my work in the field of "humanities computing," as I said, and that odd, mixed term is itself a clue to my ambivalence. Most of the time, I try to respond specifically to specific technologies. A skeptic in other things as well, I tend not really to believe in a monolithic "Technology" that one must declare oneself to be for or against. Computing, for example, can be used by global corporations to exploit consumers for profit or by governments for acts of oppression. But it is also a set of tools and media networks for studying texts and other works of art and cultural artifacts in fascinating new ways. I don't mean that I think technology is essentially neutral. I don't think it's *essentially* anything. For me, technology is always a human system (not merely an inert "tool") that must be understood and confronted in specific human contexts: it includes not just operators but owners, shapers, programmers, and participants. Self-conscious and knowledgeable participants are better.

My own work is deeply networked, and I think it's important for humanists and artists and scholars to claim space within the network and help to shape it to humane ends. I mentioned my work editing digital texts, and this means that I collaborate online via e-mail and videoconferences daily or weekly. I serve on the boards of several digital projects in the humanities, which involves marking up literary texts for digital processing, carrying on e-mail discussions (and sometimes having real meetings), writing papers, and giving demonstrations about all of this, which I see as important, valuable work. Computing in general, and the Internet in particular, are changing literary and cultural studies in many positive ways, making possible new ways of producing and disseminating knowledge, introducing new forms of classroom teaching and student research, and offering one way to respond to a crisis in academic publishing by moving more scholarship online, to name just a few examples. So, yes, I have a professional investment in a generally positive view of at least information technology, which I see mostly in terms of its potential for communication and collaboration, but also for new ways of archiving, distributing, and analyzing our cultural heritage. I try to maintain a wary skepticism, however, about other ends that might be derived from the same technological means, and about ways the humanities might be absorbed into the larger information economy.

As I've indicated, I wrote this book in the typical twenty-first-century way, in various locations on a wirelessly connected laptop computer, in my case a battered, aluminum-skinned, Apple PowerBook, toward which I feel the usual Mac-user's not-quite-rational affection (but that's another topic). I like to think that the result of my double engagements, with Romantic literature and technology — which is to say the stuff of the present book — is more than a reflection of my own complicated ambivalence, but I know it is in part inevitably just that.

I hope to capitalize on that situation in the chapters that follow. I strongly suspect that my interested ambivalence isn't unique to me, that a similar ambivalence (if with a different emphasis) lies at the heart of a great deal of recent neo-Luddism as well as recent technophilia. I am not a Luddite. But I know where my neo-Luddite friends and acquaintances are coming from. I, too, am worried about the consequences of some technological experiments and believe I see through most forms of market-driven techno-hype. I share some of the neo-Luddites' political views and get their jokes, and to some degree I share their larger concerns. I like going offline sometimes, and I really, really hate it when people talk on cell phones at the beach. More seriously, I oppose shortsighted exploitation of the environment (drilling for oil in the Alaska wilderness, for example), much of which is driven by the larger petrochemical economy. With Amory Lovins and some others, however, I think that certain strategic technologies may be the best hope for offsetting some of this environmental damage. All in all, my ambivalence toward technology is on most days somewhat hopefully inflected. I think the problems we face — many of which are indeed bound up with specific technologies and their applications — will not be solved by recourse to a mystified idea of a disembodied and all-powerful enemy called Technology. I think we can learn something from the typical "white-hat" (nonsabotaging) computer hacker's demystifying attitude toward large systems. They are not really monolithic and all-powerful, once you get your hands on them. In the end I believe in mindfully engaging and reengineering specific technologies rather than renouncing Technology as a whole.

This general attitude toward technology, I think, I got in part from my great-grandfather. Whether or not I inherited it from him

genetically, I certainly did culturally — by way of family history and legend. He was an itinerant schoolteacher and a socialist, a union organizer among the coal miners of rural southeastern Oklahoma. I've heard many stories (no doubt including multilayered embellishments) about the dark-lantern rallies held in his front yard, marches on Washington he joined, strikes and work actions he helped organize against the mine owners, whose technology included as many "hands" as the machinery required (and no more). He was adamantly opposed to technological "progress" and profit at the expense of these workers' jobs (and lives). His favorite poem was Oliver Goldsmith's 1770 "Deserted Village," a nostalgic portrait of a fictional English village suffering changes, some of which are brought about by industrialization. I have his copy (a cheap New York pamphlet version from 1890), which I use in the classroom when I teach the poem, often alongside Luddite ballads such as "General Ludd's Triumph."

The thing is that my autodidact great-grandfather was also famous in his rural county as a tinkerer and inventor. He always had automatic washing machines and perpetual motion machines half-assembled in his shed. He liked to master machinery by taking it apart, was a familiar kind of do-it-yourself technologist who distrusts authority but thinks he can make something humanly useful out of technology, especially if he "repurposes" it. In other words, to commit a deliberate anachronism, my great-grandfather was a geek.

Anyway, that's how I choose to understand him. I don't mean to commit the same error I've attributed to some neo-Luddites, to find in 1920s and '30s Oklahoma a simple mirror of my own attitudes toward technology. I know there are vast and significant differences between those coal mines and the outsourced call center in Bangalore that I may well have phoned this morning, between his Rube Goldberg machines and the networked PowerBook on which I am writing these words. On the other hand, the differences are not entirely immeasurable, and they are probably worth the effort of measuring. It's the complexity and engagement of his attitude that I find useful as a positive example in my great-grandfather's life, his hands-on, engaged ambivalence toward technology. This seems to me a fruitful place from which to begin pursuing the important questions of who owns and uses specific

technologies and for what particular ends — which are I think the real problems of technology in the twenty-first century. So this book is dedicated to the example set by my great-grandfather — or at least by his story, his legend, as it has been told to me.

Chapter 1

The Boom, the Bust, and Neo-Luddites in the 1990s

It is universally acknowledged that we live in the most technological age in history — because, it is widely believed, technology has become universal. Embodied in the Internet and bound up with the system of global capital, technology is now everywhere from San Jose to Tokyo, Bangalore to Helsinki, London to New York. How is it possible in the face of such an unprecedented and ubiquitous force to be "against" technology? What does it mean even to imagine such a position, to call yourself a Luddite at this late date in the history of technological society?

For one thing, it means you're a *neo*-Luddite, someone whose choice of philosophy or lifestyle is a deliberately symbolic act, a back-formation based on the received idea of a historical labor movement. This book is about that process — the making of modern neo-Luddism out of the historical legacy of the Luddites. It begins with the original British Luddites of 1811 to 1816, who created a myth (of Ned Ludd) and then became themselves mythologized, ultimately inspiring a very different modern phenomenon, the philosophy of neo-Luddism, an idea that has flourished in America in particular. The differences between the original Luddites and today's neo-Luddism are greater than most neo-Luddites have acknowledged, and understanding those differences is crucial if we are to understand our complicated relationship to technology. My purpose is to trace the process of historical reception and distortion by which the Luddites — whose community-based actions targeted unfair labor practices — became neo-Luddism, a personal philosophy pitted against technology as an abstract force.

The book's scope is basically transatlantic. Although forms of neo-Luddism may appear anywhere in the world that technology has taken hold, for practical reasons I examine only British and American culture. I am aware that a great deal more could be said about resistance to technology in other contexts (especially in Asian contexts, for example). But my focus is on the reception history of explicit neo-Luddism, as it were, on how the Luddite name was adopted and reinterpreted, from England in 1811 to America today. Along the way I gather evidence from a wide range of cultural phenomena — poetry, novels, movies, plays, and newspaper columns, but also historical events, protest demonstrations, speeches, and subcultural styles — in short, anything that reflects (or refracts) the image of the Luddites. That image is my focus. My aim is to understand where we are now by looking at how we got here.

The 1990s Moment of Neo-Luddism

So where are we now when it comes to technology? In many ways, we are still living in the aftermath of the great Internet bubble with which the twentieth century ended. It may seem like a relatively quiet aftermath. Technology IPOs may have lost their mystique, but in the years since the bust, the idea of technology has not ceased to dominate

the culture; on the contrary, it has settled in as a primary fact of life. There is now less obsessive talk about the technological future, because in many ways *that* future is already here, more or less, and has become a matter of regular press releases from product development offices and laboratories about the latest version of whatever many of us are already using in our daily lives.

But back in the mid-1990s, during the run-up to the boom, futures (in more than one sense) fueled both the stock market and (thanks to the media) the public imagination. Expectations were inflated right up until the boom was revealed to be a bubble. Those heightened expectations affected more than the market; they altered the collective mood of the culture. When you think about it, the techno-optimism of the 1990s now seems very strange, as if it happened to some other culture, a long time ago. It may take a special effort to remember how almost any new technology was instantly marketed as a prophetic event. For a time, the ironic term "vaporware" carried almost exclusively positive connotations. It was exciting *because* it was immaterial, just talk or whiteboard sketches. The mere idea of new technology not yet realized — in fact, so much the better if it was not yet realized — attracted venture capital. Even speculative information about new technology, the information about information, was treated as an important form of social capital, and the Internet was understood as the ubiquitous arena where it all played out, and as a synecdoche for global technology.[1]

Late in the decade things accelerated exponentially and even many former curmudgeons or skeptics felt compelled to "get online." As everyone knows, that phrase meant something like "get with the program" or "get onboard." In America it has always been easy to confuse the marketplace with the "marketplace of ideas," and to believe that the capital of new technologies can be leveraged to reinvent the world. Being online in the 1990s involved buying stock in technology companies. Those truly in the know had (stock) options and actually referred to themselves as the "digerati" or "true believers." Their techno-optimism as much as their technical skill set defined them as being among the truly cool. Full members of the club were said to have been "drinking the Koolaid," an ironic reference either to

the 1960s (LSD-laced punch) or to the 1970s (cyanide that killed deluded cult members), depending on your point of view.

In the midst of all this speculation and hype, just when it might have seemed that resistance was futile, a relatively small number of authors, activists, journalists, and pundits began perversely to identify themselves as Luddites or (often interchangeably) neo-Luddites. They published books and articles, held meetings, and formed into loosely overlapping coalitions that some called a movement. They claimed as their ancestors a number of earlier intellectuals who had promoted simplicity and ecology but also those textile workers in England in 1811 who first invented Ned Ludd as their mythical leader. The press treated them sometimes as a fascinating curiosity, sometimes as a movement worth watching, and more often merely as an amusing headline: "Luddites in the 1990s!"

A few years later, of course, the tech bubble burst and a kind of penitence spread among the formerly wired. By spring 2001, the idea of traditional manufacturing, "bricks and mortar," again possessed an aura of respectability in investing circles, as if a return to rock-hard material reality could restore reason and balance to the culture. Never mind that technology companies — especially the large, established ones that had survived — continued to flourish and be taken as general economic indicators. Never mind that the downsizing that then took over was in most cases dependent on technological "solutions" to replace the redundant workers. The popular idea was that the great build-up was over for now. To many, technological skepticism in the new millennium seemed a necessary tonic, a karmic as well as economic compensation, like going to church the morning after a binge. Some degree of Luddism, mixed with equal doses of irony and schadenfreude, served — to use the language of the markets — as a "necessary correction."

Within a few years, the correction corrected itself, to a degree. People began to buy new gadgets, if more modest ones (camera-phones or elegant iPods instead of flashy multimedia workstations), and even, cautiously, to invest again in tech stocks and to talk about the comeback of Silicon Valley. Google was in the news as an exemplary survivor with its own IPO. The prices of technology stocks across the board began to

ease back up. In December 2003, a U.N.-sponsored technology conference resumed discussion of what had been an urgent agenda of the 1990s — how to wire the remaining roughly 90 percent of the world's population still without Internet access. And of course the marketing continued apace into the new century, a series of products that became buzzwords signifying both investment and consumer appeal: WiFi, Blackberries, text messaging, voice over Internet, video games on an array of platforms, TiVo, iPods, digital cameras, and camera-phones, Weblogs and podcasts, Amazon and e-Bay, and Google's latest data-mining applications.

The moment of neo-Luddism's emergence, however, of its most intense self-representations, took place at the height of the boom years. The timing is not as surprising as it appeared to many observers at the time. The boom was based largely on a collective ideation (you might say hallucination) about the infinite power of technology ("You will," one ad campaign promised vaguely). Yes, companies did lay miles of fiber-optic cable (some of it even now going unused), and they did hire programmers and create new Web sites and software applications, but it was the abstract idea of technology as an autonomous, inevitable force, as much as it was actual applications, that fueled the economic and cultural effects of the boom. High neo-Luddism was the negatively inflected mirror image of this ideation: It too was based on the idea that technology is a powerful, autonomous, inevitable force — but in this case, a force for destruction and the diminishment of humanity. Neo-Luddism was the resistance that gave the "future" its traction. If it hadn't existed, the technophiles would have had to invent it.

Under the surface, the general reaction against the technology juggernaut was more widespread than can be measured by the columns and books and lectures of a handful of neo-Luddite authors. But those authors did provide the public voice of neo-Luddism, a self-conscious, self-styled resistance movement constructed in part out of selected and reprocessed historical facts and legends about the original Luddites. Much of the neo-Luddism of the 1990s was inspired by one book and its author: Kirkpatrick Sale's *Rebels Against the Future* (1995) became a source of quotations and a rallying point for activists, because it explicitly connected late twentieth-century antitechnology sentiments to a

legendary "origin": the Luddites of 1811.[2] The book is divided into two parts: Historical Luddism and neo-Luddism, and its argument for continuity of philosophy and political purpose is implicit in that structure. It is a critique of global capitalism aimed at its cornerstone: the ideology of technological progress, which it sees as essentially unchanged since the eighteenth-century industrial era. Sale's second subtitle is *Lessons for the Computer Age*. His public readings and lectures in support of the book opened with a theatrical gesture as he smashed a beige personal computer with a large sledgehammer, splintering the plastic case and CRT monitor to enthusiastic applause.

Other neo-Luddites — Sven Birkerts, David Noble, Clifford Stoll, Theodore Roszak, and Neil Postman — to varying degrees shared with Sale the basic outlook of neo-Luddism. They wrote against computers, the Internet, and the spread of hypertext browsing versus traditional reading, the supposed "death of the book." Threats to the environment posed by technology were the chief topic of Chellis Glendenning, John Zerzan, and other green or anarchist neo-Luddites.[3] Neo-Luddism included a wide range of the technologically disaffected, an affinity group that looked for a few years like an emergent movement. But the most active promoters of the name itself and the myth of continuity with Luddism were part of the larger antiglobalization movement that reached its peak at the same moment in the mid-to-late 1990s.

Ned Ludd and the Anti-Globalization Movement

The writer Edward Tenner aptly sums up the shift from the original historical Luddism to recent neo-Luddism as "the indignation of nineteenth century producers" being replaced by "the irritation of late-twentieth-century consumers."[4] Neo-Luddism is largely a concerned consumer's response to the modern global marketplace, and it came to the public's attention just as the first demonstrations of the antiglobalization movement were being televised. This movement began as a loose coalition of "green" (ecology activists), "red" (leftists), and "black" (anarchists), but there seem to have been some self-identified neo-Luddites in many of these groups and all of them identified Western technology as both cause and effect of the global dominance of capitalism.

A recent novel by Robert Newman, *The Fountain at the Center of the World*, effectively captures the ideological conflict of the 1990s over the connection between technology and world capital.[5] The author was in real life an activist with Reclaim the Streets and Earth First!, among other groups. His book tells the improbable, Dickensian story of two brothers born in Mexico and separated at birth. One becomes a radical saboteur and the other becomes a public relations consultant for corporations. Their paths cross, portentously enough, in Seattle, during the first major street protests against the World Trade Organization in 1999. The activist brother, Chano, bombs a pipeline belonging to a chemical company operating in Mexico, following a debate on the strategy of sabotage versus the nonviolent strategy of "speaking truth to power" (14).

On the other side, the corporate consultant, Evan, uses technology as a diversion from the ideological conquests of capitalism:

> In our countries we just have to depoliticize. We make it a technical question, the great science problem of our time which, as it happens, Company X is closest in the world to solving, so just get out of its way. (71)

A brutal policeman in Mexico sees eye to eye with Evan and refers to the protesters as motivated by "Fear of the modern world, fear of change, fear of technology" (104). When one of the protesters in Seattle argues that "all the different issues *are* all part of the one issue" — the global dominance of capitalism — his detailed analysis of the interconnected ownership of corporate conglomerates is edited down by the TV news to a human-interest sound bite about the Red Monarch butterfly and genetically-modified crops, falsely representing him as a single-issue "green" (296–97). The neo-Luddite resistance against technology, the novel suggests, takes place in a larger context in which technology promotes global capital at the expense of nature as well as local human culture. Significantly, both sides assume that technology is the overarching force that makes possible the empire of capital.

This novel is based on the fact that the antitechnology worldview was at the center of the antiglobalization movement of the 1990s. Neo-Luddite writers and activists set out deliberately to make it so, to connect with the young and relatively unfocused protest movement,

aiming to make philosophical resistance to technology one of the key planks in its emerging anticapital platform.

In April 1996, the widely publicized "Second Luddite Congress" met in Ohio. The first Luddite congress was presumably some meeting of the original Luddites in 1811, but this was just a convenient fiction, retroactively created as it were out of the need for such an origin. The 1996 meeting was organized by the Quaker Center for Plain Living and the Foundation for Deep Ecology in San Francisco, which had earlier (in 1993) sponsored a neo-Luddite group of writers and intellectuals under the direction of Helena Norberg-Hodge and Jerry Mander and inspired by a neo-Luddite treatise published as far back as the March 1990 *Utne Reader*, Chellis Glendenning's "Notes toward a Neo-Luddite Manifesto." Glendenning dramatically declared: "Like the early Luddites, we too are a desperate people seeking to protect the livelihoods, communities, and families we love, which lie on the verge of extinction." Glendenning's piece conveys a sense of desperation, a distrust of anything technological, and an almost theological belief that technology was already everywhere, along with an emotional, symbolic identification with the historical Luddites ("we too"). Neo-Luddism, Glendenning says, will be a "leaderless movement of passive resistance to consumerism and the increasingly bizarre and frightening technologies of the Computer Age."[6] Therein lie key characteristics of 1990s neo-Luddism, features that differentiate it from the Luddism of 1811: passive resistance, consumerism, and an almost paranoid response to technology as a "bizarre and frightening" force.[7]

The Second Luddite Congress explicitly took up Glendenning's charge. Its general topic, "The Second Industrial Revolution," already indicated how neo-Luddism intended to build on a partly constructed historical precedent ("we too"). Kirkpatrick Sale addressed the Congress, reportedly opening this time not with his sledgehammer but with a vivid bit of storytelling:

> In April 1812, General Ned Ludd looked across the face of England and saw, with sorrowing heart, the desperate, dire condition to which the onrushing Industrial Revolution had reduced those weavers and combers, those finishers and dyers, whose leader and whose mythical creation — he was.[8]

The whole scene, like the first Luddite congress, is openly imaginary ("whose mythical creation — he was"). The passage reads like the dialogue in a certain kind of historical fiction, where the author imagines what was said on the battlefield or in bed by more or less famous figures long dead. In Chapter 5, I cite examples of this kind of writing in actual novels (and histories) about the Luddites.

As Sale knows, almost certainly a single historical General Ned Ludd never existed. Instead, Ludd was a potent collective fiction that named a movement and united the Luddites, though some at the time, government officials — mill owners, spies — did mistake the fiction for a real revolutionary leader, just as the Luddites surely intended. Most of all, especially in Nottinghamshire and Yorkshire, where Luddism began, General Ludd was a name to conjure with. But, as Kevin Binfield has cogently demonstrated, Luddism varied regionally in its use of the central eponymous symbol.[9] In Lancashire, for example, and especially the Manchester region, Ludd was a kind of out-of-towner, an imported symbol who functioned more artificially as a device to unite the diverse interests of spinners, colliers, and other workers with those of Jacobins and radical reformers already active in the area. In Nottingham, by contrast, where Ned Ludd was "born," a customary labor culture was already in place, a local subculture out of which he arose "organically" as a name for the movement. In Manchester, however, Ned Ludd functioned more like a "metonym," an imported figure that the local Luddites, mostly cotton weavers, used to unify their cause (Binfield, *Writings*, 46–47).

Kirkpatrick Sale's attempt to revive Ned Ludd in the 1990s in one sense merely extends this kind of rhetorical tradition, especially as it developed in the secondary wave of Luddism in the cotton districts. Nineteenth-century Manchester, with its relatively diverse and rootless new industrial society, was perhaps more like many modern neo-Luddites' own cultural contexts than was the guild-based customary labor subculture of the Nottingham weavers. For Sale, as for many Manchester radicals in the time of Luddism, the goal was to unite disparate interests under a single banner. Sale's rhetoric in the speech reveals, as it enacts by expressing, the unifying goal of "restoring Ned Ludd to life again," as a symbol and an imaginary comrade in arms.

Neo-Luddism came to life in the late 1990s, the collective creation of a group of activists, writers, and journalists. Its focus was on a particular version of the past, on an elegiac gesture of solidarity with long-dead workers (who were often treated as noble historical losers), a lost way of life, and their quixotic, imaginary leader. Modern neo-Luddism was born in anticipatory regret and resentment, with a doomed sense of championing a lost cause. To some degree it was (literally) an antitechnology philosophy in search of a political movement to which it could become attached.

One 1998 article demonstrates this neo-Luddite desire for a movement worthy of its philosophy. It attacks modern "Technolatry," and optimistically describes a growing coalition of grassroots organizations. Though it cannot give an exact number of neo-Luddites, the article estimates that the numbers are growing and amount to a movement based in local grassroots organizations with a "Luddite feel," including "homeschooling networks, watch groups protecting specific bits of wilderness or common land, activist groups confronting specific cases of industrial damage, communal gardening, and farm markets."[10]

Not every neo-Luddite would wish to be grouped with the Christian home-schooling movement, but the populist, Libertarian bent and general cultural conservatism of this list is a reminder that the antitechnology philosophy makes strange bedfellows. Neo-Luddism seemed for a time almost capable of bringing together anticapitalist anarchists with neoconservative cultural critics and radical deep ecologists.

Five years later, a year after the stock market crash, the International Forum on Globalization held a conference at Hunter College in New York (February 24, 2001), a "Teach-in on Technology and Globalization." The conference brought together the antiglobalization protest movement with what its organizer, the author Jerry Mander, called "the leading critics of technologies, luddites if you will."[11] Activists shared the program with neo-Luddite authors such as Kirkpatrick Sale and Jeremy Rifkin. Speakers addressed the threat posed by the Internet, "Frankenfood" (genetically modified crops or organisms, "GMO"s), genetic engineering, nanotechnology, micromachinery, molecular computing, and the danger of runaway self-replication — "gray goo."

The IFG conference began where the Second Luddite Congress left off and attempted to create an affinity group across the boundaries of various activist organizations. Sale's 1995 *Rebels Against the Future* had claimed to notice a growing neo-Luddism, which it said

> seems capable of developing along more self-conscious lines in the years ahead, particularly as the kinds of tenuous links now being made among previously separate groups grow stronger and as the sorts of issues once regarded as distinct — biotechnology and free trade, clear-cutting and tribal extinction — are increasingly seen as parts of the same rough beast. (259)

The revenant General Ned Ludd, raised from the dead in 1995 to '96, was called on to serve as the presiding spirit of the New York meeting in 2001.

Green Ludd

Ecology groups participating in the antiglobalization coalition, such as Earth First! and the (perhaps affiliated) Earth Liberation Front (ELF), had already for years identified themselves as neo-Luddites, a shared secret handshake or inside joke among members of the resistance movement. Earth First! published books under the imprint Ned Ludd Books and sold T-shirts reading "Ned Ludd Lives!" The *Earth First! Journal* ran for years a column titled "Dear Ned Ludd," which offered nuts-and-bolts, how-to advice on eco-sabotage. A compilation was published in book form as *Ecodefense: A Field Guide to Monkeywrenching*, with a preface by Edward Abbey. The disclaimer on the Webpage says that the column serves only as "a forum for discussion of creative and diverse means to effectively defend the Earth." [12]

> Neither the EF! movement nor the Earth First! Journal, nor any of our friends, family, neighbors, lovers or pets necessarily encourage anyone to do the things discussed on this page, and the contents should not be legally construed as anything other than mindless entertainment. Please write to Ned via the EF!J with your top tips on ecodefense.

Despite the disclaimers, the column offers direct advice. To one correspondent upset about genetic engineering and asking what could be done, "Ned" responds,

> Dear Franklin P., I think I know what you mean. It's pretty upsetting to read about how these fascist doctors are creating glow-in-the-dark monkeys and super-trees that can withstand massive doses of Monsanto's Roundup. As you know, arson was a favorite tactic of mine along with equipment sabotage when our merry band struggled against the Industrial Revolution in England. . . .

The columnist refers to the political and ethical questions surrounding arson, citing the ELF attacks on Vail, Colorado, as an example, but nevertheless ends by directing Franklin P. to online information on how to make an incendiary device.

Just before Thanksgiving 1998 near Berkeley, a group calling itself the "California Croppers" posted a warning flyer, then held a rowdy football game in the Gill Tract gardens owned by the University of California, wiping out a patch of genetically engineered corn. The activists' press release said the game was an ironic "welcome-wagon gesture" aimed at the biotech firm Novartis, which had just signed a multimillion-dollar research contract with the university.

> the Croppers would like to make it clear to Novartis that we will take similar actions against any future biotech experiments. Don't let our unseriousness make you think this isn't serious: the security of the world's food supply is at stake. Giant corporations have set mad scientists loose upon the world, and as responsible citizens and farmers, we have no choice but to stop them. . . .[13]

The satirical yet threatening press release was signed "Captain Swing," the name of another mythical figure, the immediate descendant as it were of General Ludd, the symbolic leader of agricultural protestors and incendiaries in England during the Swing riots of the 1830s. A letter from the original Captain Swing, sent to nineteenth-century farmers who were using a new kind of threshing machine, combines direct threat with mythic authority:

> This is to inform you what you have to undergo. Gentlemen if providing you don't pull down your meshenes and rise the poor mens wages the maried men give tow and six pence a day a day the singel tow shillings. or we will burn down your barns and you in them this is the last notis
>
> From Swing[14]

Putting the two letters together highlights key differences between Luddites then and now across a gap of almost two hundred years and widely divergent cultural contexts. For example, whoever they are, the mysterious California Croppers are clearly not agricultural laborers. There is no direct demand for higher wages (or in fact any direct link to the issue of jobs). Also, the 1998 incarnation of Swing appears to have more formal education than his/her namesake (who was probably the creation of semi-literate farm workers), including some knowledge of nineteenth-century British history — at least the legendary history of the original Captain Swing.

That name Swing is a powerful allusion, for anyone who gets it. The intended primary audience of these letters and target of their actions is not made up of laborers and farmers, but is those who are "invested" in technology, either financially or professionally. The California Croppers are mostly speaking to the genetics researchers and officials at Berkeley and at Novartis. To achieve an ironic yet ominous effect (unserious seriousness), the Croppers deliberately align themselves with the historical legacy of agricultural protest. Among other things, this establishes their own wit and implicit right to the tradition. The name Croppers is another significant secondary historical allusion — in this case a pun — referring to the crops they threaten to destroy or "crop" from experimental fields, as well as identifying with the nineteenth-century textile workers, croppers (cutters or finishers of large pieces of cloth) in Yorkshire especially, who were among the original Luddites.

The neo-Luddite Croppers continued to apply pressure by publishing more threatening letters. This one, for instance:

> As for the security measures taken at Gill Tract, good luck! You cannot stop a determined group of people (elves? knomes?) from ridding their community of this menace. Continue to plant genetically

> engineered crops and take money from multinational companies and the results will be predictable.[15]

The Croppers aimed to remake a myth in order to make a difference. A game of football: What could be more harmless and communal? In the context of the agricultural Swing riots, the anti-GMO football even invoked old-fashioned sports on the village common, communal play in the preindustrial era. Canny political theater, playful seriousness, this is a teasing game of threatening more violence against property, a standard tactic in today's mediagenic protests. The Croppers and probably overlapping groups of eco-activists working under other clever names, the Lodi Loppers, the Cropatistas, the Minnesota Bolt Weevils, and the Seeds of Resistance, see themselves as within the Luddite tradition.[16] From the original Luddites they take the idea of direct physical action *as* symbolism, and for them this includes games of language, disguises, and shifting identities.

Antiglobalization, Antitechnology

Speakers at the 2001 IFG conference included Kirkpatrick Sale, Jeremy Rifkin, and Langdon Winner. Stephanie Mills opened the first session by listing the alarming signs of an ecological extinction crisis and regretting the pace with which new technologies were being introduced without precaution. "No wonder there are Luddites still among us," she remarked. Mills also cited a cautionary article recently published in *Wired* magazine by Bill Joy, cofounder and Chief Scientist of Sun Microsystems (an article I'll come back to below). She endorsed Joy's dystopian projections and joined his call for voluntary relinquishment of certain dangerous technologies, especially nanotechnology and bioengineering.

Mills introduced Kirkpatrick Sale with a joke about his recent "off-Broadway debut in the role of Ned Ludd" — referring to his computer-smashing act. Sale said that he had not brought his sledgehammer but that he would be talking about technology. He described the unintended economic and political consequences of Fulton's steamboat technology in nineteenth-century America, concluding with a parody of the peroration of the *Communist Manifesto* (with Marx's "chains" turned into personal computers): "all you have to lose are your boxes,

the boxes on your desks, in your offices, in your laps. For they are all, as we now know, Pandora's boxes." The shift is telling: from proletarian workers shaking off the chains of capitalism — in Marx's terms the revolutionary overthrow of "all existing social conditions" — to mostly white-collar knowledge workers giving up (or refusing to open) their computers ("Pandora's boxes").

These conferees were defiantly proud of their Luddism at a moment when the term "Luddite" was more often heard as an insult. At a conference of the Liberal Democratic Party in England, a prospective parliamentary candidate attacked the anti-GMO lobby and its "tabloid hysteria and cynical populism" driven by "the reborn Luddite movement."[17] Robert Shapiro, CEO of Monsanto, said in February 2000 that the anti-GMO protestors were know-nothings and — what was worse — anticapitalists.

> Those of us in the Industry can take comfort of a sort from such obvious Luddism. After all, we're the technical experts. We know we're right. The "antis" obviously don't really understand the science, and are just as obviously pushing a hidden agenda — probably to destroy capitalism.[18]

In January 2001, at the World Economic Forum in Davos, Switzerland, ICC President Richard D. McCormick scornfully referred to anti-globalization protestors as "modern-day Luddites who want to make the world safe for stagnation."[19]

Fernando Henrique Cardoso, President of Brazil, drew the familiar historical parallel between the original Luddites and demonstrators in Pôrto Alegre (who had attacked a Monsanto seed plant): "You can't just smash machines. It doesn't make sense. Imagining that you can turn the clock back in the world, stopping telecommunication and rapid financial information — that's not possible."[20] In response, the U.S. Secretary of Interior Bruce Babbitt counseled openness:

> When thousands of young Americans and people around the world gather in the streets, it's an enormous mistake to dismiss them as a group of overindulgent, dissatisfied technological Luddites who ought to be disregarded. That cry is a voice of skepticism about the hubris of modern technology, about science, and other forms of globalization.[21]

The antiglobalization movement was noticeably muted after the terrorist attacks of September 11, 2001. The attacks of that morning were figured by the terrorists as part of a parallel campaign against American global hegemony, and this put the movement in an awkward rhetorical position. In the ensuing "war on terror" members of al-Qaeda were often represented as Luddites (they were literally living in caves in Afghanistan at the time), just as the legitimate antiglobalist protesters had often been in previous years. The conservative consultant George Gilder, who had boosted the Internet in the 1990s, referred to the terrorists as "Osama Bin Luddites" and suggested that it was American technology that was under attack:

> The Bin Luddites could no more build a 767 — much less a World Trade Center, or even a flashlight — than they can feed (never mind, free) the oppressed masses whose interests they claim to advance. But armed with hijacked technologies and apocalyptic grudges, they pose a devastating menace to all civilization.[22]

This was written in the heat of the moment. But its rhetoric is very strange indeed, its naming of fundamentalist religious terrorists after nineteenth-century working-class saboteurs, a comparison that unintentionally lends undeserved moral authority to al-Qaeda. The column is, however, further evidence of the emotional charge carried by the recognition that technology is a major force behind capital, as well as a symbolic token of American-identified "civilization" and power.

There is one demonstrable historical connection between original Luddism and the antiglobalization movement, one reason the gesture of solidarity across the intervening centuries makes political sense for the neo-Luddites. Like other militant trade movements in the nineteenth century, certain groups of the original Luddites did situate their machine breaking in a larger discursive and political context of radicalism.[23] Some openly fought against what they perceived as a larger economic system (Binfield, *Writings*, 40), a laissez-faire philosophy lying behind "free trade" during the Napoleonic wars.

> What was at issue was the "freedom" of the capitalist to destroy the customs of the trade, whether by new machinery, by the factory-system, or by an un-restricted competition, beating-down wages, undercutting his rivals, and undermining standards of craftsmanship.[24]

Though the contexts have radically changed — from early-nineteenth-century Britain to early-twenty-first century global capitalism — proponents of free trade today might with good reason, at least by way of historical analogy, refer to those who would restrict the freedom of technologized capital in the global marketplace as Luddites. Conversely, many neo-Luddites in this age of global capital, especially those coming out of left-activist or socialist traditions, might well counter by identifying with those early fair-trade activists, by naming themselves Luddites. In one sense this appropriation of Luddism by the antiglobalism movement is merely a continuation of the dispersal and inevitable abstraction of the figure of Ned Ludd. Invented in Nottinghamshire and perhaps Yorkshire, he was then imported and adopted by Lancashire and the Northwest, where a new-model Ludd served to unite disparate material interests against a ubiquitous, remote, hierarchical economic force. Twenty-first century global capital is of course an exponentially more ubiquitous and remote-seeming economic force.

Ned Ludd vs. Bill Gates

Kirkpatrick Sale's substitution of "boxes" for chains is a significant feature of neo-Luddism. Today, for symbolic purposes, computers *are* technology. On the economic front of technology development, Microsoft's Chairman Bill Gates has characterized any resistance to software-driven commerce as Luddism. During the highly publicized antitrust hearings, on Tuesday, October 20, 1998, the technology company's lead attorney issued this summary statement:

> We firmly believe the Court will conclude, after hearing all the evidence, that this is not really an antitrust case, but a return of the Luddites, the 19th Century reactionaries, who, fearful of competition, went around smashing machines with sledgehammers to arrest the march of progress driven by science and technology. [25]

Put aside for the moment this characterization of the historical Luddites as antiprogress, antimachinery "reactionaries" (I'll address that history in the next chapter). Consider the strangeness of comparing the U.S. government to nineteenth-century working-class radical activists. In

the tech-mad climate of 1998 Microsoft could assume that the term Luddite would count as a profound insult.

It's patently absurd to refer to Netscape and the rest of Microsoft's technological competition as Luddites, but it is in keeping with Bill Gates's own faith in technology and the inevitability of progress. In his 1995 bestseller, *The Road Ahead*, he declared, "One thing is clear":

> We don't have the option of turning away from the future. No one gets to vote on whether technology is going to change our lives. No one can stop productive change in the long run because the marketplace inexorably embraces it.[26]

Resistance is futile, and, besides, "[b]y and large, technology is a positive force that can help us solve even our most vexing potential problems. Frankly, I'm surprised by the pessimism many people feel about the future" (291). According to Gates, such pessimists (he doesn't come right out and call them "Luddites" in the book) simply don't get it.

In a 1995 magazine interview in support of the book, Gates essentially called his interviewer a Luddite, foreshadowing his acerbic reactions to the judge during the later antitrust trial.[27]

> *Interviewer*: Oh, my God. I always get mad at my computer if MS Word swallows the page numbers of a document which I printed a couple of times with page numbers. If I complain to anybody they say "Well, upgrade from version 5.11 to 6.0."
>
> *Gates*: No! If you really think there's a bug you should report a bug. Maybe you're not using it properly. Have you ever considered that?
>
> *Interviewer*: Yeah, I did . . .
>
> *Gates*: It turns out Luddites don't know how to use software properly, so you should look into that. —The reason we come up with new versions is not to fix bugs. It's absolutely not. It's the stupidest reason to buy a new version I ever heard.

Gates ignores the fact that it was other people (perhaps Microsoft support staff) who told the interviewer to upgrade to a new operating system. The interviewer obviously hit a nerve. But what really seems to

have set the chairman off is the opening confession: "I always get mad at my computer." For Gates, hostility to computers equals Luddism, and Luddites are techno-pessimists, inept "reactionaries," enemies of progress. The computerized global economy, which according to its proponents "wants" to be "frictionless," is now the backdrop against which modern neo-Luddism must imagine a position against technology.

Bill Joy's Epiphany

The use of "Luddite" as a synonym for "technophobe," or even "anti-computer," is a defensive reflex built into today's technology-based business culture. This means that any defection from this culture counts as news worth reporting. Thus it was with Bill Joy, a former head scientist at Sun Microsystems, prophetic voice in the wilderness, and most recently venture capitalist. His essay in *Wired* magazine for April 2000, the one cited by Stephanie Mills at the IFG teach-in and by countless neo-Luddites after its appearance, was lavishly photo-illustrated, the first illustration a stark, full-page photograph of the author theatrically dressed in black against an all-black backdrop.[28] What followed in the article was a personal confession.

In it Joy considers fundamental ethical questions surrounding the convergence of artificial intelligence and robotics, nanotechnology, and biotechnology, what he sees as the deadly combination of self-replicating mechanisms and "knowledge-enabled mass destruction" by techno-terrorists. The timing of its publication, in April 2000, could not have been entirely deliberate, but it only added to the attention the piece received. The essay was being read while the stocks were still falling, and in the months following publication, the collapse of the tech-stock bubble was constantly in the news — and Joy was widely quoted and interviewed. In that larger economic context, "Why the Future Doesn't Need Us" served as a therapeutic airing of anxieties at the moment the nation's technological optimism failed.

Joy opens with a revealing anecdote, like the personal stories executives like to tell at the beginning of their presentations. But this story sounds a lot like other famous examples from history and literature — from St. Augustine to Dante to Rousseau — in which reading a sacred or profane text leads to a sudden conversion (or damnation). In the

fall of 1998, Joy tells us, he was attending a conference on technology. While hanging out in the hotel bar, he talked to the philosopher John Searle and Ray Kurzweil, who had at the time written but not yet published *The Age of Spiritual Machines*. Kurzweil was talking to Searle about artificial intelligence and sentient robots, with Joy listening in. As Joy tells it, he had a kind of personal epiphany sitting there on the barstool as he "became anxiously aware of how great are the dangers facing us" in the coming century (238). But the true ethical crisis for Joy came as the result of a simple but momentous act of reading.

Right there in the bar Joy read a partial manuscript of Kurzweil's unpublished book, in particular a long passage titled "The New Luddite Challenge." It paints a bleak, dystopian picture of increasing autonomy on the part of intelligent machines and consequent decreasing autonomy for increasingly "engineered" human beings, with dire social and political consequences. Then, Joy tells us, he turned the page. And for the first time he discovered with a chill that the author of the passage being quoted in Kurzweil's book was none other than Ted Kaczynski, the notorious Unabomber.

The Unabomber's manifesto, *Industrial Society and its Future*, had already been published by the *New York Times* and the *Washington Post,* a strategic concession to Kaczynski's demands, before he was identified and arrested in April 1996. What the "Luddite scenario" passage depicts is nothing new to readers of extrapolative science fiction. The emotional significance of the quotation for Joy seems to derive from its authorship, the surprise and shock of encountering Kaczynski's scenario in the context of Kurzweil's more respectable, moderate argument — and in the physical setting of the hotel bar at the technology insiders' conference. This multilayered textual experience — a screed folded inside a prophecy encountered during a think-tank discussion — creates for Joy a moment of cognitive dissonance, a disturbing clash of opposing worldviews. Like all good converts, Joy is thenceforth possessed by a powerful urge to share his world-shattering experience of shock at recognizing the truth in the Unabomber's words. At this point the essay begins to read like the script of a 1950s science fiction movie, in which the last real human being on earth (Bill Joy) roams a metropolis in ruins, encountering uncanny pod-people or mindless zombies who

have replaced all his friends and loved ones! Joy begins by discovering that Ted Kaczynski had, as it were, taken over the voice of his friend Ray Kurzweil.

At bottom, Joy's story is about an identity crisis. He reports that he had been steeped in science fiction's darker visions, a clue to one (perhaps only partly conscious) source for his fearful narrative, and wonders why he had not grown anxious before now (240). It's a good question, and one he doesn't really answer in the article except to suggest that our culture tends to embrace the new (240). It may be that the changing economic and cultural climate around 2000 made it possible for Joy and other less famous technologists to openly confront their role in such catastrophic scenarios in a way that would have seemed oddly pessimistic (and decidedly uncool) during the tech boom.

At one point, Joy tells the story of his life. He had a typical nerdy childhood — reading science fiction, watching *Star Trek*, building his own telescope. Then he became a professional engineer and programmer who consciously tried to build the "future." The anxious moral of this part of the story is clear: "From all this, I trust it is clear that I am not a Luddite." He is instead a scientist, he insists, and one who believes that the Industrial Revolution was on the whole beneficial (243). There's that *L* word again, so fraught with anxiety.[29] Joy is clearly *not* a Luddite — not in any simple sense. He was an early developer of UNIX and helped to create the Java programming language. After publishing the article he resigned as Chief Scientist at Sun but has remained engaged in technology and has recently become a venture capitalist focused on new technology.[30] But Joy articulates in the essay, as if for the first time, a profound ambivalence about the consequences of technology. At the same time — and this is not usually noticed by commentators on the essay — he's deeply concerned that he might be *perceived* as a Luddite for expressing that ambivalence.

Interestingly, Joy has characterized the article as an act of "penance."[31] He seems genuinely anxious about the potential evil results of our unprecedented technological momentum. There is plenty to worry about when it comes to the unintended consequences for the environment, in particular, of scientific progress. But I think the essay also

expresses Joy's anxiety about what it might mean to resist that momentum, whether that might make him something shameful: a Luddite.

Joy's crisis was prompted by reading Kurzweil's manuscript. According to *The Age of Spiritual Machines*, the book that ultimately resulted from that manuscript, the increasing economic prosperity brought about by industrialization back in the nineteenth century simply "extinguished the Luddite movement."[32] In a more general sense, however, Luddism survives as a symbol and it will return to prominence in the brave new world of the twenty-first century, but with an increased emphasis on taking a philosophical position against technology, one based on fundamental judgments about human nature (182). Bill Joy's essay is "Luddite" in this precise sense. It expresses philosophical anxiety about the essential nature of what it means to be human in an age of autonomous technology. Kurzweil ends by asserting that neo-Luddism will probably not succeed since it lacks a "viable alternative agenda" (182). Yet Joy implies that a more open, moderate Luddism, one that would involve voluntarily relinquishing only some harmful technologies, might be a viable alternative to the bleak prospect he foresees. Joy ends on note of concern for the future and our "current predicament" vis-à-vis technology (262).

I'm Not a Luddite, but …

Joy's essay is like many recent books and essays on technology that begin with some version of "I am not a Luddite, but —" then raise concerns about technological progress and express sympathy with the Luddite response. Though he doesn't use the word "Luddite," Jaron Lanier, an experimental musician and virtual-reality guru, published online in 2000 the first of two parts of a manifesto questioning what he sees as "cybernetic totalism."[33] Lanier writes as someone inside the technology "revolution" but "on the outside of its resplendent dogma," that is, the beliefs that computers provide the best model for explaining reality, including human experience, and that computer science and biology are merging to create a new posthuman reality of the kind Ray Kurzweil and Bill Joy predict. Like Joy, Lanier is at pains to avoid being seen as a Luddite, as one who indulges a "glum rejection" of technology. On the contrary, Lanier insists, "There is a lovely

global flowering of computer culture already in place, arising for the most [part] independently of the technological elites." I'll have more to say in Chapter 6 about Lanier's kind of alternative vision of a "lovely global flowering of computer culture," which has roots in the 1960s counterculture but survives in the recent hacker subculture. For now, I want to point to this as a case of dissidence from within when it comes to the most far-reaching claims of technology. Lanier asserts (and I agree) that "treating technology as if it were autonomous is the ultimate self-fulfilling prophecy." To take such a neo-Luddite view, he argues, is to abdicate human responsibility.

Books and articles backing away from the earlier rampant technophilia were everywhere around the turn of the century. Winn Schwartau's *Cybershock*, for example, has a kind of satirical coda entitled "Luddite's Lament" — about his "conversion" to Luddite views when dealing with an obtuse phone company bureaucracy.[34] Paulina Borsook's *Cyberselfish* is an exposé of Silicon Valley's domination by a self-serving libertarianism. Early on in the book, Borsook declares openly: "I *am* a Luddite — in the true sense of the word. The followers of Ned Ludd were rightfully concerned that rapid industrialization was ruining their traditional artisanal workways and villages. . . . And, in a sense, they were early protestors of de-skilling."[35]

The pattern was repeated throughout popular culture, in headlines, Weblogs, conferences, boardrooms, and personal exchanges. What do all the authors, politicians, and activists I've quoted in this chapter mean to *do* by invoking the Luddites? From the pro-technology side, the word is often just an insult, used in much the way Bill Gates uses it, to mean "technophobe" or just plain "clueless" (a favorite term of derision among game-playing geeks). But even in these cases, as I've suggested, there seems to be more going on, more defensive anxiety and ideological motivation than appears on the surface.

Aside from strategic economic politics, expressions of sympathy for the Luddites can merely signal a resistance to technophilic marketing and fashion. David Foster Wallace alludes to the charge of Luddism (he calls it "Ludditism") in his popular postmodern novel *Infinite Jest* (1996). He imagines a near future (very much like his present in the '90s) in which

videophones are widely available but are scorned by whole segments of the population in a gesture that is pointedly "not Ludditism,"—

> but a kind of retrograde transcendence of sci-fi-ish high-tech for its own sake, a transcendence of the vanity and slavery to high-tech fashion that people view as so unattractive in one another[36]

Despite the disclaimer ("not a Luddite, but —"), this attitude celebrating "transcendence" *is* a kind of "Ludditism" (or neo-Luddism), a kind widely shared since the late 1990s. On the surface, it is sociologically connected with the fashionable interest in old-school or retro styles in other consumer and cult technologies, from driving 1970s cars, to reviving classic video games, to collecting vinyl records, to using quaintly antique-sounding analog synthesizers and underpowered amplifiers, or 1970s- and '80s-style hip-hop sounds, in a wide range of popular music. One anime-style rock video of a few years ago by The Flaming Lips depicts its diminutive heroine, Yoshimi, battling the "evil robots" in everyday appliances, including a sinister electric blow-dryer. The video is at once a nostalgic tribute to classic Japanese science-fiction movies and an earnest neo-Luddite cartoon. The nostalgia — even for mid-twentieth-century science fiction — is part of its neo-Luddism.

Beyond fashionable counterfashion, invocations of the original Luddites are also real attempts at historical allusion — including general allusions to the idea of history — however imperfectly understood. If there is a history of resistance then resistance might still be a viable option. Alluding to historical Luddism is a way to declare that technology *has* a history, and thus has human limits. From both sides, growing out of opposing anxieties about technology — both the fear of its triumph and the fear of its failure — connecting with the past is one way to try to gain control over the present and the future. Partly in this spirit, one good book in 1998 traced the history of the "Victorian Internet" — the telegraph networks of the nineteenth century.[37] More explicitly, a 1980 book for young adults on the Luddites concluded with an unapologetic call to action: "Nor is their battle over. Modern technology offers the same kind of threat to employment that the shearing-frames once did and the conflict between men and machines still remains."[38]

The "conflict between men and machines." If this is how our relationship to technology is understood, then the story of the historical Luddites offers neo-Luddites a model for resisting the apparently inevitable hope that the "battle" is indeed not yet over. Many people who may not call themselves Luddites share the fundamental view that what humans have made now threatens to unmake humanity, that our technology has somehow dehumanized us and must be (somehow) resisted. Contemporary neo-Luddites thus appeal to the history of what happened in several counties in England in 1811, as strange as that may seem, in part because going back to an imagined origin, to the supposed "dawn" of the industrial economy, to a very early resistance to laissez-faire capitalism, holds out a hope of understanding, and thus of gaining control over, the technological regime of the present (and future). But in many cases that history is itself only partially understood, and it is always understood only as a series of mediating texts and myths. Luddism is both a historical and a mythical construct, and it is sometimes hard to tell the difference, since the resistance to technology has been reconstructed over time under a series of changing cultural horizons. The next chapter reexamines the early-nineteenth-century events that introduced the world to General Ned Ludd and his potent, if protean, myth of resistance.

Chapter 2

The Mythic History of the Original Luddites

Once upon a time, masked rebels lurked in the forests of Nottinghamshire. They armed themselves in order to redress the wrongs suffered by the poor at the hands of a tyrannical and corrupt government. They swore oaths of fealty to an exiled, true king instead of the hated usurper, and they were protected by the silence and collusion of the local poor whose cause they championed against the rich.

This could be a Romantic description of the original Luddites of 1811 — but it actually describes Robin Hood and his legendary band of Nottingham outlaws. The resemblance is no accident. The legend of Robin Hood, which was especially popular for the first time in its modern form during the Romantic period, has been closely associated

with the Luddites from the beginning — thanks in part to the Luddites' own allusions to that other outlaw-hero of Nottinghamshire. Robin Hood and Ned Ludd rose out of the same local context from which Luddism as a movement and a myth was invented. The most famous Luddite ballad of all made the connection by way of a boast:

> Chant no more your old rhymes about bold Robin Hood,
> His feats I but little admire
> I will sing the Atchievements of General Ludd
> Now the Hero of Nottinghamshire [.][1]

In this song the Luddites stake their own claim to make history and make a legend. In fact, when it comes to Luddism history and legend are closely intertwined: History is made by self-consciously mythic, heroic acts.

The history of the British Luddites has been the subject of works by historians such as E. P. Thompson, Eric Hobsbawm, Malcolm Thomis, Adrian Randall, and in the collection of Luddite texts edited and annotated by Kevin Binfield.[2] Readers with an interest in the facts of Luddite history — what can be established from the record of what they actually did or wrote — are encouraged to consult these historical studies, some of which I cite later in this chapter. My purpose here is somewhat different. I aim to shed light on the cultural legacy of those facts, what the Luddites have come to *mean* over the past two hundred years, including inevitable distortions, shifts in emphasis, and myth-making. Like Robin Hood, Ned Ludd was a collective popular invention. In this chapter, I'll examine representations, legends, and myths, alongside facts and the limited cache of extant historical documents. But one key fact is that legends and mythmaking were already in play from the earliest recorded acts of General Ludd's army. It was precisely this legendary, mythic quality of original Luddism — the powerful intertwining of history with myth — that became its most significant legacy to later neo-Luddites and to popular historical understanding.

The Original Luddites

The Luddites of 1811 to 1812 smashed machines. They did so in protest and to sabotage specific owners' looms and finishing shops. They did *not* voluntarily give up technologies of convenience or status, as do many neo-Luddites today. They rarely issued anything like philosophical statements. Mostly they wrote threatening letters and composed celebratory ballads. They picked up sledgehammers and other lowly tools as well as guns and other weapons, then marched through the darkness to sabotage the machines that promised increased productivity in their trades. They did so in order to make a point and to stop the use of the machines. Luddite direct action can be seen as taking from the relatively rich in order to give back (or keep) what was due to the workers (many of whom were poor).[3] For doing this, the Luddites faced execution by hanging (and indeed some of them were hanged in the end) and they became legendary, their odd name eventually becoming a parable for antitechnology ideas and feelings as well as actions.

The name Luddite seems to have first been used in print in December 1811, in a newspaper account in the *Nottingham Review* about a group of protesting stocking-knitters in Nottinghamshire, who were presumably already calling themselves Luddites or at least naming themselves followers of Ned Ludd or General Ludd. Soon the term was also adopted to describe textile workers in Yorkshire and Lancashire, who began to organize themselves, to act in bands or secret groups, in order to take direct action against those they accused of violating the fair and customary practices of their trade, sometimes putting them out of work and generally profiting from changes in their social and economic conditions by deploying new kinds of machinery.

The Luddites wrote threatening letters to shop owners and capitalist owners of weaving or finishing machines, sometimes doing so under mythical or fictional names and often in violent terms. They produced or inspired ballads and songs about themselves, some of which were printed and distributed but most of which were oral compositions heard and transcribed by journalists or government officials or spies. They reportedly drilled and practiced for the raids out in the fields at night, following quasi-military formations and organizations — though this is difficult finally to establish beyond what amounts to hearsay or later

testimony. They surely held some kind of planning meetings and may well have taken secret oaths of loyalty, swearing on pain of death. (Though such oaths were not unheard-of in guild and labor organizations, and though copies of them have entered the record and some have testified that they were taken, the actual illegal oath-taking would of course have been secret and beyond the reach of official documentation.) For obvious reasons, the Luddites depended on secrecy and on the collusion of local friends and neighbors to keep their secrets. In the end, some were captured anyway and punished by hanging or transportation.

With their faces blackened or wearing masks like bandits, sometimes in women's clothing or other forms of disguise, and armed with sledgehammers, axes, pikes, and, on occasion, guns, the Luddites showed up at houses to seize arms (for further raids) or to destroy a machine-owner's property and goods. On occasion they harmed but more commonly merely threatened the owners or their families. Their signature act was to break "obnoxious," offending "frames" — kinds of knitting or cloth-finishing machines that, while efficient in terms of labor and costs, were making many of their jobs redundant and producing inferior cloth, thus harming their reputations and the reputation of their skilled trade as a whole. They were protecting their trade — which, more than a job, was a culture, an economy, and a group of coworkers, a labor "gang," their social identity in the community as well as a technique or set of practices.

Their actions, which became known as "ludding," spread during 1812, moving from the stocking knitters in Nottingham to skilled cloth-finishers (or croppers, those who cropped the nap of the cloth to make it smooth and ready to sell) in the West Riding of Yorkshire and then to other workers elsewhere in the North of England. An organized network may have been behind this expansion, or unconnected groups may have copied the example and name of the first Luddites. The net result was perceived as a movement or conspiracy, with only the degree of conscious organization in question. Luddism increased for a year or so, was squelched by government prosecutions and hangings, and then resurged briefly in 1816 to 1817. Later machine-wrecking and arson, for example by agricultural workers during the Swing riots of the 1830s,

or the plug riots of the 1840s (which involved disabling steam-powered machines by pulling out the plugs of their boilers), were often connected to the original Luddites by later observers. Some of the original Luddites may have been involved in these later events, as well.

Historians debate whether the Luddites were a national or kingdom-wide rather than local movement, to what degree their actions were motivated by serious political radicalism, and whether their actions amount to evidence of emergent working-class consciousness. But I have another question: What made those events of 1811 to 1812 and 1816 to 1817 so *culturally* and symbolically significant, such that the name Luddite survives today, still loaded with meaning and emotional significance? What gives this particular idea such resonance and persistence across two hundred years and very different national cultures?

The reason wasn't the Luddites' use of violence in pursuit of their political and economic goals. Property destruction of this sort, "collective bargaining by riot," as it has been called, was a very old kind of negotiating technique on the part of traditional trade combinations or labor organizations. It does not necessarily have anything to do with industrial machinery per se.[4] The Luddites of 1811 to 1812 were more organized and widespread than earlier machine breakers had been, and Luddism was inevitably more political in its implications, since it occurred in the context of ongoing Napoleonic wars and the accompanying agitations and reactions at home. In addition, gradual industrialization had by 1811 reached a critical mass, a level of change (and consciousness of that change) that provided a new sociological context for workers' traditional forms of resistance to owners' innovations. For all these reasons, Luddism gained national attention for several years and has retained a cultural resonance to the present day. The legacy of Luddism may seem surprising, given that it was a locally based secret movement. But its very secrecy added to the legend and left the blank spaces in its story, as it were, to be filled in by later tellers of the tale.

The Code of Silence

Almost everything we know about the Luddites, with very few exceptions, has been extrapolated from the newspapers of the day, or from

a limited set of relevant archives, especially the Home Office records now housed in the English national archive at the Public Record Office, as well as a handful of other collections in Britain. These include the records of the trials of captured and convicted Luddites, as well as reports of local authorities. Mostly official papers or records left by spies or frightened targets of the Luddites, these papers record what they see as a series of "disturbances" or dangerous "outrages." Spies would have had obvious motives for playing up the threat they were paid to watch. Along with local magistrates and mill owners, they wrote to the Home Office in London in shock and alarm, sometimes enclosing copies of Luddite letters. Later, constables and militiamen reported events, and then courts recorded punishments and prisoners' confessions, made while awaiting execution. These boxes of papers, along with some newspaper reports and a few other archival collections, have necessarily formed the basis of almost every historical account of Luddism.

Important but limited exceptions are the transcripts of Luddite ballads or songs, which at least suggest an oral tradition generated by the Luddites themselves or their sympathizers. Also, there are limited reports gathered in the Victorian era by survivors of the troubles, recorded mostly by novelists and local historians. I discuss these later sources at greater length in Chapter 5. For now it is worth noting that the oral history of a movement such as Luddism has its own special limits of secrecy — what John Keats called in another context, "silence and slow time." One legendary story that shows up everywhere in the literature tells of a dying Luddite (usually said to be the young John Booth) being interrogated after the attack on Rawfolds Mill in Yorkshire. He whispers to a captor, "Can you keep a secret?" When the interrogator says, impatiently, yes he can, the doomed Luddite replies sardonically: "Aye, so can I," and promptly dies. The story seems too good to be true. Even if it is true, its moral — mortal secrecy as a moral good — and retelling has become its point, a lesson to historians and the rest of us: This is all you're going to get; much of what happened in 1811 to 1812 is forever sealed with the death of the participants. The deeper truth behind the story is the profound difficulty of recovering and telling the

story of Luddism itself. Was it a spontaneous uprising or an organized movement? Original Luddism died with many of its secrets intact.

The Luddites' most influential act may have been naming themselves, by using Ned Ludd as an "eponym," as Kevin Binfield argues: "The Luddites were the losers in their fight, but their 'linguistic legacy' is formidable and indelible" (6–7). That legacy, based on the naming of the movement by its members, is much more than linguistic, however. Inventing (and taking) the name of General Ludd was a symbolic act that amounted to the creation of a political and labor subculture.[5]

Luddism As a Subculture

It is the Luddite subculture that has remained most meaningful to our own time, as a set of gestures that make a statement to the larger culture, a style of resistance and a stance in opposition to technological progress. The transmission and reception, the use, of this subculture is my subject. But the problem with studying a subculture from the past is how to figure in the effects of the archive itself, the fact that what was once a living subculture is now, for us, a collection of texts.[6] Even considered within their historical contexts, the Luddites didn't "arise" out of nowhere or just happen. The movement was deliberately made, constructed through an act of collective self-fashioning. As with later subcultures, it was the Luddites themselves who began the making of Luddism, starting with the invention of their eponymous, mythical leader.

From scooter-riding teddy boys and mods, to pierced punks, to neo-psychedelic ravers, to hip-hop musicians, twentieth-century subcultures have been the focus of a great deal of analysis by cultural critics as well as popular authors and filmmakers.[7] These cultural studies, mostly of rebellious youth subcultures, are not necessarily applicable to a phenomenon such as the Luddites, who, it must be remembered, were not expressing some general "rebellion" or establishing a "subaltern identity" within consumer culture, but were fighting for their livelihoods within a traditional economy and trade. One of my arguments is that historical Luddism is fundamentally different from more recent neo-Luddism, and that the two cannot simply be collapsed into the false continuity of a single "antitechnology" philosophy.

And yet there are certain features of historical Luddism that have traveled well as cultural currency, that have been translated during the past two hundred years into meaningful examples for the new, plural and diverse, loosely cohering subculture of recent *neo*-Luddism. For example, as I suggested in Chapter 1, anti-free-trade attitudes are in a general sense common to both historical Luddism and modern neo-Luddism, especially in the form it took in Lancashire, for example. Both Manchester-area Luddism circa 1812 and modern antiglobal neo-Luddism attempt to use the antitechnology philosophy to unite otherwise disparate political forces.

Besides these rough continuities, certain methods of subculture studies seem useful models for looking at both Luddites and neo-Luddites. For example, subculture studies tend to examine the symbolic and semiotic gestures, the "style" as well as the expressed "content," of specific groups — even groups explicitly organized for the purpose of resistance or protest. This style involves the subculture's icons, modes of expression, and self-representations (including, significantly, its founding myths). Subcultures make themselves within particular historical contexts, within what Dick Hebdige has called specific "conjunctures" of material and cultural circumstances.[8] The style of expression and representation of a subculture is often created in the ad hoc fashion of bricolage, by making do with what its members happen to find around them in the larger culture, repurposing it and reinvesting it with new meaning. For modern subcultures, this includes the language of mass-market advertising and fashion, for example, which they take over and make their own in subversive ways. Punks wore artfully torn T-shirts and utilitarian police officers' boots as a way of embracing and mocking working-class uniforms. The original Luddites mixed legal language, the traditional Robin Hood myth, folk ballads about outlawry, and the invented character of General Ludd with guild rituals and certain carnivalesque popular customs to produce their own subculture in response to the trades, local and regional life, and nascent industrial society.

The result of this kind of collective self-fashioning is inevitably only a relative autonomy for the subculture within the larger culture (which is already structured in various ways, for example, by trade or social class). In the case of a workers' group and (at least partly) politically

radical subculture like the Luddites, the degree of relative autonomy and the potential for resistance are matters of greater urgency than in the case of most of the mid-twentieth-century youth-oriented lifestyle subcultures, punks, skateboarders, or hip-hop DJs, and other groups that have been the focus of much of subculture studies to date. The original Luddites lacked the national and even global mass-media culture against which (and by way of which) twentieth-century groups often defined themselves. But like these later and very different subcultures, Luddism produced itself collectively by doing, by performing public acts that defined its own meanings within and in resistance to a mainstream or dominant culture.

If the Luddites themselves began the process of making Luddism, they did so through mythmaking symbolic acts as much as through economically significant sabotage. Of course, these acts included the physical and material actions of frame breaking, as well as what we think of as more "textual" actions like letter writing and ballad spinning. But the Luddites also acted by imagining themselves, first by naming themselves. That naming may have happened more or less spontaneously and collectively, as an insiders' joke, but it happened off the historical record, prior to any written or published accounts.

In the Name of Ned Ludd

The earliest newspaper accounts, official correspondence, and threatening letters suggest that the name of "General Ludd" or "Ned Ludd" had already been in use for at least a brief time by late 1811. If we try to peer behind such sources, the origins of the name become murky and obscure, as popular-culture origins frequently do, once they're examined in any detail. As we have seen, secrecy — enforced by loyalty oaths and threats, as well as by the nature of the mostly oral record — is at the very heart of the subculture of Luddism. And Luddite organizers almost certainly stirred the murk, deliberately engaging in a cloaking campaign of strategic mystification. General Ludd was a little like a semimythical twentieth-century guerrilla commander, in that part of his power came from the way he was imagined, directing the actions of many men and authorizing threatening letters and manifestos from his hiding places, whether from "Robin Hood's cave" in Sherwood Forest

or in a series of upstairs meeting rooms in pubs around the countryside. The name was adopted in various regions and so gave the impression of a network of messengers carrying strategic communication between, say, Nottingham, Huddersfield, and Manchester, a truly frightening prospect for the authorities. It was primarily *the impression* of a disciplined organization that had a frightening effect.

Sometimes Ludd was referred to by the more defiantly seditious title of King Ludd. One letter was signed with the feminine "Eliza Ludd" (possibly it was actually written by a woman [Binfield, *Writings*, 178–79]). There were likely many General Ludds, labor leaders who adopted the name and identity for a time. Leaders or letter writers in different locations probably adopted the nom de guerre when it was convenient for their purposes, so that the shadowy General Ludd seemed to be everywhere at once in the Midlands, the North, and the West Riding. This diffusion of identity worked well as a symbolic strategy. Luddism as a practical bargaining strategy is often said to have "failed," even in the view of many neo-Luddites.[9] But the symbolic tactic of the omnipresent leader, Ned Ludd, clearly worked, at least in terms of instilling fear among the authorities and creating a regional, national, even kingdom-wide legend to be reckoned with. Indeed, two hundred years later, Luddism has become an international idea. In that sense the Luddites succeeded brilliantly.

In November 1811 a rally was held in Bulwell Forest in Nottinghamshire, led by a commander using the name of Ned Ludd. About seventy participants marched from there to a frame owner's house to break his machinery. One protestor was shot in the resulting confrontation. The local *Nottingham Review* reported on the "Luddites as they are now called" a month later, in December 1811. In that same account, a memorable story about the origins of the name was repeated — a story that was therefore certainly already in circulation to some degree. Most modern encyclopedias, textbooks, and historical summaries still repeat it to this day. One source close to the event, an 1813 pamphlet by George Beaumont contained "Reflections on Luddism" based on the author's own "inquiries" in Nottinghamshire. It retells the same originary story of Ned Ludd in a form that makes it clear it has already taken on the status of a folktale or myth:

> . . . a good many years ago, there lived a poor man at Loughborough, in Leicestershire, about fifteen miles from Nottingham, whose name was *Edward Ludd*: This man was not one of the brightest cast, in regard to his intellects; and, as is commonly the case with such characters, was of an irritable temper. This *Edward Ludd*, called by his neighbours *Ned Ludd*, was by trade a *Frame Work Knitter*: or in plainer language, and which is all the same, a *Stocking Weaver*. This man, being irritated, either by his Employer, or his work, or both, took the desperate resolution of avenging himself, by breaking his *Stocking Frame*.[10]

Beaumont goes on to say this event has given rise to a "*Bon Mot*": "for, whenever any Stocking Weaver was out of patience with his Employer or his Employment, he would say, speaking of his Frame, 'I have a good mind to *Ned Ludd* it:' meaning, *I have a good mind to break it, &c.*" In 1811, Beaumont points out, the frame breakers simply "assumed the name of their prototype. . . . These men, collectively, were therefore called *Luddites*, and their system was, and is, called *Luddism*."

This very early narrative explanation already moves from legend through historical protests to the making of a "system" — meaning in part a political or belief system and in part a tactical approach — and, finally, to a larger myth attached to that system. This is the trajectory that will be repeated on a larger scale for two hundred years, as Luddite eventually comes to mean someone sharing a general antitechnology philosophy.[11] The treatise didn't invent but repeats the already-active foundational myth of Ned Ludd. Other versions have Ned Ludlum (Lud or Ludd for short) as a rash youth or simpleminded (or an "idiot") instead of merely ignorant. What none of these accounts can exactly tell us is how the Luddites went from such proverbial shop-legends and satirical language to the more formal political device of the invented General (or even King) Ludd.

Luddism and Carnival

There are many versions of the story of this original Ned Ludd, but they all make him sound to modern ears a great deal like Simple Simon or Jack with his beanstalk. Already in 1811 the aura of a folktale or myth surrounds the story. The legend of impulsive and simple Ned Ludd is a

narrative that literally *makes sense*, helps to construct meaning, different meanings in different contexts but particularly satirical meanings about workers and masters. The story of Ned Ludd is a myth to rally the self-named Luddites and intimidate their enemies. Satire of this sort is about power — displaying it, using, it, and appropriating it — and this means more than merely linguistic power.[12] For this reason, satirists have always likened their satires to magic spells or curses.

The postmodern author Thomas Pynchon imagines it precisely this way, as a satirical weapon, a sardonic name ("King Ludd") used in "dark fun" as a darkly "comic shtick."[13] "Comic shtick" may go a bit too far (it sounds more a like a description of his own fiction), but Pynchon is onto something important here. He recognizes that in order to understand the Luddites and the myths associated with them we must in the end turn to the carnival conventions of popular culture during the licensed misrule of festival times.

Like the Guy Fawkes *figure* of Guy Fawkes Day (as opposed to the actual historical conspirator), General Ludd was an imaginative product of such collective popular culture on holiday, as it were. Since medieval times, customary practices among artisans and skilled workers in the trades included mock-rituals, "rough music," parodic ceremonies led by kings of misrule, and satiric verbal "flytings," as well as serious ceremonies, oaths, and initiations into the secrets of the trade. The mythical General Ludd (especially if simpleminded Ned Ludlum is taken as his source) likely had, as Pynchon says, "sarcastic" overtones. Ludd is King of Fools, Lord of the weavers' carnival. His coming said to the mill or frame owner that the world was about to be turned upside down and that (in the tradition of religious dissent) "even a little child" — or simpleminded youth, or the village idiot — would lead the insurrection. Seeing the historical myth of Ludd in this light also helps account for another, competing origin story: Some say that the name came from the ancient mythical British king for whom, according to Geoffrey of Monmouth's twelfth-century *History*, Lud Gate and even the city of London were named.[14] Both the simpleminded namesake and the ancient King of Britons fit together in the mixed popular culture that the Luddites *re*mixed and used against the official culture of nineteenth-century industrial changes.

On Monday, April 20, 1812, there was another Luddite assembly, this one in Middleton, near Manchester. The *Leeds Mercury* (April 25, 1812) estimated that several thousand marched to protest the new power looms in a local cotton factory. Some of the marchers threw stones through the offending factory's windows. Those guarding the factory fired on the crowd and four were shot. Two died on the spot and two more were wounded and died later. Eighteen were wounded. The next day, Tuesday, an even larger crowd assembled again in the morning and waited until noon to take action.

> At this hour a body of men, consisting of from one to two hundred, some of them armed with muskets with fixed bayonets, and others with collier's picks, marched into the village in procession, and joined the rioters. At the head of this armed banditti a Man of Straw was carried, representing the renowned GENERAL LUDD, whose standard-bearer waved a sort of red flag. . . .

The Luddites reportedly challenged the troops on guard to open combat, but the soldiers "declined the invitation."

The straw effigy of General Ludd in this procession, literally waving a red flag of confrontation and already "renowned," is a telling reminder of the cultural roots of this myth in the context of British folklore. This straw Ludd is reminiscent of practices like "Burning Bartle" and Guy Fawkes bonfires, even the ancient Wicker Man. (These are in turn the remote ancestors of the self-consciously neo-pagan artistic ritual of the American Burning Man Festivals of our own time, held first on the California coast and then in the Nevada desert.) The processional led by this effigy of Ludd takes a workers' guild ritual out into the streets, but those very trade rituals also partake of the charivari or rough-music parades that E. P. Thompson has described as a kind of "street-theatre," usually processional, or actually, "*anti*-processional, in the sense that horsemen, drummers, banners, lantern-carriers, effigies in carts, etc., mock, in a kind of conscious antiphony, the ceremonial of the processionals of state, of law, of civic ceremonial, of the guild and of the church."

> But they do not *only* mock. The relationship between the satirical forms of rough music and dignified forms of the host society is by no means simple. In one sense the processional may seek to assert

> the legitimacy of authority. And in certain cases this reminder may be remarkably direct. For the forms of rough music and of charivari are part of the expressive symbolic vocabulary of a certain kind of society — a vocabulary available to all and in which many different sentences may be pronounced.[15]

Despite some important regional and trade differences across the nation, this is the basic vocabulary of Luddism, too, taken from that area of workers' culture in various trades where guild and trade practices overlap with popular customs, local lore, and licensed festivities.

The carnivalesque aspect of Luddism also included cross-dressing among its symbolic inversions and transgressions of normal order. In the Leeds market a woman called "Lady Ludd" led a crowd in a food riot against the high price of bread; some protest processionals were led by men in drag calling themselves "General Ludd's wives" and several accounts of Luddite raids have the men cross-dressing for the purpose of disguise. But it seems just as likely they were dressed for the purpose of topsy-turvy, subversive carnivalesque display.[16]

The historian Robert Darnton has related a relevant workers' tale from France in his essay on the "Great Cat Massacre of the Rue Saint-Séverin," the story of journeymen and apprentices in an early-eighteenth-century French printing shop who rebelled against the master (and his wife) by staging a mock-trial and real execution of the family's numerous beloved cats.[17] These print-shop workers brutally killed as many cats as they could, then staged a trial, pronounced the dead animals guilty, and hanged them on homemade gallows. The oddest thing about this event for many modern readers is that the workers seem to have found the whole thing funny. They reenacted the massacre over and over again for days, always ending with raucous laughter. As Darnton says, "our own inability to get the joke is an indication of the distance that separates us from the workers of preindustrial Europe. The perception of that distance may serve as the starting point of an investigation . . . " (77–78). Ultimately, Darnton explains the violence and laughter of the workshop as manifestations of the "popular ceremonies and symbolism" of carnivalesque culture, including the same kind of charivari or "rough music" that E. P. Thompson discusses.[18]

The mock-trial of the cat massacre — and especially its violent, satiric tone — is I think very helpful in trying to understand Luddism across the dark gap of culture and time that separates us from 1811. One mock-legal Luddite letter to a Huddersfield magistrate in the wake of the attack at Rawfolds Mill (March 20, 1812) was signed as coming from General Ludd's Solicitor and to hand down a judgment from "Ludds Court at Nottingham." In fact the Luddites frequently claimed to pass judgment on the masters or mill owners by the authority of King or General Ludd. The same famous Luddite ballad I quoted at the beginning of this chapter, "General Ludd's Triumph," declares that the new stocking frames themselves had been tried and found guilty:

> These Engines of mischief were sentenced to die
> By unanimous vote of the Trade
> And Ludd who can all opposition defy
> Was the grand Executioner made.

These pronounced sentences have too often been treated by novelists and some historians as naïvely, pretentiously earnest, as if the Luddites were merely aping the courts and parliament. But this is to give the Luddites too little credit. While they were about serious matters, it is clear in context that these pronouncements of legal sentences were deliberately satirical, if by that we mean they condemn with irony and the kind of symbolic violence that was common in the workers' popular culture. The death sentence on the stocking frames is darkly ironic, satirical, and so is the origin story about poor, simple Ned Ludd and his uncontrollable temper. The tone of both is darker and stranger — more satirically violent — than Thomas Pynchon's "comic shtick." The joke is on the oppressors, as it was in Robert Darnton's account of the cat massacre, even though the subject is deadly serious — a matter of livelihoods and survival, life and death. The oppressed are the active wielders of satiric power, the ones doing the mocking and using satiric stories and rhetoric to terrify their oppressors. Such satiric mockery combined with the threat of violent revenge should sound familiar to anyone who remembers the tales of Robin Hood.

Ned Ludd vs. Robin Hood

Robin Hood is the best-known folktale associated with the Luddites. It's difficult to think of the greenwood outlaw before the sentimental versions by Hollywood and Disney, children's books, and Renaissance fairs. Today there is even a "Tales of Robin Hood" theme park in Nottingham — "enter our dark and romantic world of intrigue and adventure and step back in time to the days of Medieval England's most endearing outlaw," the park advertises. But for the Luddites, the Robin Hood legend would have meant something different. For them it was a legend in transition, from oral tradition to bookish versions, but still a popular creation, a tale told by the people about a popular moral authority outside the law, based instead on ancient customary relations. The tale would have come with a range of morals, stances toward power, and cultural gestures. At any rate, citing Robin Hood was not a case of naïve "primitivism" on the part of the Luddites. Already by 1811 the legend had a very modern and self-conscious history. It was the focus of some nostalgia, yes, and regional pride, but also already of folkloric cultural analysis. There were already in 1811 multiple versions of the Robin Hood myth, it should be remembered, with no evidence that they were based on a single historical figure. This legend is a perfect example of the kind of multiplicity and volatility, the general slipperiness, of such historical myths, in which versions and variants arise from many sources, often anonymous, and then morph and recombine in the retelling over the course of time and in changing contexts. And this is also a good description of what happened to the story of General Ned Ludd and *his* band of outlaws.

As the nineteenth century went on, Robin Hood was increasingly Romanticized, nationalized, and individualized, eventually coming to be imagined as a displaced nobleman.[19] In 1811 Robin Hood was being modernized but retained traces of the earlier, rougher figure, a yeoman and forest outlaw, not the displaced Lord of Locksley Hall, clearly a collective popular fantasy of an unsanitized antihero. But just at that time, in the late eighteenth and early nineteenth centuries, there was a literary and "antiquarian" revival of interest in Robin Hood stories, from illustrated folklore collections such as Joseph Ritson's in 1795, to lyrical Romantic treatments by Keats, Hunt, and Sir Walter Scott. The

Luddites, whose level of education surely varied more than one might at first think, borrowed the myth from the midst of this antiquarian climate, as well as (in the case of Nottinghamshire and Yorkshire) from their local oral tradition. The Luddites were storytellers and mythmakers, rather than merely the passive subjects of myth or history. They were engaged in a kind of collective self-fashioning, spreading their story from group to group, with newspaper accounts being read in one meeting and in effect reenacted in a later raid, which were then reported on to influence the next series of events, perhaps in another region of the country. As they collectively made their own myth, the Luddites inevitably blended it with residual oral material like the legend of Robin Hood, exploiting it as a kind of popular currency of local heritage, as well as tapping into the larger literary revival, with its respectable aura, Romantic appeal, and literary value.

One way to overcome an anachronistic sense of quaintness is to recognize that both Ned Ludd and Robin Hood are instances of a socially transmitted type of the rebel "bandit" as historian Eric Hobsbawm has explained it — the robber or outlaw who is treated by the popular imagination as a champion of social justice. "They right wrongs, they correct and avenge cases of injustice," he says, and thus they imply the possibility of setting right unjust social relations in general (29–30). Bandits, according to Hobsbawm, are in themselves neither reformist nor revolutionary, but their social action can take on revolutionary effect as "the symbol, even the spearhead, of resistance by the whole of the traditional order against the forces which disrupt and destroy it" (31).

But the Luddites were not unwitting participants in a cultural "type" — they were the makers of their own subculture. They deliberately exploited the traditions of banditry for specific economic and (to some extent) political purposes. Hobsbawm's focus on "*the* bandit" as an abstract thing is a potential trap that can ignore the active agency and particular purposes of specific social bandits. His approach can be criticized as naïvely positivist in its use of balladry and folklore as if they were reliable, objective sources of factual information on actual outlaws — what actually happened. Obviously any account focusing on the connection between Ned Ludd and Robin Hood is open to the

same criticisms: that it is too abstract in its focus on archetypes and too trusting of tendentious and popular-literary sources. I hope it is clear that, on the contrary, I mean to stress the very mythical nature of such rebel histories, not use the myths to get to the "real" rebels and what they did. I take both Robin Hood and Ned Ludd as constructed narratives, as myths, which were sometimes combined by the real Luddites. The combination, then and now, has led to rich and contradictory transformations of both myths.

Because he is so interested in economic history, Hobsbawm draws too hard and fast a line between representations of the type ("outlaw bandit") and actual rebels who always only partly fulfill the type: "The country which has given the world Robin Hood, the international paradigm of social banditry, has no record of actual social bandits after, say, the early seventeenth century . . ." (22). But what would an "actual social bandit" look like — in contrast with a member of a subculture who "merely" styled himself a social bandit, say? The trouble with Hobsbawm's near-vulgar Marxist version of materialism is that it leads the historian to devalue politically ambiguous, "merely" metaphoric or mythical transmissions of the bandit "type" in the realm of "public opinion," which is to say, in the realm of culture. While mere highwaymen might not qualify as true revolutionaries from a literalist, objective point of view, and the Luddites of 1812 might count as only potential or would-be revolutionaries, since they effected no national or class-based uprising in the end, it is clear that from a cultural perspective there is no better example of the fusion of legends and actions that make "types" like Hobsbawm's bandit meaningful in real historical struggles.

The Luddites deliberately and self-consciously exploited the political effects of the already-available "bandit" type, weaving existing legend into their own emerging one. There was nothing "primitive" about these "rebels." In Luddism there was a continuity of myth and symbolic action across different kinds of experience, both invented and lived, through both cultural and material expressions. From the beginning, even at some imagined point of "origin," social action like ludding takes place *as symbolic action*, and this is the sense in which the Luddites act in the tradition of Robin Hood: not as mere decoration for their material concerns and not as mere primitive imitation or antiquarianism,

but as a deliberate, strategic act of connection and interpretation, a way of making richer the meaning of their invented movement.

For the Luddites, Robin Hood is a serious allusion to an available text or story, a legendary local example whose resonance would have carried far beyond Nottinghamshire or Yorkshire. And anyway, the resemblances between Robin Hood and Ned Ludd would have been obvious to anyone who witnessed the actions of those original Luddites. Nottinghamshire's Sherwood Forest is (at least in later versions of the Robin Hood story) the home base of both. Kirklees Priory in Yorkshire, just down the road from the dumb steeple, the meeting place of the Luddites who marched on Rawfolds Mill, is the mythic death-place of the famous outlaw. Robin Hood is a charismatic outlaw with a heart — a loyal champion of the deserving people. In most versions, he enters outlaw life through an act of poaching, killing the king's deer on land that should have been open to all as commons if not for the encroachments and enclosures of a corrupt government. Thereafter he lives as a kind of semipagan green man of the forest, in touch with ancient organic freedoms and a threatened (and markedly feudal) way of life, on the side of nature and appetite versus civilization and rank, defending the rights of the yeomanry against the impositions of the Church and the Crown. A band of followers gathers around him and together they engage in a kind of strategic violence against the rich, in order to correct the imbalance of wealth and privilege and to protect their ancient rights.[20] The Luddites may also have cited Robin Hood as an example of oppositional loyalties and questionable authority. He was an outlaw who (at least in a later version) defended the true, exiled king rather than a usurper. But for the most radical of the Luddites the true king would have been King Ludd.

Romantic Robin Hood, Romantic Ned Ludd

The Luddites' strategic choice to connect Ned Ludd to Robin Hood was eventually turned into an excuse to Romanticize the Luddites. I will have more to say about that in the next chapter, but for now it is worth noting Sir Walter Scott's *Ivanhoe*, perhaps the best-known Romantic reinterpretation of the Robin Hood myth. This novel is Romantic in both the historical sense (of the Romantic period) and etymological

sense (with its roots in the conventions of medieval romance). In it, Scott turns Robin Hood into a native Saxon fighting the usurping Normans, an obvious parallel to the French enemy of the Napoleonic wars. He ignores the alternative tradition that had attempted to establish an aristocratic pedigree for Robin Hood. Scott's Robin is at home in England and at home in Sherwood Forest. His is a hero of medieval and modern (nineteenth-century) romance. In a footnote to another book, *The Abbot*, Scott anticipates the approach of recent cultural studies, citing the scholarly, antiquarian evidence for connecting "the representation of Robin Hood" to the May games and carnivalesque customs of popular culture, including "the pageant of Robin Hood" and "Robin Hood's day," with ties to "misrule" by the populace and rebellion against church authorities in England and in Scotland.[21]

It is usually said that Sir Walter Scott invented the historical novel. This kind of novel, since it is fiction rather than history, works by closely intertwining romance conventions with historical events and persons. Scott even claimed that this intertwining was built into the form of romance as it was handed down from the age of chivalry, which is the age depicted in *Ivanhoe*.[22] In his 1824 "Essay on Romance" he argued that the myths of chivalry — honor, individual heroism, and devotion to a cause and an idealized Lady — became the "glass" or mirror in which medieval youths modeled themselves. The representations of chivalric romance became the truths of culture, and so later historians find it difficult to distinguish between culture and representation, history and myth.

> The fabulous knights of Romance were so completely identified with those of real history, that graver historians quote the actions of the former in illustration of, and as corollary to, the real events which they narrate.[23]

In this way romance and history become closely intertwined for later, "graver" historians, who are forced to deal with the interpretive problem, second-order fictions that shape history.

> Romance and real history have the same common origin . . . . the traditional memorials of all earlier ages partake in such a varied and doubtful degree of the qualities essential to those opposite lines of

> composition, that they form a mixed class between them; and may be termed either romantic histories, or historical romances, according to the proportion in which their truth is debased by fiction, or their fiction mingled with truth. (134)

Scott's version of Robin Hood (as told in *Ivanhoe*) drew on the romance tradition, then added to and further transmitted the (mutated) tradition. Like generations of masked superheroes to come after him, though living outside the law, Robin Hood is a heroic redresser of wrongs, champion of the wrongly treated, as this ballad by another Romantic period author, Leigh Hunt, reminds us:

> Says Robin to the poor who came
> To ask of him relief,
> You do but get your goods again
> That were altered by the thief.
>
> See here now is a plump new coin,
> And here's a lawyer's cloak,
> And here's the horse the bishop rode,
> When suddenly he woke.
>
> Well, ploughman, there's a sheaf of yours
> Turned to yellow gold:
> And, miller, there's your last year's rent,
> 'Twill wrap thee from the cold.[24]

Just as Scott argues was the case with romance and history, so the Luddites' own myths — including their ties to Robin Hood — were mixed with their history such that later historians would quote the myths in illustration of and explanation for the events of 1811 to 1812. By simultaneously making history and making myth, the Luddites proclaimed themselves Robin Hood's successors in this more profound sense. Ned Ludd, too, was a figure of mythic history, an outlaw antihero aiming to right the wrongs committed against the textile trades and its impoverished workers.

Their very real, very material grievances included the trade restrictions of the infamous Orders in Council, the loss of wages under new systems of capital-intensive manufacturing, and among stockingers,

the economic results of the technology of wider frames in particular, which involved increasing mass-production, "cut-ups" (stockings cut from large swathes of cloth made on wide frames), and "colting," or the hiring of untrained workers to undertake these new processes, thus undermining the wages of more skilled workers. Similar grievances applied to the hand finishers or croppers of the Yorkshire textile trade, where gig-mills for raising and cropping the nap of cloth, which were displacing the heavy shears used by the highly skilled croppers, were one target.

In Nottinghamshire Luddite letters were often addressed from Sherwood Forest and "Robin Hood's cave," and near Leeds letters were signed "General Ludd Commander of the Army of Redressers" and "General of the Army of Redressers" (Binfield, *Writings*, 207–11). One often-cited Luddite letter, February 16, 1812, was signed as coming from "Joe Firebrand Secretary" in a hideout in Sherwood Forest itself, "Robin Hoods Cave."

> We are much concerned to find that you and your neighbours Biddles and Bowler continue to oppose the public good by working those bad articles Single Press & 2 Course Warp-------
>
> Now do you think that we who have encountered such difficulties & hazarded our lives for the good of the Trade are to be opposed & our past efforts made of no effect by your mean obstinacy no it shall not be so you may think that because your frames are secured by the presence of so large a civil & military force you have nothing to fear but can defy us with impunity but you must understand there are more methods of revenge than frame-breaking to be resorted to when that is not practicable! for our past labours shall not be in vain. In order that it may not be the case it is thought proper to inform you what will be done to such of you that persist in making the aforementioned Articles.
>
> This information is designed for your good that no Children may perish which if they do blame your own obstinacy not us: as we have at all times manifested a disposition to spare life we wished still to show the same especially where Innocent Blood is concerned. You may think we shall not be able to fire your houses but the means which will be used will be so effectual that the flame will rise to the highest room in the house in a moment [. . . .] (Binfield, *Writings*, 106–107)

The awkward bit of attempted chivalry in this document, the claim that the Luddites will make every attempt to save innocent lives, is in keeping with the Robin Hood motif in the mailing address. But there is little else that is romantic or genteel about this appropriation of the legend. The letter goes on to detail the incendiary technology to be used, just in case the recipient doubts that the outlaw's skills can back up the threat.

> the composition to be used is Spirits of Turpentine Tar & Powdered Gunpowder mixed together a Proper Quantity of this mixture powered in at the bottom of the door & lighted by the application of a bit of Touchpaper will do the business instantly.

The best-known Luddite ballad, often called the Luddite national anthem, is "General Ludd's Triumph" ("triumph" in this case means a kind of symbolic procession as well as victory itself). I have quoted from it several times already. As I said at the beginning of this chapter, it makes the link to Robin Hood explicit, opening with a formulaic, balladic boast:

> Chant no more your old rhymes about bold Robin Hood,
> His feats I but little admire
> I will sing the Atchievements of General Ludd
> Now the Hero of Nottinghamshire
> Brave Ludd was to measures of violence unused
> Till his sufferings became so severe
> That at last to defend his own Interest he rous'd
> And for the great work did prepare

First, we might well wonder: Who was the intended audience for a ballad like this one?[25] It was primarily meant to be sung, not printed, so the question is especially complicated. Such ballads were probably in part for the Luddites themselves, self-inspiring hymns, rallying cries, marching songs, acts of solidarity, celebratory drinking songs. And they were partly aimed at the local people who may have heard them sung and who (the evidence suggests) were largely sympathetic to the Luddites and their cause. Finally, such songs were surely to some extent, if only indirectly, aimed at the spies, magistrates, militiamen,

and even national authorities — in whose collections of papers copies of such ballads have indeed survived for the use of historians down to our own time, as if to confirm that they reached and affected their targets.

The ballad's odd-sounding conservative appeal to an "organic" and "ancient" precedent was actually a commonplace move in the rhetoric of nineteenth-century radicalism.[26] Robin Hood offered an example of a hero of the people acting according to ancient rights to and interests in the land and its riches rather than according to unjust and corrupt national laws. Luddite proclamations sometimes even argued the precedent of the 1657 Charter of Charles II granted to the Framework Knitters Company, a kind of social and economic contract ignored by the new economy and its standards of progress and productivity. The textile workers claimed an alternative authority to that of the current government: "the Trade."

In songs and letters like these, the Luddites deliberately wrote themselves into legend. "General Ludd's Triumph" actually claims that Ned Ludd has superseded the medieval outlaw ("Chant no more . . . His feats I but little admire"). This allows the ballad to have it both ways: to boast that Ludd is the new Robin Hood while also asserting that his more modern, judicial, and quasi-legal powers go well beyond the quaint authority of the greenwood.[27]

The Romantic Siege of Rawfolds Mill

The Luddites began the association between General Ludd and Robin Hood, but it has been established by posterity and legend, based on only a few references in letters and the famous ballad, then supported with the accidents of a shared local culture and lore. Robin Hood was only one of several elements in the Luddite bricolage, one piece woven into the legend of Ned Ludd. Even the most often repeated historical narratives of Luddism are, by the time they reach the earliest historical records, already the stuff of myth and legend.

Take, for example, the most famous Luddite action, the one that would be told and sung about and told about again for the next two hundred years. In the West Riding of Yorkshire on April 11, 1812, a large group of men from more than one village converged at midnight and marched on Rawfolds Mill, near Liversedge. The owner of the mill,

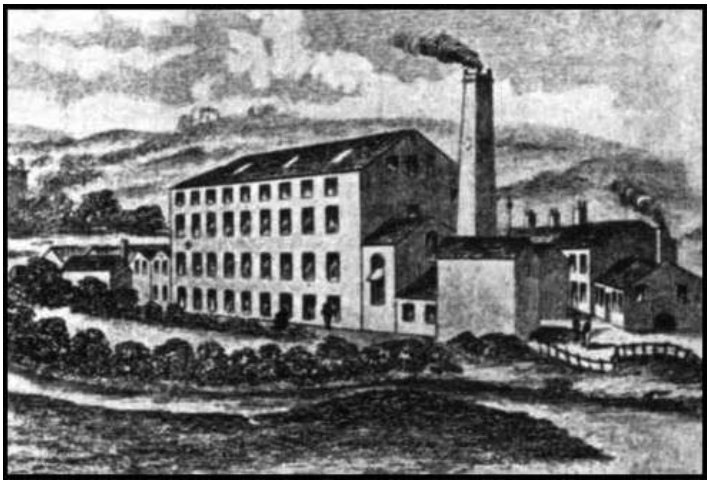

Figure 2.1 Nineteenth-century drawing of Rawfolds Mill, Liversedge, Yorkshire, the site of the most famous Luddite attack, April 11, 1812. Reproduced by permission of Kirklees Community History Service, Huddersfield, U.K. Photograph by Chris Yeates.

William Cartwright, fought back with armed militiamen. Two Luddites were killed on the spot and at least two more died later of their wounds.

The story was immediately understood on both sides as a siege by enemy combatants, something straight out of medieval romance. It may be difficult to remember that the "castle" was in fact a modern factory, as an early-nineteenth-century drawing of the building makes clear (see Figure 2.1). The remembered and narrated details of the Rawfolds attack are all larger than life: entrenched forces within preparing ingenious defenses, desperate forces without creeping up in the night, led by the wielder of the emblematic weapon, the giant sledgehammer, "Great Enoch," by which the doors were to be battered down. The hammers used by the Luddites in this region were manufactured by the local blacksmith, Enoch Taylor of Marsden, who also provided much of the local machinery under attack. Great Enoch was another pointed satiric gesture, in this case resembling a bit of sympathetic magic. The Luddites used Enoch's hammers (nicknamed after their maker) to smash Enoch's machines; the saying was, "Enoch made them, Enoch shall smash them." The point is that the iconic hammer is already a symbol — like Moses's staff, the mace of the Lord of misrule, the magic wand of Harlequin, or Achilles' shield — when it shows up in Luddite writings, and it has continued to appear

in almost every account of the West Riding Luddites since the night of the Rawfolds attack. This is partly because the hammer makes a convenient material (not to mention phallic) symbol of primal power. But it was the Luddites themselves who began the tradition by loading the hammer with symbolic meaning — and meaning with a rhetorical, satiric edge.

The sledgehammer was also a tool that only the muscled worker could wield, so it stood for the worker's inalienable power. A related symbolism lies behind the hammer and sickle of twentieth-century communism, the railroad worker's hammers in legends like John Henry, and the monkey wrench of twentieth-century factory workers' or eco-activists' acts of sabotage. In more recent times the symbol has been invoked in foam-rubber hammers printed with the words "strike any key" or "computer repair tool" and kept as stress-relieving toys in cubicle workstations. More seriously, the Luddites' sledgehammer was a not-too-subtle reminder of the irresistible brute force below the level of the law (never mind that the doors of Rawfolds Mill seem to have resisted Enoch very well in the event). The hammer connects the grievances of the Luddites — their loss of livelihood — with the planned redress: first battering down the walls of the mill then smashing the obnoxious machines. It has the neat logic of wish-fulfillment: The laborer's simplest, most primitive tool, the one literally closest to hand, will restore a just order to the trade by overwhelming the more complex and hated new tools that the workers did not own. One kind of technology could, the symbolism said, ultimately smash the other.

In fact, the Luddites appropriated and (in some instances) used all kinds of weapons, including firearms. The famous "Cropper's Song" begins with a call to arms of this motley kind:

> Come, cropper lads of high renown,
> Who love to drink good ale that's brown,
> And strike each haughty tyrant down,
> With hatchet, pike, and gun!
> Oh, the cropper lads for me,
> The gallant lads for me,
> Who with lusty stroke,
> The shear frames broke,
> The cropper lads for me! [28]

The next verses challenge the "specials" or militiamen and soldier to moonlit battle. The final rousing stanza celebrates the Luddites' most memorable weapon:

> Great Enoch still shall lead the van.
> Stop him who dare! stop him who can!
> Press forward every gallant man
> With hatchet, pike, and gun!

Like the pikes carried in workers' demonstrations and at Reform-movement meetings, visual echoes of the crowds of the French Revolution, the sledgehammer as a symbol declared that the homely implements of a traditional way of life, what a single worker could carry in his hand and use effectively, would serve as a powerful weapon, and that is why Great Enoch *leads* the march of the infantry of hatchet, pike, and gun.

Just outside Huddersfield today, the Tolson Museum of local history (in Ravensknowle Park) houses what some have called the last surviving authentic Enoch sledgehammer. Neo-Luddite author David Noble reportedly tried unsuccessfully to arrange for the Smithsonian Institution to display an Enoch in a special historical exhibit he planned to curate at the museum.[29] It is a legendary, almost fetishistic, object in Luddite lore. Part of an informative but out-of-the-way corner display on the Luddites in the Tolson Museum, this Enoch hammer now rests on its iron head in a glass case, crossed diagonally, as in a heraldic coat of arms or traditional martial decoration, with what is reported to be the sword carried by the mill owner, William Horsfall, when he was assassinated by a band of Luddites hiding behind a wall along the road down which he was riding (see Figure 2.2). The display case also contains, beneath these symbolically opposed, crossed weapons, a constable's wooden truncheon, an inscribed militiamen's spoon, and a marksmanship medal of a local volunteer. These are vivid relics of the Home Office-sponsored massive military occupation of the West Riding in 1812. There is also a hand-knitted hair tidy supposedly made by William Thorpe while he was imprisoned in York Castle, awaiting trial and eventual hanging (on January 8, 1813, along with George Mellor and Thomas Smith) for the murder of Horsfall. In this local

Figure 2.2 Display case containing a "Great Enoch"–style sledgehammer (manufactured by Taylor's of Marsden) and other Luddite artifacts, Tolson Museum. Reproduced by permission of Kirklees Community History Service, Huddersfield, U.K. Photograph by Chris Yeates.

museum, at least, the Luddite uprising, along with its suppression, is still tellingly represented with the ominous symbols of outright civil warfare. The sledgehammer stands behind its glass in the place of a general's staff or sword used in a famous battle, the worker's tool militant, symbolic in just the way the Luddites themselves intended that it should be.

The Dumb Steeple at the Crossroads (of Folklore and History)

Before marching on Rawfolds Mill, the hundred-plus crowd of Luddites reportedly met that night at a prearranged marker, the Dumb Steeple, a stone obelisk that used to stand in a field on the way. This is another of the oft-recounted symbols of that fateful battle and siege. Illustrations of the obelisk appear in many historical accounts of the Luddites, and its symbolism has persisted. In 1927 the Huddersfield Labour Party called for a pilgrimage to the Dumb Steeple to commemorate the Luddites, declaring, "The stones of the dumb steeple cannot remain dumb."[30] The local associations of the object are rich, and they circulate from myth to myth. The steeple is thought by some to have been associated with the medieval Kirklees Priory, the nunnery "where Robin Hood, on his death-bed, is traditionally supposed to have shot his final arrow from a window to determine his burial place."[31] Thus the siege of Rawfolds Mill, led by Great Enoch, just may have had a connection to the legendary landscape of Robin Hood, whose place in local lore Ned Ludd was attempting to usurp that night.

In one typical Romantic literary ballad of 1828, the traditional story of Robin Hood's death is related in fashionably sentimental tones: "Once more with vain and fond regret / Fair Nature's face he eyed."[32] He raises himself, fires the arrow that will mark his grave in the greenwood, and dies. The story of the death of Robin Hood at Kirklees Priory has no firm historical basis. Likewise, there is absolutely no documentary evidence as to whether the Luddites met at the Dumb Steeple because of its legendary resonance, its connection to Robin Hood's death. But given their other appropriations of the aura of Robin Hood, it seems possible at least, and it fits into the local fabric of legends.

At the very least, it makes a good story, for the Luddites to march from the marker of the place where the legendary outlaw shot his last arrow — and assuming the lore was available to them, this may well have occurred to the Luddites as well. Such stories are how myths and subcultures get made. They give meaning to seemingly random historical particulars, including local legends and landmarks, homely implements, and joking remarks. Telling such symbolic stories adds new narrative layers to existing legends, constructing a rich context within which to take meaningful actions. A myth remains meaning-

ful so long as telling it (which often means altering it) makes culture. General Ludd marched, sometimes satirically, out of a rewoven version of the same amorphous popular culture that produced the multiple versions of Robin Hood. At least some of the Luddites exploited the local connections to good effect and created a hammer-wielding bandit-hero of their own.

The folkloric popular-culture contexts of Luddite symbolism help us to understand the continued intense appeal of the movement down to our own time, as well as the way such symbolism served as a vital tool in the repertoire of the Luddites' political tactics. These popular-culture contexts also help to explain the satiric yet threatening tone of the central figurehead of the movement. In the 1830s, Ludd was, as it were, reincarnated in another mythical leader, the figure of Captain Swing. The Luddite tone of satiric threat carried over to that campaign, and, as I pointed out in Chapter 1, this tone was successfully caught in the relatively obscure 1998 California Croppers' historical puns and "serious unseriousness," the playfully destructive game of football amidst the stigmatized, technology-produced transgenic crops.

On the one hand, I want to avoid collapsing Luddism and neo-Luddism, to avoid assuming a simple "inheritance" of the antitechnology philosophy from 1811 to the twenty-first century. The shifting contexts are surely too complicated to support such simple linear continuities. But on the other hand, recognizing these historical differences does not mean we should therefore assume that the Luddites were all about material acts and neo-Luddism is all about ideology and symbolism ("culture"). The point of this chapter is to argue just the opposite: that historical Luddism was already a symbolic, cultural — even subcultural — phenomenon. It's odd that some who are fully prepared to see the Berkeley-based "Croppers" as engaging in symbolism, allusion, and satire somehow automatically assume that nineteenth-century radicals were necessarily simpler in their aims and methods, more direct, more sincere. This is ultimately a form of historical prejudice, a form of "presentism" and a version of E. P. Thompson's "enormous condescension."

On the contrary, as I have been trying to show, the original Luddites were already engaged in their own vital forms of storytelling, were even to some extent engaged in an early form of what we think of today as

a "media campaign" to support their direct action. They were actively engaged in *representing* their affiliations, goals, and values in symbolic ways, through the media of letters and ballads *and* direct actions, and the journalistic and word-of-mouth reportage (and spying) all this provoked and inspired. In defiance of stereotypes, this highly symbolic subculture was the product of the hands-on laborers who are famous for their physical acts. The truth is that at the very heart of the most direct kind of physical action one can imagine — a worker's sledgehammer coming down on a hated frame — there was already present, from the very beginning, a sophisticated set of symbols, myths, and intertextual allusions, a language of signs that are also more than signs. Even in 1811, long before cultural critics began to analyze cultures and their subcultures, the Luddites' actions were already also acts of representation, their representations a kind of action. The next three chapters take up specific examples of literary and other cultural works that have represented (or have been seen as representing) the Luddites and their rich symbolic legacy.

Chapter 3

Romanticizing the Luddites

Another expression of a Luddistic kind, also contemporary with the Luddites, was Romanticism, beginning with Blake and Wordsworth and Byron particularly, who like the machine breakers were repulsed by the Satanic mills and getting-and-spending of the present and like them were mindful of the ruined paradise of the past.

— *Kirkpatrick Sale*

Intellectuals and romantics like the poets Blake, Byron, Shelley and Wordsworth picked up that anti-technology theme, but identified with its other side. In the "dark Satanic mills" of industry, they saw the human spirit being stifled. . . .

— *William Safire*

> Not to romanticize the agrarian past, but much of urban and small-factory-town life [during] the Industrial Revolution was very much like that of Blake's dark Satanic mills. Technology and trade marched on and global empires were created; monopolies arose; it all sounds familiar.
>
> — *Paulina Borsook*

It all sounds a little *too* familiar. As the collection of quotations above demonstrates,[1] the association of the Luddites with the Romantic poets has become a cliché. It's common now to compare the weavers and croppers with authors such as William Blake, William Wordsworth, Lord Byron, Percy Shelley, and Mary Shelley — all of whom were writing their best-known literary works at around the same time the Luddites were writing threatening letters and breaking machinery. It comes as no surprise that laborers and poets of the same country in the same era should have certain things in common. These shared historical contexts are important and continue to be worth exploring, and there is no hard dividing line between hammer and poem when it comes to making (and studying) culture. The whole point of the previous chapter was to show that the Luddites acted symbolically and culturally (as well as materially and politically) when they invented Ned Ludd, wrote letters, composed ballads, and swung Great Enoch sledgehammers. But looking at shared historical contexts for different kinds of cultural representations is not the same as simply *equating* one with the other, Luddites and Romantics, as do many citations of Luddism. Where does this equation come from? Is there anything truly Romantic (in the poetic sense) about the Luddites?

First, it depends on what you mean by Romantic. The authors cited in these comparisons are almost always taken from older academic ideas of the traditional Romantic canon, and those citing them often assume that these writers express a unified "spirit of the age." In this way, Romanticizing the Luddites depends on a limited and an old-fashioned idea of what Romantic poetry was all about, an oversimplification of the whole field of Romanticism, as scholars of the Romantic period now understand it. Second, it is usually supposed by the Luddite comparison that poetry is mostly about the "themes" it "contains," that Romantic poetry un-problematically reflects an "anti-technology theme" and that we only

need to "apply" the truths of poetry to the facts of history (and vice versa) in order to better understand both. Romanticists recognize this as an example of the kind of circular reading strategy that has come to be known as "the Romantic ideology," the uncritical use of Romantic texts to establish the ideas and perspective by which those very texts are to be evaluated and analyzed. Like all cultural works, Romantic poems are products of the history of their place and time. But the process of interpretation requires more than finding a theme in a poem, then looking for that theme in other poems and in social groups or historical events chronologically synchronous with those poems.

This is not primarily a book on literary theory or on Romantic literature, so it is not the place in which to rehearse the critiques of the Romantic canon and the Romantic ideology that have taken place in literary criticism over the past two or three decades.[2] Obviously, the writers cited above are not literary critics and do not mean to make a contribution to the literary history of Romanticism. They would no doubt say that they are merely using Romantic poetry as a touchstone or source of ideas. This kind of casual allusion is for the most part only meant to lend authority to the themes and philosophies that the writer finds in Luddism as a social phenomenon. By suggesting that such ideas were in the air at the time, the writers attempt to connect the Luddites to the supposed spirit of the age as reflected in (now) well-known, culturally significant (canonical), works of art. But by the same token, the poets are reduced by this move to being "thinkers" or commentators on the contemporary scene (instead of creative artists working in the medium of language). One reason for this move is to try to fill in the silence left by the historical Luddites.

Another unfortunate result of the too-easy equation of the Romantics with the Luddites, whether intended or not, is to imply that the writers were able to express what the Luddites could only *do*, that it took the poets to give real meaning to the Luddites' supposedly instinctive actions. This way of juxtaposing them paradoxically *separates* the inarticulate workers (with their sledgehammers and their code of silence) from the eloquent writers — as Percy Bysshe Shelley famously and grandly referred to them, "the unacknowledged legislators of the World" — who were supposedly able to articulate with their words

the Luddites' implicit pro-nature and antitechnology philosophy, their "primitive" or instinctive rebellion against the future.

Naturally, Romantic poets did address the economic and social changes that had led to the general crisis to which the Luddites were also responding. Kirkpatrick Sale, in the passage quoted above, is aware of this more historical and contextual way of reading Romantics and Luddites together, as is clear from his careful terminology — "Another expression of a Luddistic kind, also contemporary with the Luddites, was Romanticism" — which merely defines Romantic poems as happening at the same time and sharing a general "kind" with the Luddites' ballads and actions. But are they of the same kind? Whether the term makes sense when applied to Romantic poetry, particularly the poems he alludes to, here, is a real question. In this chapter I look at some examples from the best-known poets — the usual suspects — in part because they are so often cited. My purpose is to test the connections, to reveal some places where they hold and some where they don't hold, and then to raise the more fundamental question: What is accomplished by continuing to cite these two nineteenth-century "movements" — Luddites and Romantics — together as if they transparently explain one another?

Romanticizing the Luddites means that the assumptions, themes, and implicit arguments of Romantic literature as it has been defined and taught — what Jerome McGann has called "the romantic ideology"[3] —continue to shape our view of the historical Luddites and their own "expressions," as well, including their direct actions. Like a Claude glass, the small oval-shaped and tinted mirror that was fashionable during the Romantic period among hikers and sketchers, a device for framing any landscape viewed in it as "picturesque," Romanticism has provided a powerfully distorting frame or lens through which to view the reflection of the Luddites — one exaggerating the importance of nature, transcendence, and individualism. It is impossible to simply remove the Romantic lens and get a clear, unmediated view of what the Luddites really did (much less what they really thought), but we can at least recognize the role played by the Romantic ideology in interpreting the Luddites — which more often than not, I would suggest, means interpreting them as *neo*-Luddites before the fact.

Take Kirkpatrick Sale's notion that the Luddites were "rebels against the future," a phrase that contains within it an assumed Romantic individualism (the heroism of the rebel against authority) as well as Romantic transcendence of the troubled historical present — both ideas that have a continued appeal to our own anxious time and its troubled relation to the uncertain future. The same goes for Sale's (and others') assumption that the Luddites were proto-ecologists attempting to return to a more harmonious, ecological, natural way of life. The historical record, limited as it is, does not support these assumptions. Besides, recent critiques of Romantic ideology have shown that in the Romantic period poetry itself was not so monolithically thematic. Some of the apparently more direct statements in the poetry, the ones usually quoted in this context, often turn out, on closer examination, to be less Luddistic than (in effect) neo-Luddistic *avant-la-lettre*, less about the nineteenth-century followers of Ned Ludd and more "anticipations" of early-twenty-first-century concerns. The concerns of the present were shaped and articulated with the help of Romantic poetry, which in turn became part of the canon in part because it was news that stayed news, texts that could be construed as reflecting our own concerns.

Blake's Dark Satanic Mills

The single most-often quoted passage in Romantic poetry when it comes to discussions of Luddism is William Blake's reference to "dark Satanic Mills." It is impossible to separate the past two hundred years of industrial change and apocalyptic fears from the way those lines are read, but we can at least become aware of this retroactive inflection.

They are taken from Blake's famous lyric known as "Jerusalem," now perhaps best known as an anthem heard in European football stadiums.

> And did those feet in ancient time,
> Walk upon Englands mountains green:
> And was the holy Lamb of God,
> On Englands pleasant pastures seen!
>
> And did the Countenance Divine,
> Shine forth upon our clouded hills?
> And was Jerusalem builded here,
> Among these dark Satanic Mills?

The familiar and stirring musical setting was provided much later, however, and these lines of verse were written (actually, they were hand-etched into a copper plate and then hand-printed) as part of the preface to Blake's strange and difficult visionary poem, *Milton* (1804).[4] Interpreting Blake's symbolic language is a monumental task in itself — so I'll resist the urge, here, to offer a detailed interpretation of *Milton* or of Blake's work in general. What matters to those who cite it in the neo-Luddite context, besides the obvious fact that it refers to mills, is that this lyric projects a past in which divinity smiled on a "green and pleasant," pre-industrial England, and that, in later stanzas, this is connected to a millenarian future in which England will again be "green and pleasant," a utopian City of God. In terms of the dissenting religious tradition in which Blake was raised and from the perspective of which he wrote most of his great works, this is a form of what sociologists of religion refer to as chiliasm, a way to imagine the fulfillment of a divine prophecy within the human heart and possibly in the world as well, a millennium that can happen now, at any given moment, when the New Jerusalem will be built on Earth, at least for those willing to perceive and imagine it. For Blake, "now" means in the England of 1804, despite — indeed in the face of — its gloomy "Satanic Mills." The poet claims a historical precedent for the wished-for transformation, then asserts that he "will not cease from Mental Fight" until that utopia is built. No wonder the song appeals to neo-Luddites who would base their own beliefs on the meaningful connection between their dark "now," a hoped-for future, and the oft-cited historical precedent of Luddism in 1811.

The Satanic Mills themselves are usually taken to be literal mills, for milling flour, or factories in the general sense, emblems of the industrial revolution. Literary critic James McKusick points out that Blake's poetry as a whole "engages in a sustained and bitter critique of the material conditions of production — the 'dark Satanic Mills' that constituted the coal-fired industrial base of Britain's mercantile empire."[5] Blake would have seen on his daily walks in London a giant automated mill powered by a steam engine designed by Boulton and Watt, Albion's Mill, along Blackfriars Road.[6] This was supposed to produce six thousand bushels of flour a week and was one of the major

attractions of London at the time. Significantly, it burned to the ground in March 1791, while Blake was living nearby in Lambeth, possibly as the result of arson by angry workers. It has even been reported that groups of millers on Blackfriars Bridge celebrated the burning of the mill, and that one sign read "Success to the mills of ALBION but no Albion Mills." This was twenty years before the Luddites would surface in the North and Midlands.

But as biographer Peter Ackroyd points out just after recounting the story of Albion's mill, Blake also used the term "mill" in a myriad of complicated, mostly symbolic ways, possibly alluding to everything from biblical to Norse myth, from Tom Paine to John Barleycorn (131–32). This doesn't mean that Blake did not also mean simply "manufactories" by the term "mills," only that the meaning of the word was overdetermined in his day and in his own usage, that it ranged far beyond our own more narrow and focused definition, which is now attached so firmly to the factories of the Industrial Revolution and its long aftermath.

In the context of the conflicts of his own mid-twentieth century, Blake scholar David Erdman argued that the "dark Satanic Mills" probably symbolize something like the "war machine" or the "military-industrial complex."[7] In the actual poem, *Milton*, the "'dark Satanic Mills' are mills that produce dark metal, iron and steel, for diabolical purposes" — that is, to fuel the war against France. The mills as Blake first imagined them are quite possibly "machinery" in this more metaphorical and broadly political sense, whose meaning includes the forges of nascent industrial capitalism and its support for the "war machine." Blake's image of Satanic Mills responds in its own way to the big picture — of industrial and government co-optation of workers and their trades — against which the Luddites later struggled in their campaign.[8]

Of all the Romantics, however, Blake serves as a particularly useful reminder of the complicated nature of history (and this includes literary history). His very status as a canonical author was uncertain until the mid-twentieth century, though his work has always retained a special appeal to outsiders and dissidents. His poetry has been enthusiastically quoted, recited, and sung by members of various countercultures since William Butler Yeats's poetic mysticism claimed him as an archetypal

ancestor: Allen Ginsberg, for example, championed him in the 1950s and 1960s as a prophetic precursor, and Jim Morrison and the Doors took the band's name from one of his "proverbs of Hell" (on "the doors of perception") in the 1960s. "Jerusalem," in particular, has served as a hymn for a number of liberal and radical groups in the past two hundred years, including the British Labour Party. Its millenarianism was originally the focus, but more recently it has been sung as an ecological anthem as well. In the early 1980s the antinuclear movement (which in many ways anticipated the antiglobalization coalitions of the present day) coordinated concerts and rallies with sit-ins and civil disobedience campaigns. Blake's millenarian lyric seemed right for the moment, including the early lines on the "dark Satanic Mills" — in this case understood as symbolizing the war machine and perhaps foreshadowing power plant cooling towers. At one such rally I attended in the early 1980s, the stirring lines were sung by a boys' choir fronted by a full rock band in the echoing Cathedral of St. John the Divine in New York City.

> Bring me my Bow of burning gold:
> Bring me my Arrows of desire:
> Bring me my Spear: O clouds unfold!
> Bring me my Chariot of Fire!
>
> I will not cease from Mental Fight,
> Nor shall my Sword sleep in my hand:
> Till we have built Jerusalem,
> In Englands green & pleasant Land.

The 1980s antinuclear coalition was arguably a neo-Luddite movement, a movement of resistance to a specific harmful technology. Their use of Blake's words is typical of neo-Luddism in general.

This is only one example of the incestuous and sometimes looping relations between poetry of the past and contemporary culture. Romantic poetry does not really prophesy our own deepest concerns. Instead, Blake's poetry, for example, does respond to some of the same industrial and economic conditions against which the Luddites reacted. Much later, his poetry is canonized in part because it seems so "contemporary" to readers in the twentieth century. "Jerusalem" thus

seems to articulate a neo-Luddism that Romanticism has helped to shape in the first place. And Romanticism is a set of ideas and themes that Blake's art helped academic critics define, definitions into which his poetry was assimilated in the process of being canonized. Blake's antimachine Romanticism is part of the definition of neo-Luddism — but this is the result of the interrelated processes by which literary and cultural history have been made.

Another famous poem by Blake may help to illustrate these processes. "The Tyger," from the *Songs of Innocence and of Experience* (1794), poses a series of awestruck questions about sublime nature as embodied in the tiger. "What immortal hand or eye, / Could frame thy fearful symmetry?" the speaker asks, and the rest of the poem imagines the "framing" or making of the tiger in terms of metallurgy or the work of a smithy at his forge, the violent pounding out of a frame or body using hammer, anvil, chain, and fire. Then the poem closes where it began, in a baffled, perhaps pious, but clearly terrified wonder in the face of what the speaker imagines as the seat of creation, the "distant deeps and skies." Everything we know about Blake's strange philosophy or theology or cosmogony suggests that this is a poem of deep denial, that the trouble with the speaker of "The Tyger" is that he assumes some remote, "distant" and "fearful," creator instead of realizing that "all deities reside in the human breast" and that human imagination is responsible for "making" the tiger — or at least for making it into a symbol of transcendent and sublime terror. All that hammering and forging in the poem is not taking place in heaven or hell, as the speaker fears; it is symbolic of the inevitable making of reality by human imagination, the creative construction, shaping, "framing" of the world by human agency (and human tools).

Blake was of the tradesman and artisan class. His father was a hosier who sold the very kind of goods in his London shop that Luddite stockingers, for example, would have made in their Nottinghamshire workshops. Blake was a trained artist and engraver who worked with his hands in materials like copper and acid. His prophetic books are full of apocalypse and millennium drawn with the imagery of the forge — hammers, anvils, fires — and the workshop or print shop, as well as the archetypal imagery of weaving and looms. His *Songs of Innocence and*

of Experience famously satirizes late-eighteenth-century London, with its impoverished orphans, chimney sweeps, slaves, soldiers, prostitutes, and religious hypocrites. Given their adjacent or overlapping class and trade contexts, not to mention Blake's dissenting religious background and radical politics, it would be surprising indeed if he and the industrial radical activists in Nottinghamshire or Yorkshire or the North had nothing in common. But his poetry can be thought of as "Luddistic" only in this very generalized sense, in the sense that he shared these socioeconomic and class contexts. Like many of the Luddites (as far as we can tell from the limited record), Blake had Jacobin sympathies, resisted the crown, and rejected contemporary notions of empire and its "progress."

But in its "minute particulars" (to use one of Blake's preferred terms), his work says very little about actual mechanization, wages, not to mention industrial sabotage against the "mills" of the day (however that word is to be understood). Actually, Blake's Romantic distrust of rational science and even his radical critique of the mills of war and industry are arguably more an anticipation of attitudes of twentieth-century *neo*-Luddites than of the 1812 Luddites — and again this is not surprising, because our era is the product of many of Blake's (and his contemporaries') Romantic assumptions about these matters. We are still to a striking degree the descendants of Blake's poet-Enlightenment skepticism about science and — on the other hand — of the other Romantics' (but decidedly not Blake's) celebrations of nature and rural life during a time of industrialization.

Wordsworth's Nature

The Romantics are known as nature poets, but scholars of the Romantic period know that constructions of nature vary widely among even the canonical poets. For Blake, with his radical millenarianism, the natural world was an illusion, a result of the fallen state of man and his limited perceptions. The imagination, according to Blake, was to re-create a new reality, to "redeem" organic nature — not to "appreciate" or "connect with" it (at least as it could be experienced through the fallen senses). Blake was a lifetime Londoner and his ideal human environment was a regenerated and teeming city. Students of Romanticism know that this

urbanism and distrust of raw nature separate Blake from the celebrated nature poetry of other Romantics such as Wordsworth. So Kirkpatrick Sale's double allusion awkwardly combines the two poets into one representative worldview — and then attributes that worldview to the Luddites — when neither poet (much less any actual Luddite) would have agreed to underwrite this kind of "Romanticism."

Alongside Blake's "Satanic Mills" Sale cites Wordsworth's "getting and spending" as something else by which the Luddites were "repulsed." This refers to Wordsworth's sonnet, "The world is too much with us," first published in 1807 but written circa 1802 to 1804. This sonnet is often cited as an example of Romantic nature poetry:

> The world is too much with us; late and soon,
> Getting and spending, we lay waste our powers:
> Little we see in Nature that is ours;
> We have given our hearts away, a sordid boon![9]

Like other Romantic works — but *not* like Blake's — this poem sees nature as humanity's lost birthright, an organic home from which society in the early nineteenth century had become painfully alienated. "Getting and spending, we lay waste our powers" combines a traditional Christian indictment of worldliness and greed ("what if ye gain the whole world but lose your own soul?") with a critique of early-modern consumerism. But Wordsworth was ambivalent about the sacred, as we see in the sonnet's strange appeal to a pagan "creed" as a way to re-enchant or remythologize the natural world:

> Great God! I'd rather be
> A Pagan suckled in a creed outworn;
> So might I, standing on this pleasant lea,
> Have glimpses that would make me less forlorn;
> Have sight of Proteus rising from the sea;
> Or hear old Triton blow his wreathèd horn.

The indictment straddles traditional piety and modern sociology. It is simultaneously a sermon against worldliness and an analysis of modern alienation. In both cases, innocence in nature is what has been lost, a "primitive" ideal of harmony between the human subject

and the natural (as opposed to the civilized) "world" — as interacting co-agents in a whole system that can be fairly if anachronistically characterized as "ecological." Indeed, a number of literary critics have in recent years worked to develop a "green" criticism of the Romantics, with Wordsworth often standing at its center.[10]

Wordsworth lived long enough to both help invent the Romantic veneration of nature and bemoan its eventual cheapening (as he saw it) once the Lake District began to be turned into a tourist attraction in the modern sense. In 1844 he got involved in a controversy over new railways coming into the area. His sonnet on the occasion sounds at first like an argument for unspoiled nature: "Is then no nook of English ground secure / From rash assault?" it begins (III, 61–62). But it actually takes the side of the locals, with their "Schemes of retirement sown / In youth," against disturbance by nonresident visitors in search of picturesque and sublime "nature." (Wordsworth argued elsewhere that it took time to learn to appreciate nature, that the urban dwellers who might make use of the railway would not really be up to the task.) This sonnet concludes with an apostrophe to nature herself as a persuasive text — a "romance" — literally romanticizing nature (as if it were not just such romanticizing that was bringing the tourists to the Lakes!).

> Plead for thy peace, thou beautiful romance
> Of nature; and, if human hearts be dead,
> Speak, passing winds; ye torrents, with your strong
> And constant voice, protest against the wrong.

Wordsworth's appeal is not for the establishment of a national park or "wilderness" area in our sense, but on behalf of a human way of life that he saw as paradoxically threatened by the modern taste for "nature."

A decade earlier he had written another sonnet attempting to reconcile the conflicting feelings provoked by industrial accomplishments, titled "Steamboats, Viaducts, and Railways."

> Motions and Means, on land and sea at war
> With old poetic feeling, not for this,
> Shall ye, by Poets even, be judged amiss!
> Nor shall your presence, howsoe'er it mar

The loveliness of Nature, prove a bar
To the Mind's gaining that prophetic sense
Of future change, that point of vision, whence
May be discovered what in soul ye are.
In spite of all that beauty may disown
In your harsh features, Nature doth embrace
Her lawful offspring in Man's art; and Time,
Pleased with your triumphs o'er his brother Space,
Accepts from your bold hands the proffered crown
Of hope, and smiles on you with cheer sublime. (IV, 47)

The poet who had said he would "rather be a pagan" than lose sight of nature's enchantment here tries on a more hopefully prophetic role, one that recognizes the possibility in some future time that some good (or at least "hope") may come from this change even in the face of new technology's marring of nature's beauty. It's a strange poem coming from the famous "poet of nature," as Shelley named him, one that argues essentially that technology is "natural," too: "Nature doth embrace / Her lawful offspring in Man's art."

In his long poem *The Excursion*, Wordsworth mourned the marring of nature's beauty but also the human cost of the spreading "unnatural" factory system.

an unnatural light,
Prepared for never-resting Labour's eyes
Breaks from a many-windowed fabric huge;
And at the appointed hour a bell is heard,
Of harsher import than the curfew-knoll
That spake the Norman Conqueror's stern behest, —
A local summons to unceasing toil!
Disgorged are now the ministers of day;
And, as they issue from the illumined pile,
A fresh band meets them, at the crowded door —
And in the Courts — and where the rumbling stream,
That turns the multitude of dizzy wheels,
Glares, like a troubled spirit, in its bed
Among the rocks below. Men, maidens, youths,
Mother and little children, boys and girls,
Enter, and each the wonted task resumes

> Within this temple, where is offered up
> To Gain — the master-idol of the realm,
> Perpetual sacrifice. (*Excursion*, VIII, 167–85; V, 270–71)

Notice that both the Kendall and Windermere railway poem and this part of *The Excursion* are about how the poor *should* relate to nature: On the one hand, they should not be made to work in factories, which mar the landscape and demand cruel servitude from the workers; but on the other hand, they should also not be encouraged to travel from the cities out into nature for purposes of edification and pleasure. Wordsworth was criticized even in his day for holding these kinds of contradictory positions. His romanticized nature and interest in the poor did not always sit comfortably together in his work, and his ambivalence surrounding these issues was focused by the coming of new technology, the factories, and the railways.

This intellectual ambivalence and ideological complexity is lost on most neo-Luddites who cite Wordsworth as a precedent. Sale's appropriation of Luddism uses Wordsworth as a convenient way to superimpose on the historical Luddites our own "repulsed" feelings in the face of environmental degradation — because for our own time technology has been so clearly defined as the enemy of the environment. But a pure and untrammeled nature is already merely an ideal even in Wordsworth's poetry, and it has almost nothing to do with historical Luddism. If the original Luddites were repulsed by getting and spending, it was only in the political sense that some of them were opposed to the laissez-faire system — all the way from the Orders in Council down to the economic exploitation of those who charged them excessive rent for their frames or underpaid them for their labor. The Luddites were not concerned about "consumerism" per se or the degradation of the environment, but were deeply concerned about protecting their rights and their trade against the encroachment of economic and political powers from outside and above. Some of them were also concerned about a wider political reform that might bring about a system that better respected such rights and practices. The use by some Luddites of the language of religious dissent can give their documents the ring of apocalyptic prophecies. But there is no evidence that Luddism had anything to do with apocalyptic environmentalism or Romantic naturalism.

If the Luddites implicitly champion an older way of life, it's by no means some vaguely medieval, Romantic reconstruction of a merry England, but the traditional life of the skilled worker's local community, a social order based on customary rights and privileges in which trade could prosper. Nostalgia plays a surprisingly limited role in their campaign to put right wages and trade relations, though they do make confident appeals to centuries-old trade relations. The Luddites were not rebels against some nebulous "future" (as Sale has it), but were resisting specific changes in their present historical moment. They were not fighting against an inevitable techno-industrial future — which is to say, our present. The Luddites' desired way of life was not remote or Romantic to them, and it had nothing to do with wild or untouched nature. They were seeking what they saw as a more civilized, *not* a more "primitive," existence. That word itself indicates a Romantic idealization of the past, an imagined rural-village culture, now lost or disappearing, and in need of eulogizing or collecting, much as American folklorists collected rural songs and blues in the early twentieth century, for example.

It was the Romantic poets, and then their readers and critics, who imagined an idealized primitive way of life in rural England. Take, for example, another Wordsworth poem, the deceptively simple, "We Are Seven," published in the *Lyrical Ballads* of 1798 (I, 236–38). The poem takes the form of a dialogue between a first-person visitor from the city and a little girl he encounters in a Lake District village. "I met a little cottage girl," it begins, using a telltale term for the nameless girl that only an outsider would use.

> She had a rustic, woodland air,
> And she was wildly clad:
> Her eyes were fair, and very fair;
> — Her beauty made me glad.

When the serious visitor asks her how many brothers and sisters she has, the little girl counts seven, though two live far away, two have gone to sea, and two "in the church-yard lie." As anyone who has read it will remember, the rest of the poem consists of a subtly comic dialogue in which the little girl stubbornly persists in counting all her siblings,

including the dead ones, while the visitor — our narrator — tries to get her to do the math and subtract the two siblings who are "in heaven."

> "If two are in the church-yard laid,
> Then ye are only five."
>
> "Their graves are green, they may be seen,"
> The Little Maid replied,
> "Twelve steps or more from my mother's door,
> And they are side by side.
>
> "My stockings there I often knit,
> My 'kerchief there I hem;
> "And there upon the ground I sit,
> "And sing a song to them."(ll. 35–44)

Wordsworth's lapidary dialogue dramatizes a deep cultural divide, not between an ideal past and an industrial-technological future, but between the lived experience of rural England and its idealization as "rustic" or "primitive." Ironically, these very idealizations (which I think this ballad is mocking) would eventually come to be associated by the general reader with Romanticism and especially with Wordsworth's own poetry. The Romantic poem thus contains within itself a latent satire of its own narrator's tendency to Romanticize the lives of the rural poor.

The poem was written well before the first Luddite uprising in 1811 but not before the social conflicts that gave rise to that uprising. In retrospect, it seems no accident that the little "cottage girl," like the original Luddites, is a stocking-knitter in a (literal) cottage industry. In the northern parts of England this was already in 1798 a symbolic activity associated with a traditional way of life. She knits by hand, of course, and presumably knits her own stockings, not stockings for the trade, though we may imagine (outside the fictional frame of the poem) that she might be part of an impoverished family engaged in the distressed cottage industry of knitting. At any rate, the visitor, our narrator, can only understand her way of life, including its poverty, in what have become conventional literary terms — by Romanticizing her.

Neo-Luddite interpretations of the historical Luddites are often strikingly like that of Wordsworth's narrator, anxiously questioning

the past but with predetermined answers in hand, at once rationalistic and Romanticizing. As a consequence they are often unable to hear a certain matter-of-factness in their subjects' lived experience, which might, like the little girl's perspective, include a more profoundly challenging, deeply rooted, economically ecological worldview than they expect when they begin their interrogation. In this light the poem helps to distinguish between the cottage girl's kind of nature — the lived-in environment where she does her (knitting) work — and the more abstract Romantic ideal as represented in other poems by Wordsworth and his contemporaries.

Keats's Romantic Nature

One of those contemporaries was John Keats, who was accused in his day of being a both a Cockney and a suburban poet, more familiar with flowerpots than wild nature. It's true that Keats's nature — unlike the Lake Country of Wordsworth — was what could be found in cottage gardens and public parks, on Hampstead Heath, say, on the edge of London. For Keats, nature is always already mediated. Even when he is outside in it, nature is inevitably experienced through the "screen" of representation, overlaid as it were with its representations in books and illustrations to books, but most especially in medieval tales of romance. In 1816, he wrote a sonnet that epitomizes this etymologically *romantic* experience of nature:

To one who has been long in city pent,
'Tis very sweet to look into the fair
And open face of heaven, — to breathe a prayer
Full in the smile of the blue firmament.
Who is more happy, when, with heart's content,
Fatigued he sinks into some pleasant lair
Of wavy grass, and reads a debonair
And gentle tale of love and languishment?
Returning home at evening, with an ear
Catching the notes of Philomel, — an eye
Watching the sailing cloudlet's bright career,
He mourns that day so soon has glided by:
E'en like the passage of an angel's tear
That falls through the clear ether silently.[11]

Here open air and blue sky are immediately linked to the poet's reading. And what he reads, when he sinks into the "wavy grass" is "a debonair / And gentle tale of love and languishment," which is to say a romance. Keats's poet-figure experiences nature as a respite and an imaginary space apart, but it is a space literally romanticized.

Actually, much of the so-called nature poetry of the Romantics is bookish in precisely this way, a form of what German Romantic Friedrich Schiller called "sentimental" rather than "naïve" poetry, an art that self-consciously idealizes what it has lost or is losing in its relationship to nature, which in the Romantic period is already often found only in representations.[12] This sentimental self-consciousness is part of what gives Keats's sonnet its melancholy tone, as when the speaker must return to the city where he has been (and will remain) "pent." Interestingly, he cannot merely read the romance to escape: It is the combined experience of fresh air and leisure reading that gives the poet release from city life. In this poem Keats is part of the way to the defiantly artificial, utopian imaginings of the Victorian poet and designer William Morris, for whom the pre-industrial natural order became a deliberate alternative, a choice in contradistinction to nineteenth-century industrial capitalism, but only as an all-enveloping realm of literally artificial, artistic representation.

This oppositional artifice in representing nature, the deliberate imagining of a past that challenges the present and a nature that challenges what culture has become, informs Romantic-period revivals of the Robin Hood myth as well, as we saw in Chapter 2, and this was the popular myth with which the Luddites have been most closely associated. Sir Walter Scott, Leigh Hunt, J. H. Reynolds, and Keats himself helped to establish the Romantic version of the myth. Keats's own poem on "Robin Hood" was written in 1820. It is characteristically melancholy and nostalgic, self-consciously sentimental. In this poem, Robin Hood is long gone, has long been only a legend, along with those more primitive, more natural times when "men knew nor rent nor leases." It quickly becomes clear that those times themselves are also no more than myth, as far as we can know.

> Gone, the merry morris din;
> Gone, the song of Gamelyn;
> Gone the rough-belted outlaw
> Idling in the "grené shawe";

All are gone away and past!
And if Robin should be cast
Sudden from his turfed grave,
And if Marian should have
Once again her forest days,
She would weep, and he would craze:
He would swear, for all his oaks,
Fall'n beneath the dockyard strokes,
Have rotted on the briny seas;
She would weep that her wild bees
Sing not to her — strange! That honey
Can't be got without hard money! (ll. 33–48)

Keats gently satirizes his own nostalgia, here, even in the face of nineteenth-century industrial change, just as Wordsworth satirizes the obtuse narrator of "We Are Seven." But despite the satire Keats still seems to long for the artificial natural life of romance.

In Keats's Romanticism, the desire to return to a pre-industrial way of life seems quixotic, maybe even a little ridiculous, given the current state of the kingdom. But it still has a strong appeal. The primeval forest of English oaks, so closely associated with Robin Hood's exploits, is by now cut down and turned into ships (in Keats's era, with England at war with Napoleon, they would most likely be made into warships), and they have therefore "rotted on the briny seas." The poacher's economy of the king's deer and wild honey, that Romantic vision of harmony with nature in some imagined rural past, has been destroyed by the "getting and spending" of the industrial era (in particular, the paper money system). The world is too much with us. The strangely revenant Robin and Marian, in Keats's oddly dark fantasy, would come back to a life in which they would only be miserable because they would be miserably out of place, like woodland Rip Van Winkles. For Keats, Robin Hood signifies a kind of individualistic Romantic hero who in 1820 can live only in the poet's imagination — and, finally, can live only *as* a poet. Keats's poem doesn't explicitly mention the Luddites, though it connects Robin Hood to the Romantic period's catastrophic industrial change, but it provides a useful analogy for what would happen to the story of the Luddites in the two centuries to follow. As the Luddites became legend, the strategic collective actions (including

self-representations) of those skilled workers, traditional mechanics, or technologists, were gradually reframed and turned into a tale of Romantic primitivism and naturalism, the story of a greenwood idyll versus industrial realities, the faeries versus the factories, a wistful and nostalgic rebellion against the future.

Byron's Outlaw Hero

In order to understand how Romantic that notion of rebellion really is, consider an even darker and more egotistical version of the myth of the Romantic hero, one that may have even been partly inspired by the example of the Luddites: the myth associated with Lord Byron, the only canonical poet to write explicitly about the Luddites. Among the major Romantics, Byron is best understood as a kind of urbane anti-Romantic, critical of the new school of poetry with which he was popularly associated. Moreover, he was a baron whose estate, Newstead Abbey, stood in Nottinghamshire in the very heart of Luddite territory. His perspective on the Luddites was more direct and more political than that of many of his contemporaries.

Byron's first, or "maiden," speech in the House of Lords defended the Nottinghamshire Luddites and argued against a bill then pending to make frame breaking a capital offense. He delivered the speech on the occasion of the second reading of the bill on February 27, 1812, at the peak of Luddite activities in Yorkshire and of continued unrest in the Midlands. He had already written to the Whig leader, Lord Holland, for advice on the speech while expressing guarded sympathy for the Luddites.

> — by the adoption of a certain kind of frame, one man performs the work of seven — six are thus thrown out of business. But it is to be observed that that work thus done is far inferior in quality, hardly marketable at home, and hurried over with a view to exportation. Surely, my Lord, however we may rejoice in any improvement in the arts which may be beneficial to mankind, we must not allow mankind to be sacrificed to improvements in mechanism. The maintenance and well-doing of the industrious poor is an object of greater consequence to the community than the enrichment of a few monopolists by any improvement in the implements of trade, which deprives the workman of his bread, and renders the labourer "unworthy of his hire."[13]

Byron here makes the case against what we now call de-skilling and job displacement: For the good of community, the welfare of "mankind," especially the working poor, must not be sacrificed to "improvements in mechanism." A "few monopolists" must not be allowed to dominate the "community." But the letter from one noble lord to another contained a telling postscript: " — I am a little apprehensive that your Lordship will think me too lenient towards these men, and half a frame-breaker myself." From his ancestral estate in Nottinghamshire Byron claims to have witnessed with sympathy the suffering of the poor stockingers — and he more than sympathizes; he identifies with them. The point of the weak joke in the postscript is, of course, to ward off charges that he has overidentified with them. It is also a kind of boast. He is so liberal in his sympathies and politics, it implies, that such a class-crossing identification is conceivable, perhaps even likely.

The speech itself opens with a bit of first-person reportage:

> During the short time I recently passed into Notts [Nottinghamshire], not 12 hours elapsed without some fresh act of violence, & on the day I left the county, I was informed that 40 frames had been broken the preceding Evening as usual without resistance & without detection.[14]

Byron outlines the distress of the poor in the area and its occupation by the military, satirically referring to men who are guilty of "the capital crime of poverty" and of "lawfully begetting several children, whom, thanks to the times! they were unable to maintain." He explains the role of the frames in the weavers' trade and blames the "bitter policy, the destructive warfare of the last eighteen years," for bringing the workers to their present state of distress. This is to bring the Tory government's war home, he makes clear:

> I have traversed the seat of war in the peninsula, I have been in some of the most oppressed provinces of Turkey, but never under the most despotic of infidel governments, did I behold such squalid wretchedness as I have seen since my return in the very heart of a Christian country.

The only remedy the government can come up with is the draconian one of the present bill, to convict and execute the desperate victims of these squalid conditions.

The famous conclusion of the speech paints vivid images straight out of Romantic poetry, sentimental novels, or the kinds of popular prints etched by artists such as James Gillray and George Cruikshank.

> suppose one of these men, as I have seen them, meagre with famine, sullen with despair, careless of a life, —which your Lordships are perhaps about to value at something less than the price of a stocking-frame, —suppose this man surrounded by the children for whom he is unable to procure bread at the hazard of his existence, about to be torn forever from a family which he lately supported in peaceful industry, & which it is not his fault that he can no longer support, suppose this man, — & there are ten thousand such from which you may select your victims, dragged into court, to be tried for this new offense by this new law, still, there are two things wanting to convict & condemn him — & these are in my opinion, twelve butchers for a Jury, & a Jefferies for a Judge!

(Jeffreys was a legendarily cold-blooded "hanging judge.") The sentimental appeal of these lines against the harshness of the bill is melodramatic, in the precise generic sense. Within the conventions of parliamentary rhetoric in the tradition of Edmund Burke, say, and in the era of expressive Romantic sensibility, this was an effective emotional appeal — though not effective enough to prevent the bill's passing on March 20, 1812.

Much of the appeal depends on Lord Byron's being an impassioned (not dispassionate) witness of the squalor and violence in his home county. Listeners might well have suspected Byron of being "half a frame-breaker himself," at least in spirit. This is a suspicion the rhetoric is crafted not to refute but to provoke, whatever Byron had said in his letter to Holland. His class prejudice and often patronizing aristocratic attitudes toward the people whose causes he generally supported are well known, and the same mixed attitudes are in evidence here. But what is more interesting in the speech is that Byron, at the formal beginning of his career as a politician, is so clearly eager to attach himself to the Luddites (and not the other way around).

The parliamentarian and poet is drawing on the energy of the popular movement and its subcultural productions, those pamphlet ballads

sung by the saboteurs. This doesn't mean that Byron opportunistically exploited the riots in his home county merely for personal, political, or artistic advantage. His human sympathy seems sincere and his radical Whig political commitment is not really in doubt. But he clearly wants to appropriate the power of the Luddites in his own career, to borrow their energy, as it were, in order to make his own mark. This is the same young lord who will only weeks later, in March, find himself the best-selling author of *Childe Harold's Pilgrimage,* its hero a thinly disguised version of himself on the grand tour. The poem made him a European celebrity and began the process that made his name synonymous with brooding Romantic outlaws and outcasts, bandits, pirates, and antiheroes. His early interest in the Luddites — those local outlaw heroes and rebel bandits, masked saboteurs operating under secret oaths — clearly fed Byron's literary imagination and Romantic self-fashioning. Byron's speech Romanticizes the Luddites in turn. His way of making the case helped to construct the Luddites as themselves morally "noble," if passionate, individualist antiheroes. In Chapter 5 I discuss examples of Victorian and modern novels that continue to construct them in the same vein.

In this regard, Byron the poet followed Byron the legislator. On March 2, 1812, after he had given his speech but just as the Committee of the Whole House was starting to debate the frame breakers bill, Byron published anonymously in the *Morning Chronicle* his "Ode to the Framers of the Frame Bill." It is a biting topical satire that names names: No one familiar with events could have mistaken the identities of the blanks, so I have filled in the missing letters.

> Oh! well done Lord El[do]n! and better done R[yd]er!
> Britannia must prosper with Counsels like yours;
> Hawkesbury, Harrowby, helps you to guide her,
> Whose remedy only must kill ere it cures!
>
> Those villains, the Weavers, are all grown refractory,
> Asking some succour for charity's sake;
> So hang them in clusters, round each Manufactory,
> That will at once put an end to mistake.[15]

The timing of the publication was no accident. As one perceptive critic puts it, Byron "wanted the poem's stinging satire to be ringing in their Lordship's ears as they debated" the bill.[16] More blatantly than his speech had done, the satire mocks the cruelty of the proposed draconian measure.

> The rascals, perhaps, may betake them to robbing,
> The dogs to be sure have got nothing to eat —
> So if we can hang them for breaking a bobbin,
> 'Twill save all the Government's money and meat.
>
> Men are more easily made than Machinery,
> Stockings will fetch higher than lives;
> Gibbets on Sherwood will heighten the scenery,
> Shewing how Commerce, how Liberty thrives.
> . . .
> Some folks for certain have thought it was shocking,
> When famine appeals, and when poverty groans;
> That life should be valued at less than a stocking,
> And breaking of frames, lead to breaking of bones.
>
> If it should prove so, I trust by this token,
> (And who will refuse to partake in the hope,)
> That the [necks] of the fools, may be first to be broken,
> Who when ask'd for a *remedy*, sent down a *rope*.

The different categories of high and low culture, Romantic poetry and Luddite propaganda, do not easily apply here. This poem was reprinted just four days later in the March 6, 1812, *Nottingham Review*, set just below an abstract of the anti–frame breaking bill, so it is almost certain to have affected the culture of Luddism — probably to have been read by Luddites themselves.[17] Both the ode and the news story could easily have been read aloud at secret meetings that spring. The aristocratic Byron's identification with the Luddites, like the borrowing of Byron's poem by the local press, crosses a boundary only imperfectly separating very different classes and cultural contexts in that time of political troubles. When neo-Luddites cite Byron's ode as a Luddite document, they may not be aware of how close they are to this complex boundary-crossing truth about the text. They may also be unaware of

the subtle ways in which the ode and its context were already helping to Romanticize Luddism.

Compare the private poem on the Luddites that Byron included in a letter to his friend and fellow poet Tom Moore, during the next wave of Luddite activity, sent Christmas Eve of 1816.

> Are you not near the Luddites? By the Lord! If there's a row, but I'll be among ye! How go on the weavers — the breakers of frames — the Lutherans of politics — the reformers?
>
> As the Liberty lads o'er the sea
> Bought their freedom, and cheaply, with blood,
> So we, boys, we
> Will *die* fighting, or *live* free,
> And down with all kings but King Ludd!
>
> When the web that we weave is complete,
> And the shuttle exchanged for the sword,
> We will fling the winding-sheet
> O'er the despot at our feet,
> And dye it deep in the gore he has pour'd.
>
> Though black as his heart its hue,
> Since his veins are corrupted to mud,
> Yet this is the dew
> Which the tree shall renew
> Of Liberty, planted by Ludd!
>
> There's an amiable *chanson* for you — all impromptu. I have written it principally to shock your neighbour * * , who is all clergy and loyalty — mirth and innocence — milk and water. (BLJ, 5, 149)

Here Byron casually places Luddism in the context of the wider movement for radical reform. More personal motives are revealed in the letter as well, starting with the desire to shock the pious and timid by aligning himself with the "lads" in a macho "row." Throughout his career, Byron was inclined to what would later be called "radical chic." He identified with and funded various revolutionary movements, including the Carbonari in Italy and the Greek war of independence,

in a training camp for which Byron died in 1824. This is not to deny his commitment to these causes, only to reveal the complexities of that commitment, and to show that it had many causes, including inverse-class aspirations, a sort of downward mobility of political rhetoric.

In 1820 Byron wrote from Italy to his friend Douglas Kinnaird and compared the political climate there — headed as he thought for war — with various personal recollections, the peninsular war in Spain in 1809, for example, and including his own "County of Nottingham under the Luddites when we were burning the Frames — and sometimes the Manufactories — so I have a tolerable idea of what may ensue" (BLJ, 7, 236). The "we" here is a conventional way of speaking, of course, referring collectively to his fellow residents of Nottinghamshire. But it also suggests a closer identification, even an appropriation of the acts of the Luddites as part of his personal, worldly, and Romantic history. The Luddites are depicted as game "lads," the "boys," like Byron (as he saw himself), men of action acting in the world, with a violent streak but high ideals. This is generally in keeping with Luddite ballads like the famous Yorkshire "Croppers' Song," which according to Kevin Binfield was "attributed by Frank Peel to John Walker, who sang it at a meeting of Huddersfield and Liversedge croppers at the Shears Inn, Hightown, in February 1812, not long before they ventured forth to Hartshead Moor, where they destroyed shearing frames being transported by wagon to William Cartwright's factory, Rawfolds Mill."[18]

> Come, cropper lads of high renown,
> Who love to drink good ale that's brown,
> And strike each haughty tyrant down,
> With hatchet, pike, and gun!
> Oh, the cropper lads for me,
> The gallant lads for me,
> Who with lusty stroke,
> The shear frames broke,
> The cropper lads for me! . . .

But in Byron's hands — and by association with the mad, bad, and dangerous noble lord himself, in the minds of his readers — this kind of nineteenth-century workers' "laddism" takes on a more Romantic cast, a darker and more introspective tone, more like Byron's wistful,

well-known letter-verses, "So We'll Go No More a-Roving," than like the Cropper's boastful chorus.

Thus the workers' public-house style when adapted by Byron is inevitably rarefied, Romanticized. It is at once darker and more introspective — in plumbing its own violent revenge fantasies — and lighter and more abstract — in its intellectualized disconnection from actual material concerns — than the Croppers' song.

> When the web that we weave is complete,
> And the shuttle exchanged for the sword,
> We will fling the winding-sheet
> O'er the despot at our feet,
> And dye it deep in the gore he has pour'd.

What comes across here is an odd, superimposed persona — the Luddite as a Byronic hero. We should consider the possibility that the superimposition occurs more often than we realize in popular versions of Luddism, that many people unwittingly Byronize the Luddites.

Where Byron left off, his readers, including critics and students of Romantic literature and neo-Luddites, have picked up. By the later Victorian era the Romantic "movement" and its canon of poets had been retrospectively constructed to account for what was perceived to be the dominant "spirit of the age" in earlier nineteenth-century England. Most accounts of Romantic-period history get it backward: They imagine the Luddites straining "upward" to express emergent Romantic "ideas": organic nature versus ecological degradation (see also Blake's "dark Satanic Mills"), the alienation of modern civilization and technology, nostalgia for the rural past (see Wordsworth's naturalism and rusticity). But Byron's rhetorical ludding reveals how the Romantic poets adopted and subtly altered the style of popular ballads like those being written and sung by the Luddites, how they sought to bring something of the energy and symbolic action of groups like the Luddites into their poetry. In Byron's case we can say that the aristocratic Romantic writer to some degree aspired downward, as it were, to the revolutionary idiom of the frame breakers he read about in the newspapers, heard about in parliament, or viewed firsthand from the carriage window in his home county. In a similar way, many of

today's neo-Luddites Romanticize the original Luddites, read about them alongside the Romantic poets, glimpse them in novels and history books, and continue to aspire to their vivid lived experience and moral authority.

Chapter 4

Frankenstein and the Monster of Technology

Name a Luddite novel: Odds are you're thinking of Mary Shelley's *Frankenstein*. Everyone knows the electrified monster and the mad scientist who created him in a fit of hubris. Everyone has a sense of the plot, if only from one of the many film versions, or from TV, comic books, commercial advertising, Halloween decorations, the whole heap of Frankenstein artifacts collected in the popular culture. The prefix "Franken-" is now attachable to almost any noun, rendering anything "monstrous" in a familiar way, even a breakfast cereal ("Frankenberries"). The 1818 novel now appears retroactively in the light of recent popular-culture usage. People can't help but read Mary Shelley with the images from James Whale's and Mel Brooks's movies

in mind. Clichés about *Frankenstein* have taken on lives of their own, just like Shelley's monster:

> Some things man was not meant to know.
> Blind progress gives birth to technological monsters.
> Dehumanized technology will inevitably "bite back" against humanity.

If Romantic poetry turned the Luddites into proto-ecologists or inarticulate nature poets without the poetry, then *Frankenstein* — or at least how it has been interpreted — frames Luddism from the start as a fearful, anti-technology philosophy. In this sense, no matter what its author's intentions, *Frankenstein* has become — has been made into — the first Luddite novel.

The story of Victor Frankenstein and his creature has become *the* fundamental literary myth of neo-Luddism, a tale about the dangers of technology — though this is a term that Mary Shelley would not have used. Written in 1816, within memory of the first Luddite uprisings and during the last phase of Luddite activism, the novel never directly represents Luddism, but generations of readers have assumed that such a volatile political conflict over "machinery" must have influenced its author. But what did Mary Shelley and her circle think about the Luddite uprising?

The Shelley Circle and the Luddites

Mary Godwin (later Shelley) left little direct evidence of her specific reactions to the Luddite troubles. She was only fifteen in 1812 and spent part of that year in Scotland with friends of the family. Coincidentally, 1812 was the year the young radical Percy Bysshe Shelley, who would later turn out to be one of the models for Victor Frankenstein (and Mary's husband) as well as one of the canonical Romantic poets, introduced himself to her father, William Godwin, and then Mary and Percy met for the first time later that year. By 1814, Shelley had left his first wife and eloped with Mary Wollstonecraft Godwin, two years before the summer in which she began *Frankenstein*. He was deeply interested in science and its Promethean political implications, like

many other radicals of the time who shared Enlightenment ideals. As a boy he performed his own electrical experiments, always with a gothic flair. His rooms at Oxford were turned into a chemistry laboratory, and he was expelled from Oxford (for publishing the pamphlet *The Necessity of Atheism*) in 1811 — the year Luddism began. His boyhood mentor, James Lind (another possible model for Victor Frankenstein), had been a friend of James Watt, the steam-engine inventor. And Shelley himself invested what we would consider "venture capital" in his friend Henry Reveley's steamboat scheme as late as 1820.

In 1811 to 1812, supporting the Luddites' cause certainly did not require or even imply that one held an antitechnology philosophy. On the contrary, as Percy Shelley's example demonstrates, one could be "progressive" about new science and also support the workers' cause against the capitalists and the government. "The military are gone to Nottingham," Percy Shelley wrote to a friend in 1812, "— Curses light on them for their motives if they destroy *one* of its famine wasted inhabitants."[1] His radicalism led Shelley to analyze the causes of the unrest as part of a larger political system of false representation. In 1819 his most famous political ballad, *The Mask of Anarchy*, included an exhortation directed to the working "men of England":

> 'What is Freedom? — ye can tell
> That which Slavery is, too well —
> For its very name has grown
> To an echo of your own.
>
> ' 'Tis to work and have such pay
> As just keeps life from day to day
> In your limbs, as in a cell
> For the tyrants' use to dwell:
>
> 'So that ye for them are made
> Loom, and plough, and sword, and spade,
> With or without your own will bent
> To their defence and nourishment.[2] (ll. 156–68)

In response to this systematic exploitation of alienated labor (including the labor of cloth weavers at the loom) in England in the terrible year of 1819, Shelley's ballad does not call for Luddistic acts of sabotage (note well) but calls for a general strike and a protest meeting, a "vast" demonstration or "assembly" like the one that had resulted in the Peterloo Massacre that autumn. Shelley's earlier expression of support for the Luddites in 1812 is consistent with his radical understanding of class conflict, which later made his work appealing to Marx and Engels as well as the British Chartists.

In 1813, after fourteen West Riding Luddites were tried and executed in Yorkshire, Shelley's first wife, Harriet, wrote on his behalf to his London publisher, "I see by the Papers that those poor men who were executed at York have left a great many children. Do you think a subscription would be attended to for their relief? If you think it would, pray put down our names and advertise it in the Papers" (PBS *Letters*, I, 351). So we know that Shelley was following the news of the uprising and was sympathetic to the Luddites. Concerned with the cycle of violence manifested in the French Revolution, the radical Shelley sought a just solution. He probably would have been opposed to the specific tactics of the Luddite Army of Redressers, however much he would have sympathized with their suffering as workers. In another letter from 1812 (May 7), he confesses: "I fear that hunger is the only excitement of our English riotings; any change which they may produce appears to me likely to be devoid of principle & method" (PBS *Letters*, I, 297).

If anything, the young Mary Wollstonecraft Godwin was generally even more pessimistic than Percy Shelley about the likelihood that revolutionary action would turn into mob violence. She was also generally more skeptical toward the conduct of the lower classes, though she was politically supportive of their interests. In later life she became more politically and socially conservative, at least publicly and in part in order to protect her family's prospects in society, and distanced herself from her earlier bohemian existence. She revised *Frankenstein* for a later edition in 1831, toning down some of its more blasphemous and blatantly radical representations.

In many ways, Mary Shelley's attitudes often seem more like those of the family friend Lord Byron. They first got to know one another in

the Geneva-based circle of 1816, when, as is well known, she conceived of *Frankenstein* during a storytelling contest at Byron's Villa Diodati. Claire Clairmont, Mary Shelley's half-sister and briefly Byron's lover (and the mother of his child), wrote to him from Bath — just after the summer of 1816, while we know that Mary Shelley was still composing *Frankenstein* — to give him the news from England:

> Your Nottingham weavers (not of poetry dearest but of stockings) have risen. They fortified a village & made out a long declaration. This Cobbett has printed cheap & it is posted up & down the country. It is really very well written & uncommonly spirited. Two days ago 20,000 people met in the Spa fields near London. Every body was alarmed. . . . [3]

It is worth noting that Clairmont associates Luddite activity with the more general radical reform exhibited in the Spa Fields uprising, and she reveals how some Luddite documents may have been reprinted and spread by radicals such as William Cobbett. More generally, this letter demonstrates again that the Luddites were a topic of interest in the Shelley circle, perhaps especially where Byron was concerned. These are *his* weavers, according to Claire, an allusion to his Lordship's proprietary interest in Nottingham and its inhabitants, of course, but also to his special political interest in the Luddites. I showed in the previous chapter how Byron himself recounted the Luddites' actions possessively, using "we" as if he were one of the "lads." Mary Shelley and her circle would have associated the Luddites with Byron and with radicalism in general, so it is plausible that Luddism was at least among the kinds of radical violence, the vengeance of the oppressed, that are allegorized in Mary Shelley's monster. But the novel does not make this connection explicit.

The Shelley Circle and the Ideal of Scientific Progress

Frankenstein may reflect Mary Shelley's ambivalent fear of revolutionary violence, of the mistreated mob as a potential "monster." The novel warns against the dangers of popular revenge, and the monster's actions may represent the violence of workers like the angry Luddites, victims

of social inequality. But just because industrial progress was already recognized as contributing to that inequality does not mean that *Frankenstein* is simply an antiscience book, or even a treatise against progress as an ideal (especially not in the first version of 1818; the 1831 edition tones down the Enlightenment theme a bit).[4]

For the Godwin-Wollstonecraft-Shelley circle, free scientific experimentation went hand in hand with political and social experimentation. Both were parts of the group's eclectic Enlightenment culture. Even before eloping with the science-buff Percy Shelley, Mary moved in social circles and among family friends that included theoretical scientists (and, at least early on, political liberals) like Erasmus Darwin and Humphry Davy. Her father engaged over a number of years in a heated public debate over population growth, economics, and reform with the notorious Thomas Malthus. As Betty Bennett concludes, "far from condemning scientific exploration, Mary Shelley adopted this major enthusiasm in England at the time as a germane metaphor through which to examine age-old political inequities."[5]

Of course, this doesn't mean that *Frankenstein* is unequivocally pro-science, either, or that Mary Shelley's attitudes toward vanguard intellectuals and the ideal of progress didn't change over time, or were not ambivalent or self-contradictory. But reductive readings of the novel as crudely "antiscience" or "antitechnology" overlook details that make significant differences. Victor Frankenstein's failure is a failure of imagination, sympathy, and responsibility for his creation, but it is not at all clear that the novel simply condemns him (or Walton, the explorer whose expedition so closely mirrors Frankenstein's own pursuits) for seeking or applying "forbidden" knowledge, let alone "technology" in the modern sense. The book ends with Victor more or less retracting his dire warnings to the ship's captain, Walton: "Seek happiness in tranquility, and avoid ambition, even if it be only the apparently innocent one of distinguishing yourself in science and discoveries. Yet why do I say this? I have myself been blasted in these hopes, yet another may succeed" (Chapter 24). This deathbed recantation of a recantation leaves the door open to a positive reading of progress and the pursuit of knowledge, if only Victor's errors of egotism and irresponsibility can be avoided.

Neo-Luddites Reading *Frankenstein*

Most neo-Luddite readings of *Frankenstein* don't make much of an attempt to establish biographical or historical context. They assume the novel's theme and cite the general outline of the plot or a few key passages (if they don't skip straight to the better known film adaptations). The result is a boiled-down theme: technology = autonomous force = monstrousness.

The novel itself is by now almost irrelevant when it comes to the use of the term "Frankenstein." This signifier has floated free from Mary Shelley's creation just as the creature escaped from Victor's laboratory. For example, ecology activists, especially those who self-identify as neo-Luddites, use the term "Frankenfood," often accompanied by the image of Boris Karloff as the monster, to describe genetically modified organisms (or GMOs).[6] One particularly vivid poster made for the environmental organization Greenpeace depicts a parody of the Kellogg's "Frosted Flakes" cereal box, with loveable "Tony the Tiger" altered in much the way the corn has supposedly been altered.[7] Tony wears a monster mask, a "hybrid" (pun intended) combination of the mad scientist and his creature. This "Tony the Monster" holds up a test tube with an ear of GM corn half-submerged in a viscous green fluid, roughly the color of the monster's skin in some old movie posters. The usual cheerful advertising slogans on the box have been replaced with scary ones: "Genetically Modified Frosted Flakes of 'Corn'," "Untested! Unlabeled!" and the most direct: "Frankenfood BAD!" But the labels are unnecessary. The monster alone is an emotional icon: Upon seeing it everyone knows without being told that GMOs are the scary creations of mad scientists playing God.

The campaign also cleverly taps into the cultural history of children's breakfast cereals as a commodity. In the 1950s and '60s, they were promoted as the results of food "science," with added vitamins and enhanced nutritional content, to increase their appeal in a crowded market — flavors, colors, shapes, and even special effects ("snap, crackle, pop") were engineered to add something "new!" or "improved!" TV commercials depicted men (sic) in white coats creating new foods in their high-tech laboratories. The Greenpeace campaign takes the subversive step of identifying all those self-proclaimed "scientific" "improvements" as Frankensteinian: mad science. The Franken-Tony

parody illustrates how the central public argument for and against GM foods was organized along the lines of a binary opposition established long ago: It's still "better living" versus "vengeful monsters" — in either view, a special power resides in technology.

Now that the mad scientist is a cultural cliché, Mary Shelley looks like his creator and prophet. Like Jules Verne, whose futuristic Victorian fiction is also frequently cited in popular discussions, Shelley is taken as a Romantic Sybil or uncanny Nostradamus, warning the twenty-first century of a coming technological crisis. Besides invoking this sense of prophetic power, the connection between *Frankenstein* and neo-Luddism taps into a basic kind of literary authority, lending Luddism, and by unexamined extension neo-Luddism, the cultural capital associated with great books. The novel itself is in the end beside the point. What are being "cited" so frequently are the cultural status of the novel and the myth that has grown out of it and goes by the name of Frankenstein.

That myth *is* the commonplace idea (virtually all of my university students come to class with it) that the novel is against technology as we think of it today. Kirkpatrick Sale refers to the novel as a "prescient tale of techno-madness," a story with "so vivid a message of the dangers of mechanization and the problems of scientific invention — 'You are my creator,' the monster tells the scientists at the end, 'but I am your master' — that it has survived to today, unforgettable."[8] Columnist William Safire quoted the same passage in an essay in the *New York Times Magazine*, saying that Shelley merely "gave the Luddite theme dramatic power" in *Frankenstein*: "The danger of rampant technology is expressed by the monster, who says to Dr. Victor Frankenstein, 'You are my creator, but I am your master.'"[9] Safire concluded the column, which was on the return of Luddism, with the blunt insistence that "Lord Byron and Frankenstein's monster would be proud" of today's modern neo-Luddites.

The cultural critic Hugh Gusterson argues that works of science fiction like *2001: A Space Odyssey*, *Blade Runner*, and *Neuromancer* "are all retellings of a story first told by Mary Shelley in her book *Frankenstein* . . . about our profound anxiety that we have lost control of, and may even be destroyed by, the technology we have created in

the modern age."[10] Steven Best and Douglas Kellner, coauthors of *The Postmodern Adventure: Science, Technology, and Cultural studies at the Third Millennium* (2001), refer to what they call "the *Frankenstein* syndrome."[11] They read both the novel and the usual suspects among its Romantic contexts (whom they bundle as "Blake and the romantics") as "anti-technological," indeed, as implicitly Luddistic:

> Emerging about the same time as the Luddites' demolition of the factory machines that threatened their livelihood, Shelley's novel shared the anti-technological vision found in Blake and the romantics.

Starting with the novel, Best and Kellner move out into the "vast literature" the novel has "spawned,"

> as well as genres of popular culture which have warned, time and time again, that the power of modern science and technology — if divorced from an ethical sensibility and insight into the contingency and unpredictability of complex systems — may bring disastrous results to human beings, other life forms, and the Earth as a whole. (158)

Victor Frankenstein is an "Enlightenment Faust" who "represents both the drive to master the mysteries of life and the Cartesian ego separated from the body, other people, nature, and the social world" (159). But the authors interpret this Enlightenment philosophical predicament in technological terms, asserting that *Frankenstein* "raises ethical questions concerning scientific inquiry and the nature and use of technology." Later they simply refer to as givens "Shelley's themes of technology producing calamities and eluding human control . . . " (159).

Best and Kellner assume the abstract antitechnology theme because it is so urgent for early-twenty-first century readers. They assume that the theme was begun ("spawned") by the novel and sent abroad as its "vast" cultural progeny, then they read the theme back into the novel to confirm their assumptions. The antitechnology theme is made to seem the very center of *Frankenstein* by placing the greatest emphasis on two elements of the narrative: the story of Victor Frankenstein as an out-of-control mad scientist and the idea that the monster is an allegory of technology as an autonomous force.

Monstrous Science, Mad Scientist

From the beginning, the monster has always seemed allegorical of *something*. Elizabeth Gaskell compared the collective rebellious factory workers in her 1848 novel *Mary Barton* to Mary Shelley's creature, then just over thirty years old.[12]

> The actions of the educated seem to me typified in those of Frankenstein, that monster of many human qualities, ungifted with a soul, a knowledge of the difference between good and evil.
>
> The people rise up to life; they irritate us, they terrify us, and we become their enemies. Then, in the sorrowful moment of our triumphal power, their eyes gaze on us with a mute reproach. Why have we made them what they are: a powerful monster, yet without the inner means for peace and happiness? (219)

Mary Shelley may well have been influenced by a metaphor in the air after the French Revolution comparing any violent mob to a brutal monster.[13] Percy Shelley's own "Demogorgon" or "people-monster," which plays a pivotal role in his *Prometheus Unbound*, taps into the same metaphor. As Chris Baldick says, Gaskell's *Mary Barton* is at worst a "creative misreading which wrenches the myth into new patterns while applying it directly to the central tensions of an industrializing social order" (86–87). But Gaskell allegorizes industrial *workers* as the monster (which, incidentally, she is already calling by the name of his creator, Frankenstein); she does not allegorize the monster as the new industrial machinery, much less as "technology" in any universal, abstract sense, or as a disembodied force.

More recent readers have emphasized the monster's role as a force unleashed by science that turns on its makers and competes with humans for existence. Whether this force is to be understood as technology in the modern sense is in some ways a historical question: It depends on whether you are reading in 1818 or 2006. This is certainly how technology now appears to us — as a force more powerful than the puny scientists who dabble in it. But in the novel the power struggle is not so one-sided. Victor is truly the modern Prometheus, and this allows him to become the best-known embodiment of the archetype of the egotistical mad scientist.[14] He is closely related to his pre-scientific

ancestor, Dr. Faustus, an antisocial egotist driven by personal ambition or tragic hubris to exceed the limits of what human beings should know about the inner workings of nature. In Wordsworth's terms, he murders to dissect. In Keats's terms, like Newton, he unweaves the rainbow. He sets himself against nature and casts his lot with unnatural meddling into "her" (sic) "secrets." He steals fire (read: electricity or forbidden knowledge in general) from heaven (or nature). The result of his rash experiments is a murderous yet pathetic creature, a monster who sets his own fires and becomes, according to this line of interpretation, an allegory of (mis)applied science, with monstrously unintended consequences.

The view of Victor as a modern kind of "cutting-edge" research-and-development scientist emerged slowly, however. He appears in the book as an older type of mad scientist — a kind of archaic alchemist or wizard. Nineteenth-century stage adaptations of *Frankenstein*, however, also increasingly showed the scene of creation in an iconic scientific laboratory, complete with glassware and other apparatuses, including fire and steam.[15] In these sets we see a kind of transition in the dominant way of thinking about Victor's science. The plays also retain key images of its archaic basis in Romantic ideas of medieval alchemy. One creation scene from the first onstage adaptation, *Man and Monster*, took place in a large vat of chemicals that clearly invokes the ancient elixir of life as much as it does any early-modern (nineteenth-century) biochemistry (Forry, 17). These adaptations emphasize that Victor's is a strange kind of early modernity, based as it is on outmoded ideas found in dusty tomes. Victor is like the natural philosophers of the seventeenth and early eighteenth centuries, Isaac Newton himself, for example, speculative thinkers for whom alchemy and emergent sciences were sometimes indistinguishable sources of secret knowledge about the workings of the universe. Victor is thus a transitional figure, an alchemical, Faustian, mad scientist who foreshadows the coming regime of depersonalized technological development. He only barely foreshadows this type, however, and he is still a long way from the modern technologist seeking better living through chemistry.

But the giant being who was stitched together in a "workshop of filthy creation" from corpses, using knowledge gained from medieval

alchemists, has oddly come in the popular imagination to symbolize cutting-edge, futuristic science and rampant high technology. And because he both suffers and causes suffering, the articulate but violent monster has been read as an allegory of *both* the impersonal forces of technology *and* the revolutionary retaliation of the Luddites who rose up violently against such technology. The contradictions of the novel's most common readings should caution us to remain skeptical about neo-Luddite interpretations.

The monster is undoubtedly, in a very general way, an example of how "things bite back," to cite the title of a fine book on the unintended consequences of technology by Edward Tenner.[16] In it Tenner concedes that Frankenstein's monster is not itself a machine, but he still sees the novel in neo-Luddite terms. The monster is also not human. It is a "system . . . a creature with unintended emotions, including rage and a passion for vengeance against its creator" (12). Actually, the question of the monster's humanity is precisely the point of the novel, and Mary Shelley would not have seen Victor's creature as "a system" in the modern cybernetic sense. His revenge, his "unintended emotions" and his incendiary "rage," are directed not only against his creator and those whom the creator loves, but also, in the end, against himself. Is this final suicide on a self-built funeral pyre to be taken as an act of anti-technology self-sabotage, self-immolation as protest against his own existence as a product of science? Does this denouement suggest that harmful technology will eventually turn on itself? The allegory doesn't really hold. More likely the creature's end reveals how human he is, despite his origins. His final act is the despairing exit of the unloved and socially alienated being, a human gesture closer to the suicide of Goethe's sentimental young Werther, or to one of Byron's heroes, than to the self-destruct button of a technological "system." The creature's "protest" is a highly emotional, highly Romantic reaction. It does not very much resemble the protests of the hardheaded and satirical Ned Ludd, whose revenge is always fiercely and strategically directed toward his clearly defined enemies.

But I have no desire to correct neo-Luddite readings of *Frankenstein*, which are at any rate culturally significant uses of Mary Shelley's story. Like all compelling literary works, *Frankenstein* opens itself to such

uses, and to different receptions and competing interpretations. I do think that making an antitechnology myth of out of the surviving (imperfectly remembered and tendentiously interpreted) fragments of the 1818 novel *Frankenstein* is a little like making neo-Luddism out of the inherited fragments left by the historical Luddites and their chroniclers.

An Allegory of Luddism?

If this is a Luddite novel, then where are the Luddites? The creature who takes revenge against the mad scientist seems the most likely candidate. But this interpretation would depend on a series of premises: (1) that Victor is in fact some sort of technologist or industrialist, someone who might be associated in 1816 with "machinery;" (2) that the monster, his living, breathing, reading, eloquent creature, is somehow to be taken as machinery itself, an allegory of technology; and (3) that, not altogether logically, the monster's violence is somehow at the same time meant to symbolize the Luddite revenge *against* technology. Premises 2 and 3 seem especially difficult to reconcile.

Just to see how strained these premises become in any close reading of the book, consider a crucial dramatic scene, one that inspired the earliest film sequel in the history of the adaptations, the creation of the creature's intended "bride."

Victor Frankenstein retreats to the most remote island of the rugged Orkneys, off the coast of Scotland, to the rawest natural landscape, to make a second monster — the bride he has (under duress) promised his creature. He sets up a laboratory in a vacant cottage and begins what he calls his "labor," his "employment," his "occupation" and his "work," noting that it "became every day more horrible and irksome" for him. It is a "filthy process" and he is repulsed by what he is doing: "my heart often sickened at the work of my hands." (So far we might well take Victor as a stand-in for disaffected industrial workers, if we were so inclined.) In this mood, as Chapter 20 begins, Victor finally reflects on the effects of what he is doing. This second creature might be "ten thousand times more malignant than her mate," an even worse monster. His first creation, Victor explicitly admits here for the first time, had catastrophic, unforeseen consequences. He had sworn to

leave civilization and instead had run amok. Then a terrifying scenario occurs to him (strangely enough) for the first time:

> Even if they were to leave Europe and inhabit the deserts of the new world, yet one of the first results of those sympathies for which the demon thirsted would be children, and a race of devils would be propagated upon the earth who might make the very existence of the species of man a condition precarious and full of terror. Had I right, for my own benefit, to inflict this curse upon everlasting generations? I had before been moved by the sophisms of the being I had created; I had been struck senseless by his fiendish threats; but now, for the first time, the wickedness of my promise burst upon me; I shuddered to think that future ages might curse me as their pest, whose selfishness had not hesitated to buy its own peace at the price, perhaps, of the existence of the whole human race.

This is a passage that now seems from the perspective of the twenty-first century like a quintessential neo-Luddite moment *avant-la-lettre*, the moment when the mad scientist realizes that his technology is not only likely to "bite back," but might lead to escalating unintended consequences of catastrophic proportions.

Then Victor looks up at the moonlit window to see the monster looking in at him with what he calls "a ghastly grin."

> As I looked on him, his countenance expressed the utmost extent of malice and treachery. I thought with a sensation of madness on my promise of creating another like to him, and trembling with passion, tore to pieces the thing on which I was engaged. The wretch saw me destroy the creature on whose future existence he depended for happiness, and with a howl of devilish despair and revenge, withdrew.

Notice that in this scene it is Victor Frankenstein who behaves like a Luddite. He, not the monster, is the one who smashes the "frame" of the female body he has begun to create, destroying the "technology" (if that is what it is) that might otherwise destroy him and his species. Victor's brief recognition of consequences and his act of sabotage could be read as the only *true* neo-Luddite scene in the novel.

I admit I am playing devil's advocate here in order to make a point. I base my hypothetical reading on an unlikely pun on the word "frame"

in order to show that the usual reading, which sees Victor as the mad scientist who creates technology rather than as the dissident who destroys it, leaves little room for the novel to be about Luddism, to be about any intentional *resistance to* technology. Now, perhaps the novel is a simple dystopia representing the problem of technology but no real solution. It could be therefore that there are deliberately no Luddites in the first Luddite novel — but then the theme becomes more than a bit tendentious.

Of course, Victor's actions in this scene are not really like those of the historical Luddites. Despite referring to his "work," he is no worker in the sense that the weavers and croppers were. Victor can be read as an elite savant, a dangerously obsessive believer in scientific progress, of what we would now see as technological determinism. Perhaps his act of destruction might better be compared to "voluntary relinquishment" than to the redress of grievances by the Luddite's sledgehammer. At any rate, Victor Frankenstein is ironically the one true antiscience activist in the story. But in his relation to science he is also arguably more like a postmodern neo-Luddite than like a historical Luddite in Mary Shelley's time: that is, he is a troubled professional facing a philosophical conundrum with no clear answer rather than an angry worker swinging a hammer. There is something narcissistic about Victor's reaction against his own scientific creation — and there may be something similarly narcissistic about neo-Luddism's reaction against the technological "lifestyle" it wishes to relinquish, at least by degrees.

The creature isn't a simple stand-in for the Luddites, either. In the scene I've just been recounting, he makes the famous threat and command recent neo-Luddites are so fond of quoting:

> Slave, I before reasoned with you, but you have proved yourself unworthy of my condescension. Remember that I have power; you believe yourself miserable, but I can make you so wretched that the light of day will be hateful to you. You are my creator, but I am your master; obey!

In context it's clear that the monster is threatening Victor out of abject despair, attempting to terrorize him in order to get what he wants. But note well that it is the creature who desires and hopes for scientific

"progress," a future based on new and improved monster-making science leading to a future race of beings like himself. The unintended consequences of Frankenstein's science in this case — the monster's murderous threats and eventual acts — are not inherent in the original "technology" itself. They have very little to do with corpse-reanimation per se. Instead, they are the direct result of Victor's repulsion and proto-neo-Luddistic destruction of his own scientific production. The creature's reaction to witnessing the destruction is at first pathetic: "I have endured incalculable fatigue, and cold, and hunger; do you dare destroy my hopes?" It only afterwards ripens into revenge. This question makes it clear that Victor here rebels against his own earlier hopes for progress, rebels against the future that his own creation had opened up and then demanded.

Once again, I'm intentionally reading against the grain in order to make a point about the novel's lack of any simple extractable Luddite theme. Not only is there no clear representation of Luddism in the book, there is little in the way of new industrial machinery or technology. While in a general way the novel does represent the dangers of unregulated science, we have to understand that theme in historical context. To begin, science was much less specialized in Shelley's day. The creature is clearly a social monster, and the novel's genre is less science fiction, in the twentieth-century techno version of the genre, and more what we might call social-science fiction. The monster is less an electrical experiment than a sociological one, an attempt at utopian social engineering. In this way he invokes an eighteenth-century tradition associated with Jeremy Bentham, the French Revolutionaries and their re-created world, and communards in America. Looking back, the monster seems to us to anticipate the present era of biotech and genetic engineering, since he is in effect a "new species" made from old human tissue (if not yet DNA itself). In Mary Shelley's context, however, it seems likely that his monstrousness has more to do with the Romantic period's fears of an excessive organic vitality, of *life itself in its natural form*, running amok, getting out of control.[17] In this way *Frankenstein*'s science fiction can be seen as the ancestor of biological "ribofunk" of Paul Di Filippo or the "wetware" of Rudy Rucker even more than the

space operas of the mid twentieth century or the hard-wired cyberpunk of the 1980s and '90s.[18]

An Allegory of Technology?

Actually, all things considered, there's really not a great deal of hard science of any kind in the book. Much of *Frankenstein* is about the psychology of horror, gothic special effects, and sentimental social relations. It just isn't focused in any detail on the question of "technology" in today's sense of the term, as one might be led to believe it is by all the neo-Luddite citations and commentaries. Shelley "blacks out" the actual creation scene in her novel, leaving the exact science to our imagination, and also leaving the science vaguely in the realm of alchemy. This may be because she did not know how to picture the science involved in revivification, as some have argued, but it may also be a sign that the technology of the creature's coming to life is just not all that crucial to her intentions for the novel, and more important, that technology is not the main point of the story at all.

Mary Shelley wrote other science fiction, including one more major science fiction novel. It is significant that in each case science per se — especially the kind of hard-edged technology normally associated with the genre — is underplayed. Another "mad-scientist" story, "The Mortal Immortal" (1834) is even more explicitly alchemical in its "science." In the apocalyptic triple-decker *The Last Man* (1826), Shelley imagines a twenty-first century plague that wipes out the human species. The most prominent science in that book is medical-epidemiological; economic (after the tradition of Ricardo, Bentham, and Malthus on population growth and sustainability — and William Godwin was a public opponent of Malthus's dark predictions); and evolutionary (concerned with the newly discovered evidence of vast geologic time and mass extinction). Except for imagining twenty-first century balloon flight as the primary mode of transportation, the novel is remarkably free of futuristic technology, even from the perspective of the early industrial era.

A burlesque science-fiction skit (possibly a parody of *The Last Man*; it was issued by Shelley's then-publisher) appeared in 1829. In it, robotic hunting machines chase horses instead of foxes and steam-powered servants open the doors of imaginary future aristocrats.[19] My

point is that such industrial-era tech imagery was readily available to Shelley but she chose not to make use of it even in the futuristic novel, *The Last Man*. In *Frankenstein*, the electrodes and dials and levers — the bells and whistles — were added in the movies. The book is actually pretty lean on representations of technology, and the supposed antitechnology theme of *Frankenstein* may also have been greatly exaggerated, from very early in the history of its reception and adaptation.

Frankenstein Meets the Movies

The distance between *Frankenstein*'s nineteenth-century science-fiction contexts and twenty-first-century ideas of technology becomes clearer when we turn to the most vigorous arena of the novel's legacy, the movies. This must include not only the popular adaptations of the story but some of the numerous films generally inspired by *Frankenstein* as a myth, as it has been interpreted and represented in earlier adaptations. The result is an increasingly concentrated focus on the novel's supposed antitechnology theme — the apparent centrality of which has only grown with each subsequent round of adaptations that have assumed its centrality. These adaptations are like translations of translations. They reveal a great deal about the process by which *Frankenstein* was boiled down in the crucible of culture in order to reduce it to the essential neo-Luddite myth.

Frankenstein and his monster were among the early subjects for photography at the end of the nineteenth century. The first film based on the story appeared at the very beginning of the history of film itself, in 1910, with the famous (and now rare) Edison company production (Forry, 79). The "mad technology" reading of the *Frankenstein* story was already established by this early adaptation, and the technology of this new visual medium made possible new ways of representing the story. One now-famous special effect was created using a mirror, literally visualizing the doppelgänger theme. The novel's hint of anxiety over technology per se, which I have argued is a relatively minor question in the book when viewed in the larger contexts of 1816 to 1818, is magnified and represented in all its fullness by the technology of the cinematic medium itself, by the shifting perspectives of different

camera angles, fades and dissolves, special effects of light and shadow, or technological props (Forry, 85).

There were eventually over 100 film adaptations.[20] Ask people what they remember about *Frankenstein* as a movie and they are likely to recall scenes from James Whale's cultural landmark of 1931. Among the most memorable icons of this film is Boris Karloff's mute portrayal of the creature with electrode-bolts in his neck — a tiny but vivid sign of the later technologizing of the creature, who is made to look like an evil robot by the addition of these "scientific" appendages. There are no bolts, nor any such mechanical or metallic parts, in Shelley's original description of Victor's corpse-born monster. Besides Karloff's appearance, most people are likely to remember another vivid signifier of "mad" technology — Victor's laboratory full of scientific hardware for harnessing lightning. They are sure to recall that key moment in cinematic history, when the manic creator shouts hysterically, "It's alive!" The madness of science, and the concrete manifestation of that madness in "high-tech" gizmos like the memorable apparatus of Whale's film, are among the primary legacies of the myth as modified first by stage and film. The term "Frankenstein's laboratory" has come into general use, meaning any complicated arrangement of frightening technology. The iconography was so well established that the brilliant Mel Brooks parody, *Young Frankenstein* (1974), reportedly used the same props used in Whale's film in order to create its ironic, meta-cinematic experience.

The 1950s saw an explosion of Frankensteins in kitsch science-fiction movies, including the Abbot and Costello monster farces, for example, and the strange *Frankenstein 1970*. This 1958 film gives a "futuristic" setting to the myth. A young Dr. Frankenstein, Victor's remote descendant, raises funds for his experiments by charging a film crew to shoot in his castle, thus setting up a meta-theatrical movie-within-the-movie along with plenty of horror-film business among the filmmaker characters. The mad doctor, it is revealed, is mad in part due to war-time experiments by the Nazis, the twentieth century's historical fulfillment of the type of the evil mad scientist. His power source is no longer lightning but nuclear fission. But what truly marks this film as a distinctly twentieth-century interpretation of the Frankenstein

myth is the dominant prop in the doctor's laboratory — a giant mainframe computer. This is one of countless other cardboard computers, with tape-drives spinning and lights randomly flashing, that appeared on the sets of movies in the 1950s and early '60s, almost always meant to be understood as a symbol of the evils of modern science and bureaucratic authority.

Mainframe Monster in *Desk Set*

An excursion into a very different kind of movie may help to clarify the usual Hollywood treatment of autonomous technology. A popular comedy from the same era — *The Desk Set* (1957) — took on the computer as a kind of Frankenstein's monster. Based on a Broadway play, it stars Spencer Tracy as the "efficiency expert" (the Taylorite or Fordite kind of mad scientist we would now call a consultant) and Katherine Hepburn as a plucky neo-Luddite reference librarian. On one level the script is a simply a bit of "counter-Luddite" propaganda meant to alleviate technophobia, defuse anxiety, and deflect resistance to technology in the workplace.

Hepburn begins as a willful intellectual woman with a high I.Q., prodigious memory, and a love of books. Her job is to answer background questions for a major media studio — in other words, information retrieval. She loves houseplants, too, and tends and talks to a symbolic prop vine that nearly takes over her office. When it becomes apparent that her (all-female) staff will be displaced, she leads a doomed resistance movement against the automation that threatens the librarians' jobs. At one point near the end of the movie she gleefully removes a part in order to sabotage the machine that is her competitor, the massive tape-drive and clacking-terminal computer that, after its introduction, dominates the library set. But the well-meaning but gruff Tracy character explains that the room-sized machine is to be a labor-saving device, meant to make her job easier not redundant, and that, counterintuitively, in this case nobody will be laid off. The librarian learns to love the mainframe, beauty learns to love the beast, and (significantly) begins to call it by her feminine name, "Emmy," short for its ominous acronymic name, EMRAC (a variation on an actual computer ENIAC). Hepburn even gets "retrained," learning to operate Emmy and thus increasing her own

efficiency. To her houseplant has been added a new, anthropomorphic companion, the safely naturalized Emmy the computer (roll credits).

Emmy EMRAC is the kinder, gentler relative of such scary mainframes as the all-powerful "Alpha 60" in Jean Luc Godard's dystopian film noir, *Alphaville* (1965). There the gleaming, ominous modernism of the sets mirrors the hardness of the technocracy, in which illogic is punished by death. When the hard-boiled hero, Lemmy Caution, is told he has an out-of-date camera, he replies wryly, "the technical . . . I don't believe in it," and his technocratic hosts remark mysteriously, "of course." *Alphaville* is a kind of neo-Luddite movie in the spirit of the mid-1960s counterculture. According to a telling bit of film trivia, Godard reportedly wanted to call the film *Tarzan versus IBM*.

The mainframe that runs everything in this dark world speaks with a mechanized male voice, at first sounding human but gradually betraying itself as inhuman. In this way it resembles the more famous scheming computer HAL 9000 in Stanley Kubrick's *2001: A Space Odyssey* (1968), whose oily intonations sound like airport announcements from hell. HAL's inhuman monstrousness is revealed most frighteningly — but also movingly, pathetically — in the well-known sequence of machine-breaking sabotage, in which a space-station astronaut disconnects "him" and the mainframe's voice grows slower and lower as its brain regresses to an infantile level. Finally harmless, or almost so, once it is rendered unintelligent, HAL is almost humanized, rendered pitiable and absurd, as he sings "Bicycle Built for Two."

The Desk Set's Emmy EMRAC is an earlier, comic (if a bit defensive) example of technological optimism overcoming technophobia and neo-Luddite resistance. By the end of the movie Emmy is treated as a kind of hopeful monster, a creature with unrealized potential, the anti-Frankenstein as it were, joining in the final chorus of a happy team of human workers. But the myth derived from *Frankenstein*, in which monsters of technology turn on humanity, forms the anxious backdrop for *The Desk Set*'s reassuringly comic ending. In this movie, technology is literally the friend of humanity, jobs are saved, and we may or may not remember that the opening credits (printed on a teletype terminal) "gratefully acknowledge the cooperation and assistance" of IBM, a

fact which may help to explain the film's sunny, screwball view of the human-machine interface.

A Golem in the Underground City of *Metropolis*

The modern fear of technology was perhaps first and best exemplified in the cinema by Fritz Lang's silent masterpiece, *Metropolis* (1926). From the beautiful opening montage of machinery — cogs, pistons, wheels, and clockworks — it is clear that technology will be at the center of the film. Then the camera reveals a vast art deco cityscape and, below that, the underground city of the workers in the year 2026. The workers' change of shift is choreographed with a huge cast, invoking the Nazi spectacles of Leni Riefenstahl's films. Dehumanized, zombie workers shuffle in and out of the underground, glumly, mechanically mimicking real coal miners and other alienated industrial laborers as described in Engels, Dickens, or D. H. Lawrence. The workers are mere parts in a vast system, subjugated to the machines they operate between the layer of their own city and the ruling city above in order to support the leisure class. They work the levers and dials in a repetitive rocking motion, like human pistons and crankshafts. Frederson, visiting from the upper world, witnesses an industrial accident and has a nightmare in which the machinery is a great Moloch, a literal monster to whom the workers are fed as human sacrifices. Bodies are carried out in a foreground silhouette and the great machine goes back online.

Metropolis is profoundly Frankensteinian, an important episode in the transmission of the Frankenstein myth, for two reasons: its hybrid monstrous being, an uncanny creature that looks human but isn't; and its central theme — that tyrannical injustice, manifest in technology, gives birth to (social) monsters. *Metropolis* puts a specifically neo-Luddite spin on the Frankenstein myth by making its scary creature a manufactured robot, not a true living being or revenant. The mad scientist, Rotwang, working for the forces of oppression in the metropolis above, creates in his laboratory an uncanny electro-mechanical imitation of Maria, the political and spiritual teacher and organizer of the benighted workers. This robot is a provocateur. It exploits both gender and class anxieties, seducing and inciting the workers to violence in order to justify their brutal suppression. "The time has come to act!"

the Mariabot says, asking the workers, "Who keeps the machines going?" and "Who are the slaves of the machines?" As the workers rally in anger, she calls out, "Let the machines stop!" and "Destroy the machines!" The workers obey in a Luddite frenzy, rioting and using (what else?) sledgehammers to smash the machines. With the machines destroyed, the underground city is inundated in a flood that threatens to kill the children left behind. Lang thus illustrates the commonplace assumption that Luddism was a benighted, self-destructive movement, engaged in a futile attempt to destroy the future.

In this plot device Lang's film agrees with a semi-contemporaneous work for the stage, Ernst Toller's German play *The Machine Wreckers* (1923).[21] From Toller's socialist point of view, the Luddite program was an unfortunate diversion from the real issues. The play represents the workers as in awe of the new machinery, which they see as larger than human, demonic. They swear "Death to the engine! / War on the tyrant Steam!" (19). The radical socialist Jimmy Cobbett tries to convince the workers to organize into larger combinations, "like a band of working brothers" (20), but the machine breakers, led by John Wibley, prevail in the end, thus leading to their own brutal suppression. In this play, Ned Lud (sic) is just another worker with a family to support. He recognizes that he is exploited by the capitalists: "They would put us in irons, and chain us to a monster. A spindle driven by steam that clutches men and whirls them round and slings them into hell!" (11). He just happens to be in place at the right time to strike the first blow against the engine. Though Jimmy counsels patience and organization rather than industrial sabotage, Ned Lud is goaded and set up by a conspiracy between Wibley and the factory owner, Ure. As the owner remarks,

> An attack on the engine will not alarm me. Rather the contrary. At a time like the present the actual occurrence of such a crime might well strengthen our position. It would open the eyes of our go-as-you-please Government. The material loss would be made good by the prospect of an orderly and well-regulated future. (Act 3, sc. 1; p. 23)

The Machine Wreckers uses pseudoreligious language throughout to represent the machinery as a mystified transcendent force in the workers' eyes. "So grind the mills of God, maybe!" they exclaim when

the catch their first glimpse of the machine (47). Over and against their benighted view the play represents the machinery more objectively as highly engineered, highly technological in the 1920s sense. The closing scene is sublimely material:

> *The factory by moonlight, with a gigantic steam-engine and mechanical looms, at which children and a few women are seated. . . . Amid the sounds of machinery are heard the hum of transmitters, the clear tone of the running crank-shafts, the deep rumble of the levers, and the regular whirr and rattle of the shuttles. Stokers tend the furnace.* (44)

Jimmy Cobbett is in the end beaten to death by the mob of Luddite workers (following Ned's negative example of impulsive violence), with imagery that makes him out to be a Christ figure, sacrificed by the workers he should rightly have saved. The Devil Steam looms over all, mocking the false faith of Luddism whose adherents fail to realize their own true progressive interests.

The Monster of Autonomous Technology

In both *The Machine Wreckers* and *Metropolis* the mob attacks the literal machinery when it should be attacking the capitalist "machine." In both cases this error is premised on the (anachronistic) elevation of the machinery to the level of a seemingly autonomous, even sentient enemy, Devil Steam or the Mariabot. Superficially like Frankenstein's monster, Toller's Devil and Lang's Mariabot are actually modern upgrades whose differences from Mary Shelley's creature tell us something important about the twentieth century's twist on the myth. The Maria robot, especially, is fully personified. She is not the reanimated combination of dead biological organisms but a dead machine that competes with and threatens humanity. Indeed, the Mariabot is terrifying *because* her technological imitation is so accurate, because she can be easily confused with a living human being, and only then reveal her true, utterly inhuman identity. She is "uncanny" in Freud's classic sense; like waxworks, she is close to home (*heimisch*) and yet alien (*unheimisch*), like a pod-person or a Stepford Wife, an impostor in the midst of humanity — a malevolent simulation. In the end, the workers

realize they have been manipulated and burn the exulting, sneering robot at the stake as if she were a witch.

This potential for this kind of uncanny, spine-chilling confusion is already present in Victor Frankenstein's creature, who is taken for a deformed or giant person by some characters in the novel and its adaptations. But by contrast, the ungainly giant does not disturb because of a confusion of identity (real or simulation?) in the way the false, technological Mariabot is disturbing. Shelley's monster is scary because he is corpselike and "hideous." Only the addition of electrode-bolts to the creature's neck in the 1931 film really converted Mary Shelley's creation into something that could be taken as the cyborg relative of the Mariabot in *Metropolis*.

Cyborgs (or "cybernetic organisms") are all around us, now. TV viewers may be familiar with the collective techno-being depicted on *Star Trek*, the Borg. Numerous works of science fiction have represented frightening artificial intelligence (AI) monsters, from *2001: A Space Odyssey* to William Gibson's *Neuromancer* and Stephen Spielberg's *AI*. In the field of cultural studies, Donna Haraway is the best-known theorist of cyborg identity in postmodern culture. Looking at bio-engineered creatures of the laboratory like the OncoMouse™ and considering the hybrid existence of "cybernetic" humanity in the new millennium, she has argued provocatively that we are all already cyborgs, and that postmodern constructions of identity must begin with that recognition.[22] Interestingly, Haraway differentiates her ironic, self-aware, feminist cyborg from its apparent ancestor, Mary Shelley's monster: "Shelley's fiction participates in the dramas of Enlightenment humanism," she says (1997, 285n28). In the postmodern era of the posthuman, cyborg identity may be taken for granted among cultural studies theorists and residual members of what used to be called the cyberculture, but the possibility continues to produce a profound anxiety in the general culture, as seen in the *Terminator* films, *AI*, and *I, Robot* — as well as certain video games, such as the *Half-Life* and *Halo* series, in which technology and aliens pose a combined threat to human identity. This deep fear that we are merging with technology to the point that we can no longer distinguish what is human, that human creators of technology have been mastered by it, is, I believe,

the ultimate motive of a great deal of neo-Luddism at the beginning of the twenty-first century.

Twenty-five years ago, when experiments in artificial intelligence and computing in general were much less advanced, much less threatening, than they were to become, Langdon Winner analyzed this fear. He would later become known as a neo-Luddite author, but his *Autonomous Technology* (1977) traced the mid-twentieth-century obsession with the problem of out-of-control technology, *technique* run amok, especially as it was put forth in the work of Paul Goodman and Jacques Ellul.[23] The latter's *The Technological Society* (1964), an extremely popular book in America during the 1960s and '70s, comes closest to Winner's idea of what is threatening about technology. Ellul's thesis is that human beings have allowed technology to become autonomous — have anthropomorphized it — to the precise degree that we have allowed ourselves to become dehumanized, mechanized. Like the workers in the underground city in *Metropolis*, we have become machines. Winner places this idea in the context of computing and artificial intelligence, technocracy and political domination. His final chapter is (of course) called "Frankenstein's problem," and though he says very little about the book itself, he connects Mary Shelley's scientist with the dilemma of autonomous technology. His tentative answer as to what is to be done is to propose an "epistemological Luddism," a "method of carefully and deliberately dismantling technologies," in the sphere of ideas and ideological structures (330).

> The method has nothing to do with Luddism in the traditional sense (the smashing and destroying of apparatus). . . . I am not proposing that a sledge hammer be taken to anything. Neither do I advocate any act that would endanger anyone's life or safety. The idea is that in certain instances it may be useful to dismantle or unplug a technological system in order to create the space and opportunity for learning. (330–31)

We must learn to say no *in principle* to the presumption of technological progress, and sometimes must withdraw from the use of certain technologies, Winner suggests, an anticipation of Bill Joy's call for selective "voluntary relinquishment." This is clearly an example of

Luddism "in the head" (to paraphrase D. H. Lawrence) rather than in the factory, a conscious decision to put technology in its (subservient) place in our species' worldview: to return to mastery over what we have made by rethinking our relationship to technology. It is, in other words, neo-Luddism.

Simulacra in *the Matrix*

The increasing autonomy of technology is the theme of another popular recent film, *The Matrix*. The first film in the trilogy began development in the late 1990s, at the height of the cyberculture (and the neo-Luddite backlash). Its script, which amalgamates comics, anime, cyberpunk science fiction, and postmodern theory, is one of the best-known film adaptations of the Frankenstein myth of the decade just past.

The Matrix is set in a distant future in which humankind is dominated by a technological monster of its own creation, enslaved by an artificial intelligence. Humans are "farmed" from infancy in pods in order to serve as a power supply for the monstrous AI. It's a nightmare inversion in which the most basic need of technology is served by the human body, instead of the other way around. Only a handful of renegades know the way the world is organized, since the AI keeps the human batteries unconscious in sublime multistoried tiers of pods reminiscent of *Metropolis* and M. C. Escher prints, jacked into a collective virtual reality program that is the Matrix. A simulation with no original, this "reality" resembles a collage of cityscapes from twentieth-century images of cityscapes, just slightly off in perspective, color, and continuity of design. Again reminiscent of *Metropolis,* this two-level world depends upon the slaves accepting the dominance or hegemony of the masters though a kind of illusion created by technology. The plot turns on people awakening to the reality of their enslavement and being disconnected from the giant power supply. The protagonist, Neo, played by Keanu Reeves, is an office worker and computer hacker who is also possibly "The One," the rebel leader who will liberate humanity.

The film's heroes are a band of guerilla hacker-warriors, technologically adept neo-Luddites on a global scale who have awakened from the illusion, unplugged, and now form an underground resistance to the regime of control.[24] Their ultimate mission is to smash the machines,

to destroy the technology that has destroyed all but the mere semblance of human life on Earth. Not only did humans "give birth" to the AI, as Laurence Fishburne's character, Morpheus, tells Neo, they worsened the situation by destroying Earth's atmosphere in an attempt to cripple the solar-powered technology. Environmental waste and human enslavement go together, as during the Industrial Revolution, and can now only be redressed, if at all, by secretive sabotage. Morpheus serves as a kind of General Ludd, and Neo is perhaps his successor who in his name will lead an army of redressers on secret raids against the machines.

In an irony that escaped no one when the film came out, the illusion-making cinematic technology of the film itself was a major factor in its success, especially its timed still-camera visual effects ("bullet time"), a technique that quickly found its way into TV commercials and other films. Like any hacker underground, Morpheus and Neo's band seems to revel in living inside the belly of the beast, almost enjoying the cool technology of the Matrix, hacking it by playfully mastering it. The sinister illusion that keeps humanity enslaved is like a cool video game if you know some cheats. This is no accident, since "Enter the Matrix," the game, was released in 2003 along with the second movie, *The Matrix Reloaded*. The "synergy" between film and game was in this case not only a marketing device. It was integral to the postmodern ethos of the filmmakers.

Just before Neo is recruited and unplugged from the matrix, he goes to the shelf and selects a book that has been hollowed out as a place to stash the illegal software. It opens to a chapter titled "On Nihilism" and turns out to be an incongruously old-fashioned-looking leather-bound edition of Jean Baudrillard's *Simulacra and Simulation*, a central work of postmodern theory and a favorite of the cyberculture. The writer-director Wachowski brothers reportedly insisted that the actors read the book before being shown the script, and everyone involved in the film frequently mentioned Baudrillard in publicity interviews and in behind the scenes footage about the making of *The Matrix*.

Baudrillard's general thesis is that the modern obsession with simulations of every kind gave way in the late twentieth century to a world of copies without originals, simulacra.[25] Modern and postmodern culture have moved from imitation, mimetic reflections of reality, to simula-

tions that first mask reality then mask the absence of any foundational reality behind the simulations then, finally, offer copies that bear no direct relation to any reality outside themselves, shadows with no body — simulacra. This he calls hyperreality, in which for example Disneyland replicates a perfect America that never was — and conceals the fact that America itself has become a kind of theme park. Or, to cite another of Baudrillard's examples, the hyperreality of simulacra is the technologically mediated first Gulf War of 1990–91, which he argued ultimately *was* its various computer game-like virtual-reality mediations and simulations.

Automaton vs. Robot

The crucial shift toward hyperreality for Baudrillard can be measured in the difference between the nineteenth-century "automaton" and the twentieth-century "robot."[26] This shift, I would suggest, corresponds to the difference between what the "mechanic arts" and the more abstract idea of "technology," with the dividing line being the industrial revolution of the nineteenth century.[27] The automaton was essentially a theatrical device, "a mechanical and clocklike man" created as a kind of magic-show analogy with the human (178). Such pleasurable curiosities played cards or chess, moved their heads, and mimicked social interactions. One of the best-known examples was a hoax, the famous chess-playing "Turk" built by Wolfgang von Kempelen in 1770. As Tom Standage points out in his fascinating historical account, this stage-trick automaton inspired everyone from Edgar Allen Poe to the inventor of an early computer, Charles Babbage.[28] The implications for industry were immediately obvious. Jacques de Vaucanson, who was the earlier inventor of automata such as the eating and digesting duck, also tried to develop plans for a power loom, which were interrupted when French textile workers — precursors of the Luddites — rioted in protest. Edmund Cartwright's steam-powered loom was likely influenced by such automata and, as Standage points out, the hugely successful tour of Europe undertaken by Kempelen's Turk "coincided with the Luddite riots and Mary Shelley's publication of *Frankenstein*." [29]

The fully modern "robot," on the other hand, was according to Baudrillard an embodiment of technology per se, technology as an

autonomous system, and was thus imagined as a model worker. With the birth of the true robot, "the reign of mechanical man commences" and "the revenge of the simulacrum that feeds the myth of the sorcerer's apprentice" becomes the dominant motif (180). The literary source for this kind of robot is Karel Capek's 1920 play, *R.U.R. ("Rossum's Universal Robots").*[30] *R.U.R.* introduced to modern usage the word "robot," derived from a Czech word for "mindless labor." Its robots are created by a mad scientist and overrun humanity in a kind of slave revolt. Capek's robots are workers, are themselves a form of technology, and the emphasis is on the economic and industrial system they make possible, not their clever imitations of humanity (as with automata). But, significantly, they are not mechanical or electrical but biological beings, chemically created as "wetware." This is both a look backward to Frankensteinian alchemy and a foreshadowing of genetic engineering.

Frankenstein's creature is also a biologically based being, made from revivified corpses, but it raises philosophical questions about human nature that were appropriate to the age of automata and the mechanical arts. This is the subject of neo-Luddite author Theodore Roszak's novel *The Memoirs of Elizabeth Frankenstein* (1995).[31] Imagining Elizabeth's childhood growing up with young Victor allows Roszak to reflect on education as a force in making the mad scientist. He fleshes out Victor's father, the Baron Alphonse Frankenstein, as a speculative member of the European Enlightenment whose obsessions are handed on to his son in new forms. At one point the Baron introduces Elizabeth and Victor to his collection of automata, which are kept in a curtained room in his castle. He teases the children, saying that these are not toys but "living beings like ourselves" (43), then "brings them to life." Victor, in on the joke, is delighted, Elizabeth amazed and disturbed, when they play musical instruments and dance. One machine, "Herr Doktor," contains a clockwork, primitive computer that resembles von Kempelen's chess-playing Turk and the kinds of calculating Turing machines it inspired, such as Charles Babbage's Difference Engine. "'These, my child, are automata.' He bent low to whisper the words as if they were some awful mystery. '*The very secret of life is in them.*'" (44; italics in original). The point of these machines, in keeping with Baudrillard's theory, is to create a theatrical experience, to give a frisson

of uncanny recognition to human observers. In Roszak's novel, a conversation on electromagnetic "fluid" and the "basis of life itself" follows on the demonstration, not unlike the real conversations in the Villa Diodati in 1816 that inspired *Frankenstein*. But Roszak also has his Baron Frankenstein project forward to the age of Babbage, the dawning of the age of the robot (and of Google and the Internet): "One day, when we can make the parts small enough, we will pack all possible sums into one set of brains. And perhaps much more besides. Herr Doktor may one day carry my entire library about inside him" (46).

Unlike *Frankenstein, The Matrix* is firmly rooted in the age of the modern robot, the age of modern technology proper. In this age, the worker-machine becomes a simulacrum, a way of looking at the man-machine interface that was already beginning with Charles Babbage, who projected in 1832 a factory system to take advantage of his new calculating machines. Babbage remained ultimately optimistic about human control of technology. In *The Matrix*, however, the technology monster is truly alien to humanity and it acts to restructure reality to the degree that we can no longer claim to know reality apart from the constructions of technology. The enemy targeted by neo-Luddism as a whole is precisely this kind of particularly postmodern monster: not *machinery* in the limited, concrete sense of the nineteenth century, and not just irresponsible "natural philosophy" or egoistic speculation, but abstract, alien, autonomous technology acting as both creator and creature — technology that walks a troubling line where the identity of the human species is effaced.

This kind of monster, if only for historical reasons, was not yet fully present in Mary Shelley's original novel. We only glimpse it in retrospect. But it had begun to be sketched out some fifty-plus years after she wrote in Samuel Butler's 1872 dystopia, *Erehwon* — a work that descends from *Frankenstein* and prefigures *The Matrix*. In Butler's story, a lost world turns out to harbor a neo-Luddistic reactionary society, one that has banned machinery after living through the birth of "mechanical consciousness," artificial intelligence (though mechanical, pre-electronic) and its final defeat. The Frankensteinian warning comes in the scriptural *Book of the Machines*: "The servant glides by imperceptible approaches into the master. . . . we should destroy as

many of them [the machines] as we can possibly dispense with, lest they should tyrannize over us even more completely" (74).

Frankenstein, in the process of its reception over the past two centuries, has been read as and thus made into the first Luddite novel. Actually, *Erehwon* articulates the beginnings of *neo*-Luddite fears much more explicitly than Mary Shelley did, and in language that sounds very modern. The tyranny of the simulacrum — the deep fears engendered by a truly autonomous technology, untethered from any human control — this was not the concern of original Luddism. Only hinted at in Mary Shelley's novel, it has, however, become the central obsession of modern neo-Luddites, for whom the very idea of autonomous technology, on its way to becoming ubiquitous in the world, to becoming the Matrix, is the scariest monster yet.

Chapter 5
Novelizing the Luddites

> These [facts] it becomes the trade of the romancers still more to exaggerate, until the thread of truth can scare be discerned in the web of fable which involves it. . . .
>
> Romance, though certainly deriving its first original from the pure font of History, is supplied, during the course of a very few generations, with so many tributes from the Imagination, that at length the very name comes to be used to distinguish works of pure fiction.[1]
>
> — *Sir Walter Scott*

In London in 1832, *The Factory Lad: A Domestic Drama in Two Acts* appeared on the stage.[2] It was a sentimental melodrama on the Luddites, its villain a heartless factory owner named Westwood whom the workers hate. Straight out of Byron's tales or Ann Radcliffe's popular novels,

Westwood is dark, inscrutable, and cruel. (Incredibly, he even enters the factory "sneeringly," according to one stage direction.) After he installs new steam looms, the workers rebel, chanting, "Destruction to steam machinery!" and "Now, to the work — to the work! Break, crack, and split into ten thousand pieces these engines of your disgrace, your poverty, your ruin! Now!" Then they burn down the factory — a gloomy and sublime setting that recalls the castles in gothic plays and novels (and anticipates the setting of Ernst Toller's 1923 play *The Machine Wreckers*). To audiences of 1832, Luddism itself was already seen as a melodrama or a romance, the Luddites of twenty years before as the characters in a popular novel or play. In the play, they are Robin Hood-like Romantic desperados, worker-antiheroes. They face a difficult choice of morally ambiguous action in response to unbearable tyranny. In the end, their acting on their passions in response to tyranny brings about the violent climax.

Thus the received history of the Luddites, the limited factual record, is fitted to, understood in terms of, melodramatic conventions derived from romance (literally romanticized). During the Romantic period, these conventions — melodrama, sentimentality, gothic villainy, sublime and violent passions, disguised and brooding antiheroes — dominated the popular novels and the popular culture in general. In this chapter I examine a group of nineteenth- and twentieth-century novels explicitly about the Luddites, written from the 1840s to the 1980s. Though they remain unknown to most readers, several have had a major influence on popular ideas about Luddism, and some have influenced professional histories of the period. Taken as a group, they illustrate how much the making of the Luddites — and the creation of neo-Luddism — has depended on the "novelization" of their story.

The Form of the Novel

I deliberately use the word "novelization" because it puts the emphasis on the act of making a novel out of some other existing storyline, whether from history, a film, or a video game. Novelizing is an act of translation for a new audience or new "market" in a new context. It calls for certain generic conventions and expectations to be emphasized or drawn out of the original story. In this case it is clear that even early

newspaper accounts of Luddite actions were translating events into conventional forms.

Since the eighteenth century, many different kinds of fictional works have been called novels. Examples in this chapter alone range from complex historical romance, to partially novelized history, to local history, and, with a little stretching, cover a Victorian religious tract as well as a boys' adventure tale, and in the twentieth century, a multi-generational saga later adapted as a TV miniseries, a psychological character study, and a science-fictional alternative history.

Broadly considered, all of these works are in the family of the historical romance, and in every case the history and the romance are in tension. As Walter Scott says in the excerpts quoted at the head of this chapter, romance and history have always been intimately related and have often been confounded: The historical novel inherits from earlier romance this productive confusion. The last thing historical novelists want is to completely defuse the tension between fact and legend, history and romance. In fact, the tension between history and romance actually becomes a theme in many of the novels I examine below. The raw material — the basic plot of events in the Midlands and North and (repeatedly and most memorably) in the West Riding of Yorkshire during 1811 to 1812 — comes from a number of sources: journalism, archival records including government papers, letters, and the occasional flyer or broadside, professional and amateur history, national and local history, myth and legend, and, early on, purported eyewitness accounts and oral histories. In many of these sources the events were from the start deliberately camouflaged with exaggeration or distortion. Professional historians as well as novelists have used these sources, but the historians have also used novels, whether as cultural productions representing folklore or myth, or as quasi-historical records based on popular culture and the oral tradition. Thus fiction and historical writing about the Luddites have been woven into a single fabric of story and interpretation, beginning with the earliest contemporary newspaper accounts.

The Romance of Rawfolds Mill

One particular story from 1812 shows up repeatedly in all sorts of accounts: the siege and defense of Rawfolds Mill at Liversedge in Yorkshire, on April 11, 1812 (the mill is depicted in Figure 2.1, Chapter 2). Newspapers, government reports, the mill owner's account of the battle — each obviously had its own reasons to mythologize what happened. Long before the first plays and novels about the Luddites were published, the Rawfolds attack was already understood in terms of conventional narratives.

Here, once again, is the story. On the night of April 11, 1812, over a hundred men from villages all around met in a field at the stone obelisk known as the Dumb Steeple, many masked and carrying hammers, pikes, or guns, both muskets and pistols. They marched from that dark field to Liversedge in an attempt to forcibly enter Rawfolds Mill, which was owned by the Whig manufacturer, William Cartwright. Cartwright was lying in wait for them and, warned by a watchdog of the Luddites' approach, he successfully resisted the attack, ringing an alarm bell and employing various fortifications and defenses, as well as armed militiamen, who shot and killed two of the Luddites as they were still trying to get into the mill. Another militiaman refused to fire on the Luddites and was later severely punished for his refusal. At least two more Luddites died later of wounds they incurred during the fight. Days later, Cartwright himself was shot, though he was not seriously wounded. Over two weeks later, on April 28, another mill owner, William Horsfall, who reportedly made remarks about the violent destruction of Luddism and "the blood of Luddites" and was the hated head of a local counterresistance organization, was shot and killed by Luddite gunmen hiding behind a hedge on the road.

These events of April were only the most dramatic in a series of midnight raids, machine breakings, and threats. During the summer of 1812, Secret Committees of Parliament investigated Luddite activities in the West Riding, including especially the attack on the mill and the subsequent murder of Horsfall. A special bill was passed that gave local magistrates powers to preserve the peace and to capture and try the Luddites. At special assizes (or hearings) in York in January 1813, three suspects in Horsfall's murder were convicted and hanged based

on the testimony of an informer; another fourteen were hanged immediately thereafter for being involved in the initial Rawfolds attack.

Even as it was first reported in the newspapers (based on local accounts), the Battle of Rawfolds Mill has the outlines of an irresistibly gripping tale of romance: strong individual personalities and powerful group dynamics, cloak-and-dagger plotting and counterplotting, daring, comradeship under fire, betrayal, imprisonment, conviction, and execution, the taking of secrets to the grave. The plot writes itself: Conflict builds to a head until the climax, at midnight, of a bloody battle. The ramifications unfold over the days and weeks to follow, a denouement finally ending in death and (relatively speaking) restored order.

The influential *Leeds Mercury* newspaper referred to its account as "a faithful narrative of the sanguinary contest that last Saturday night took place at Rawfolds, between the men calling themselves the army of General Ludd and the persons employed in guarding the property of Mr. Cartwright." The purpose of the report was "to place upon record the particulars of an event that will survive in local remembrance the present generation." Here the attack is already being written about and read as if it were a novel (a "narrative of the sanguinary contest"), full of conflict, myth, strong characters, and local color. Indeed, the story of Rawfolds became the centerpiece of almost every Luddite novel written for the next two hundred years. The characters of George Mellor, William Thorpe, and others, including their nemesis, Cartwright himself, have been taken over into the worlds of fiction and history (and the gray area between the two).

Rawfolds Mill is now demolished, but the site in the Spen Valley is still industrial, home to the Bridon Wire factory. It has been reported that, in good English-Heritage fashion, the employees of the factory enjoy telling ghost stories about dead Luddites haunting the locale.[3] The haunting began in the Luddites' own time, and can be taken as a metaphor for the stories and myths and romance conventions that were not only applied to Luddite history by its interpreters but were, in a real sense, the very stuff of that history in the first place.

Shirley

The best-known novel explicitly about the Luddites is Charlotte Brontë's *Shirley* (1849).[4] Written in the context of 1840s Chartism and of the European revolutions of 1848, *Shirley* looks back thirty-five years or so to the Luddites' time. Charlotte grew up in Yorkshire and her family experienced the Luddite uprising at first hand. She taught school just up the hill from the spot where the Luddites' legendary Dumb Steeple used to stand.[5] To this day, the region of the most famous Luddite activity in the West Riding is roughly contiguous with the vales and moors known to tourists and the British heritage industry as "Brontë country."

The novel tells the story of two women, Shirley Kildare and Caroline Helstone, and their involvement with men who were fighting against the Luddites. The Luddites themselves appear as caricatures in a subplot. In this scene a threatening letter is being read and commented on by the narrator:

> 'To the Divil of Hollow's-miln.'
>
> We will not copy the rest of the orthography, which was very peculiar, but translate it into legible English. It ran thus:—
>
> 'Your hellish machinery is shivered to smash on Stillbro' Moor, and your men are lying bound hand and foot in a ditch by the road-side. Take this as a warning from men that are starving. . . . (64)

The patronizing joke on the workers' spelling may be awkward, but the imagined letter is an accurate rendering of historical Luddite papers. And Brontë goes out of her way to create sympathy for the Luddites by mentioning that the writers are "men that are starving."

The novel's tone toward the Luddites is one of compassionate Victorian paternalism, an attitude summed up in this way:

> As to the sufferers, whose sole inheritance was labour, and who had lost that inheritance — who could not get work, and consequently could not get wages, and consequently could not get bread — they were left to suffer on: perhaps inevitably left: it would not do to stop the progress of invention, to damage science by discouraging its improvements; the war could not be terminated, efficient relief could

> not be raised: there was no help then; so the unemployed underwent their destiny — ate bread and drank the waters of affliction.
>
> Misery generates hate: these sufferers hated the machines which they believed took their bread from them; they hated the buildings which contained those machines; they hated the manufacturers who owned those buildings. (62)

Brontë's tone of weary wisdom, of resignation in the face of an insoluble "problem" ("perhaps inevitably"), will show up again and again in Victorian novels about the "condition of England" and nineteenth-century labor disputes, from *Sybil* ("the two nations"), to *North and South*, to *Hard Times* (where labor disputes with the factory "hands" are famously represented as "a muddle").

The heroes of *Shirley* are the women — and especially the middle-class Caroline — who stand outside the battle and desire to mediate or resolve it. This is less a novel about the working class than about the conflicts within the ruling classes, especially when they are faced with working-class poverty and protest.[6] It pits Shirley's landowner's paternalism against the tough, capitalist realism of Robert Moore, the mill owner (who is based on Cartwright of Rawfolds), with Caroline, in anticipation of the allegorical theme of *Metropolis*, serving as the "heart" that mediates between the "head" (capital) and "hands" (labor). This is what E. P. Thompson had in mind when he noted that *Shirley* is a "true expression of the middle-class myth" of the Luddites.[7]

Caroline's perspective — that of the excluded middle, as it were — is captured perfectly at the crisis-moment of the plot, the Luddites' march on the mill. Brontë locates her two heroines at some distance from the mill itself, where they can only dimly see, and mostly just hear, the clash.

> The road, which should have been white, was dark with a moving mass: the rioters were assembled in front of the closed yard gates, and a single figure stood within, apparently addressing them: the mill itself was perfectly black and still; there was neither life, light, nor motion around it. (333)

As John Plotz points out in his reading of this scene, "Shirley and Caroline have become the locus for a novelistic gaze that is also the

reader's own."[8] But the women's perspective mimics the reader's own position in history as well: at history's distance from events, peering backward into the darkness of the limited archival record. And in this same sense it counts as a kind of self-parody, Brontë's way of representing her own temporal remove from the battleground and from her parents' generation, as well as her own goals and motives as a novelist, a writer of romances. Like us, the women in the novel only receive dim reports of the distant conflict via fragmented narratives, bolstered with their own speculation and invention. From their perch on the hill they wonder and construct general descriptions, tell themselves the story of the attack while we listen in:

> "I wonder if there are many in the mill, Shirley?"
>
> "Plenty to defend it. The soldiers we have twice seen to-day were going there, no doubt, and the group we noticed surrounding your cousin in the fields will be with him."
>
> "What are they doing now, Shirley? What is that noise?"
>
> "Hatchets and crow-bars against the yard-gates: they are forcing them. Are you afraid?
>
> "No; but my heart throbs fast; I have difficulty in standing: I will sit down. Do you feel unmoved?"
>
> "Hardly that — but I am glad we came: we shall see what transpires with our own eyes: we are here on the spot, and none know it. Instead of amazing the curate, the clothier, and the corn-dealer with a romantic rush on the stage, we stand alone with the friendly night, its mute stars, and these whispering trees, whose report our friends will not come to gather." (334–35)

The main action takes place offstage. Although Shirley says that the women "shall see what transpires with [their] own eyes," they actually have to settle for listening and imagining. Summary narrative, constructed in the dark, is all they (and we) are going to get of what happened at Hollow (Rawfolds) Mill.

But Brontë seems to want to resist simply writing Luddite history as romance. When Caroline seeks to run down the hill to warn the manufacturer Moore (the fictional counterpart of William Cartwright) about the coming "dark mass" (the Luddite mob), Shirley laughs at Caroline's desire for a "romantic rush on the stage" to rescue the mill

owner: "How? By inspiring him with heroism? Pooh! These are not the days of chivalry; it is not a tilt or a tournament we are going to behold, but a struggle about money, and food, and life" (333). *Shirley* maintains a tension between the romance plot ("days of chivalry") and the historical narrative ("money, and food, and life"). Some see this tension as evidence of Brontë's artistic difficulty in folding the love story into the historical novel, but it is much more than that. It signals competing anxieties on the part of this author: On the one hand, that the trivial conventions of novel writing will fail to do justice to the story of the Luddites — that the romance will overwhelm the history; and on the other hand, that the opposite may happen: that the materialistic concerns of the Luddites will prove unsuitable material for a novel — that the history will overwhelm the romance.

Shirley opens with a well-known passage that expresses but does not do away with these anxieties:

> If you think, from this prelude, that anything like a romance is preparing for you, reader, you never were more mistaken. Do you anticipate sentiment, and poetry, and reverie? Do you expect passion, and stimulus, and melodrama? Calm your expectations; reduce them to a lowly standard. Something real, cool, and solid, lies before you; something unromantic as Monday morning, when all who have work wake with the consciousness that they must rise and betake themselves thereto. . . . (39)

This may call to mind Nathaniel Hawthorne's famous division between the realistic "novel" and the fantastic "romance," but Brontë is less concerned with literary genres than with historical and moral questions: What kind of story can be made of the Luddites? Can the story be novelized without trivializing the harsh light of the workers' "Monday morning?" What happens when you novelize such secret yet renown — because legendary — events?

"Calm your expectations," Brontë preemptively tells her readers, but *Shirley* continues on the contrary to stimulate the reader's expectations, precisely by maintaining the dramatic tension between romance ("chivalry") and ("real, cool") history. In the end, though with an irony reminiscent of Jane Austen, the novel wraps up more or less in the

conventional romantic way (and for reasons of Liberal politics, as well): The "heart" intervenes humanely on behalf of the alienated "hands" and marries the "head." Caroline Helstone marries the mill owner Robert Moore, and the bells peal at the moment they are betrothed, ostensibly to celebrate the repeal of the hated Orders in Council, the source, according to one theory, of the unrest that fed the Luddite cause. Robert is thus saved from having to go to Canada, he is able to marry, and he is able to "be less selfish" — to become a benevolent employer and "lay wiser and more liberal plans" (594). The mill owner is redeemed, at least in romance. In a strange coda, as if "hastening together to perfect felicity," as Jane Austen mockingly puts it in another novel (*Northanger Abbey*), we are shown Robert's vision of the future in a utopian factory town. As a way to resolve labor "troubles" that were still erupting in new forms at the time of *Shirley*'s composition, this romantic ending feels anxiously, knowingly artificial. The romance reader's expectations are at least partly met in the end, but with the irony of historical hindsight and nervous foresight.

A final twist comes in a coda, when the narrator goes on to admit that "Robert Moore's prophecies were, partially, at least fulfilled" (599), then tells of the industrialization of the Hollow, including a "mighty mill, and a chimney, ambitious as the tower of Babel" (599). The narrator's old housekeeper, Martha, is a tough Yorkshire woman already busy mythologizing Shirley ("she had een [eyes] that pierced a body through: there is no such ladies nowadays"). What Martha reports reaches back into the mists of a time long before 1812, to local legend and the stuff of romance. She tells of her mother, fifty years before, seeing fairies in the now modernized and fully industrialized Fieldhead Hollow, the "last fairish that ever was seen on this country side . . . It is altered now" (599). Earlier, we hear the women say that the local woods had been a haunt of Robin Hood, back in "the dim days of eld" (220). The sad but (the book suggests) inevitable disenchantment of the countryside, the destruction of local romance, are the result of the historical changes that have come with Moore's kind of machinery. The reader hardly notices that not only the fairies but also the Luddites have disappeared from the landscape. Rather than ending with a harsh Monday morning the book ends with a forced reconciliation and

substitution: One kind of romance (harmonious industrialization) has displaced another (the Luddite battlefield).

The Risings of the Luddites

Shirley was published in 1849, thirty-seven years after the execution of those who attacked Rawfolds Mill. Almost an additional thirty years later, local historian Frank Peel published a series of articles on the Luddites in the *Heckmondwicke Herald and Liversedge Weekly Courier* (January 25–August 6, 1878). These were collected in book form in 1880; a significantly revised second edition appeared in 1888. *The Risings of the Luddites*[9] may be the single most influential account of the Luddites after *Shirley*, especially since E. P. Thompson's better-known account relied on Peel as a source and general inspiration.

Thompson claimed that Peel's arguments were mostly borne out later by twentieth-century research, despite his obvious fictionalizing, and that overall the book deserves to be taken as "an important historical source."[10] Betting on the odds that Peel's claims to oral history contain at least some actual accounts, Thompson uses him, though with caution. Some historians have disagreed and have continued to question Peel's accuracy and appropriateness as a source for serious historiography.[11] Though he did not fully document his own oral sources, and mixed legends and old wives' tales with what was documented about the Luddites, Peel's general purpose was to make the Luddites seem human and defensible, and clearly this is a goal of Thompson's more rigorous later history, as well. Perhaps more important, Peel tried to represent the Luddites as a gripping story to be told, a historical phenomenon the meaning of which lies in its narration. Thompson agrees, though he fits the Luddites into a larger narrative: the Marxist plot of emerging class consciousness. Both historians have their own reasons for "novelizing" the Luddites.

Peel's book was not intended to be a novel, but it is a novelized history — more in the tradition of *Shirley* than of Arnold Toynbee, say. Brontë's and Peel's books are both imaginative "makings" of the Luddites. Modern readers who are not familiar with nineteenth-century local histories are likely to be surprised at the number of speculative, fictional interpolations Peel weaves into the reportage.

A second edition of the book was published in 1888, but it is in the third edition of 1895 that Peel really stretches to extend his authorial voice into the imaginary space of secret Luddite meetings, even into the private motives and feelings of the participants, providing a compelling narrative the novelist's way — by making it up. In many cases it is clear when he is doing this, such as when he reports verbatim a conversation between two Luddites at a secret meeting or alone on a walk. But the lines between what is reported from documentary sources, what is remembered by elderly informants, and what is filled in by the author are not always so clear.

Peel's first twenty-two chapters, in particular, read like many popular Victorian novels. The first two chapters narrate events in a mostly fictional mode ("John Wood's Workshop" and "The Oath"); then Chapters 3 and 4 pause to lay out the basic historical facts through general exposition ("Bad Times" and "Spread of the Movement"); Chapter 5 returns to the storytelling ("The gathering at the Shears Inn, Liversedge") — and so on. In Chapter 1 we are introduced to the setting and time, when

> an energetic manufacturer, named William Cartwright, had commenced to finish cloth by machinery at a mill driven by water power at Rawfolds, near Cleckheaton, and had excited by that course great resentment amongst the workmen engaged in that branch of business, who had testified their animosity by refusing to work at the new machines, and by covertly injuring them when they had the opportunity. (10)

In the narrative that follows, Peel periodically shifts verb tense, often a signal that he is also shifting into or out of the novelizing mode:

> It is a Saturday afternoon, about the middle of March, 1812. Mr Wood's men have stopped work for the day, and are now gathered round a young man who is reading aloud from a newspaper. The whole of the group are listening intently, for it is an account of the daring proceedings of the Nottingham frame breakers. (12)

This narrates a secret meeting for which no direct reports survive. Peel not only reports what (he imagines) happened there, he offers descriptive

characterizations of the key individuals present, based in part on the Victorian assumption that character is destiny, so that once a man's disposition is assigned, the historian can predict how he would have reacted. Thus he depicts George Mellor as the "young man, whose pale cheek flushes as he reads" and William Thorpe as one who "stands with eyes fixed upon the reader in a half dreamy fashion" (13).

Peel sometimes implies that the fictions are based on eyewitness accounts. He claimed to have interviewed "personally almost everyone then living," who was "likely to be able to add to [his] stock of knowledge respecting the Luddites and their doings." In the preface to the first edition (1880), he refers to his reliance on "information" that he had "gathered from the lips of some of the few surviving people who witnessed the stirring events of that dark and cheerless time" (5). In 1895, for the third edition, he cites David Cawthra, a ninety-six-year-old man from Brighouse whose father was one of the "watch and ward" in the area. Mr. Cawthra told Peel that there were "many connected with the Luddites at Rastrick and Elland — not so many at Brighouse" (83). The trouble-causers were mostly from elsewhere, in other words — not a completely surprising conclusion from the local man. Peel also interviewed an old woman who had been a servant at the Star Inn when John Booth and the other injured Luddites were taken there and treated (or not), but in this case even Peel himself is skeptical of her account of the bedding's being destroyed by acid used in torturing the captured (101).

But then there is the "old veteran" whom Peel cites as among his most important informants,

> an interesting old man who had stood as a stripling in the Luddite ranks, and had often joined in their wild defiant songs as they plied the sounding sheers, called himself an "old rebel," and not without cause, for he had been mixed up with every movement against constituted authority that had sprung up in the West-Riding during his lifetime. (2nd edn pref.)

This man reportedly recited for Peel an entire speech made by the radical John Baines at a secret Luddite meeting at St. Crispin Inn. Even accounting for the distortions of age and memory, this would

have been a tantalizing source for Peel and then, coming after him, for E. P. Thompson. But this eyewitness testimony of the "old rebel" raises all the usual theoretical and methodological questions that historians and anthropologists always face about such "informants." Oral history is a kind of ethnography, after all, and must deal with problems of evidence such as the self-fulfilling expectations of the interviewer, or an informant's tendency to blur the line between fact and fiction, accuracy and legend.[12]

The historian Malcom Thomis charges that "traditions relating to Luddism have doubtless been determined by what men have chosen to remember and hand down rather than by what actually occurred at the time."[13] Reading in the novelists' tradition, however, I understand Peel's elderly informants as collaborators in his novelizing. They tell him stories that he embellishes to create his own stories. The blank spaces in his informants' accounts and in the historical record provide openings for Peel's own inventions — and the significant facts are two: that there are so many blank spaces (hence so much room for invention); and that the nature of that invention tends to involve the writer's making up large political, philosophical, or psychological motives for Luddism, as if the evident practical and economic motives were not enough — or were not modern enough. The novelist's techniques, including characterization, plotting, conflict creation and resolution, all work to this end.[14]

Peel's first chapter ends with a "stormy discussion" following the Luddites' reading from the *Leeds Mercury*. Here Peel steps outside the frame of the narrative to address us in the role of omniscient narrator: "Perhaps if we follow it, we shall discover still more of the chief characteristics of the speakers, their opinions, and the motives that urge them on" (15). Of course, Peel invented the discussion we are asked to follow. Chapter 2 opens with more Luddite dialogue. In real life the Luddites took an oath of silence but Peel makes them speak, and they explain their actions and debate the evils of machinery and what is to be done about it. Nineteenth-century novels tend to dwell on the inner lives, the psychological motives of individual characters, especially when the individual is in conflict with society. Peel works hard to imagine personal motives for the Luddites, and he focuses on individuals to

explain events that were actually the result of collective and anonymous group actions. At one point the Luddite leader George Mellor, famous for his hot temper, is said to answer a challenge "savagely," for example, and we are privy to the thoughts and moods, as well as the described appearances, of other historical figures. Eventually, John Booth, the Luddite who was killed in the raid, replies with a moderate or cautious point of view when it comes to the new machinery:

> Now look at one of these machines. Observe how smoothly and how beautifully it works! How perfectly it does for the workman the most arduous part of his task. By its aid, as we well know, your task has become one of care and watchfulness. To say that a machine that can do this for you is in itself an evil is manifestly absurd. (17)

Booth is eventually won over. Psychological momentum and novelistic tension builds toward his tragic end in the climax at Rawfolds. In this way Peel's novelizations of local history decode the secret subculture of the Luddites in order to instruct (and comfort) his Victorian readers.

In Chapter 7, after the account of the meeting at St. Crispin Inn (presumably based on the report of Peel's "old rebel"), the men disperse, some going out on a raid for arms. Peel again gives us a privileged — and individualized — view of precisely what the Luddites worked so hard to cloak in collective anonymity and silence:

> Leaving the rest of the delegates to their own devices, we will follow two who are walking steadily on along the highway and anon through green lanes and fields. . . .

The two then go on a raid of Mr. Hartley's house, where his daughter unexpectedly comes downstairs in the midst of their ludding — an entrance straight out of romance, her beauty confronting their beastly violence:

> Her hair, black as a raven's wing, hung in disheveled masses down her shapely shoulders, contrasting strongly with her pallid face, and as she stood at the foot of the stairs, with eyes dilated by fear, she looked like a startled, timorous fawn. (64–65)

Peel had read *Shirley*, as he tells us at another place in the book (97), and he was clearly influenced by its narrative mode and plot devices (in this case, the tension between men's public violence and women's domestic virtue), as well as by other novels and conventional romances in general. This close-up of Hartley's daughter is followed by a wide-angle view of the larger context for this imagined encounter:

> On the morning of the following day the neighborhood for miles around was startled by tales of the visit of a band of Luddites to some score of detached or solitary houses in the valley, from which they had carried away a great number of guns, pistols, and other weapons. (65)

Peel's becomes just one more of the "tales" told "for miles around," part of the legendary history of the Luddites.

Besides "Miss Brontë" and his informants' varied memories, Peel also draws on newspaper accounts, as well as Yorkshire jokes, songs, and legends. More than once he resorts to some variation of "tradition says" or "It is handed down amongst the traditions of this stirring period." Even still, key moments in the history of the Luddites remain lost to him, most of all the actual attack on Rawfolds Mill as the Luddites experienced it. From the meeting at the Dumb Steeple to the attempt to break down the mill doors with the Great Enoch sledge-hammer, Peel must rely mostly on the public court papers (Cartwright gave his testimony later on, as did some of the Luddites) — or on the collective general memory of events mixed with various re-imaginings, beginning with *Shirley*.

Again Peel shifts to the present tense — "the stragglers are called together by a low whistle, and Mellor's deep voice is heard as he puts them in order" (79) — as his narrative zooms in on invented particulars: "We left the rioters about sixty paces from the mill," he says at the opening of Chapter 10 (87). During the battle itself, like the early newspaper accounts, Peel uses the romance imagery of besieged castles to describe the "gallant defenders of the mill," Cartwright and the militia. Rollers with spikes and carboys of vitriol are installed on the stairs, and Peel refers to the "*chevaux de frise*" (a kind of palisade-barrier), and claims the mill was "practically impregnable." Given all

this chivalric machinery, the heroism of the Luddites, along with that of the defenders of the mill, is inevitably heightened:

> Nevertheless the Luddites earned themselves such a name for desperate and unheard of deeds that the little garrison was naturally glad that the long expected struggle was at last over, and that they had covered with unmistakable defeat the formidable fraternity that had hitherto been regarded with such abject terror. (95)

The Making of the English Working Class

Charlotte Brontë wrote a historical romance; Frank Peel read Brontë and interviewed informants in order to write his novelized history; E. P. Thompson read both books, Brontë's and Peel's, among the sources for his hugely influential social history, *The Making of the English Working Class*.

Brontë's family ties and regional history and Peel's closeness to the remnants of the Luddite oral tradition make both appealing sources for the historian. Thompson is aware of Peel's resort to "old chestnut[s]" such as the clock striking thirteen and the lost hat of a Luddite being used to identify him, thus acknowledging that parts of the book are strictly fictional. Thompson believes it is possible to reconstruct Peel's use of his sources, to sort the history from the novelization, but it is far from clear that it is so simple.[15] The first edition of Peel's book, published in 1880 — the one Thompson cites on the Luddites — is shorter and more factual in general than later editions. It is mostly told in third-person objective voice, without the dialogue and omniscient narration of the actors' thoughts and characters, the blatant novelizations, most of which Peel added in revisions in the 1895 edition. But even the first edition reports events well beyond what is found in the newspapers and archival documents.

In his analysis of the Rawfolds attack, Thompson cites *Shirley* as "a true expression of the middle-class myth," and only then turns to Peel and other Victorian sources, the implication being that they are also expressions of the myth of the Luddites. In fact, Thompson uses Peel to counter the revisionist middle-class point of view with the only evidence at his disposal, "the folk traditions" — and those

folk traditions, that "popular folklore" (as he puts it at one point), are descended through an alternative, largely fictional, tradition, including historical works like Peel's but also more explicit novels, such as Sykes and Walker's *Ben O'Bill's*, that were also purportedly based to some degree on oral tradition. This semilegendary folk history from the other side emphasizes "the heroism of the Luddites," for example, over and against the "callousness of the defenders" (561). For several pages Thompson summarizes this tradition, using careful terms such as "is supposed to have" and "there were many stories of" and "traditions speak of" to qualify the narration. A footnote cites Peel and the other novels and novelizing histories and says, "where possible these accounts have been checked with those in the *Leeds Mercury* and in the ensuing trials" (564n1). Presumably in some cases it was not possible.

Twentieth-century history has fluctuated in its attitude toward the use of narrative in historiography, sometimes privileging quantitative analysis instead, for example. But in the past couple of decades or so there has been a general return to narrative in professional historiography, as well as a recognition of the complicated role narrative has played in the discipline of history.[16] As Hayden White has said, narrative history writing is inevitably a "performance, because any given set of real events can be emplotted in a number of ways."[17]

> This is why narrative history can legitimately be regarded as other than a scientific account of the events of which it speaks. . . . But it is not sufficient reason to deny to narrative history substantial truth value. Narrative history may very well, as Furet indicates, "dramatize" historical events and "novelize" historical processes, but this only indicates that the truths in which narrative history deals are of an order different from those of its social scientific counterparts. (44)

The Furet cited here speaks for the *annalistes* school of historians, who supported quantitative analysis and other non-narrative techniques. On the contrary, White argues, narrative — even in conventional literary genre-forms — is an important and necessary tool for history writing.

Besides such narrativist developments in the discipline of history, the influence of cultural studies since the 1970s, along with increased interdisciplinary studies, and literary new historicism in the 1980s and

'90s — all of these developments have tended to foreground works of literature, popular and "minor" works in particular, as meaningful representations, one of the kinds of cultural productions that the historian reads and interprets in order to write. Thompson's *Making of the English Working Class* was a central text in helping to create the new interdisciplinary developments in cultural and historical studies and is famous for its use of William Blake, for example, alongside Home Office records, Luddite ballads along with parliamentary reports.

In the specific case of the Luddites, what we call cultural studies was a methodological necessity. Thompson's use of different genres and levels of cultural materials in order to "rescue" the Luddites is part of a deliberate strategy to write "history from below," in the absence of detailed records. *Shirley* is a form of official folklore promulgating a myth. In composing *Shirley*, Brontë also had recourse to old people's memories and her family's records of their time in Yorkshire, as well as the newspapers. Thompson pits popular folklore (as found in Peel) against not only official records (like most of what is found in the Public Record Office) but also against the "official folklore" of the canonical literary tradition, as represented by *Shirley*. Thompson reads Peel against Brontë in order to try to catch hints of alternative voices to answer *Shirley*'s middle-class myth, the voices of an old servant's memories or an old rebel's secret activities in a politically repressive time.

Because Thompson's *Making of the English Working Class* had such a wide-reaching influence, the Luddites have indirectly served as a model–object for cultural studies. Here again is Thompson's famous statement of purpose:

> I am seeking to rescue the poor stockinger, the Luddite cropper, the "obsolete" hand-loom weaver, the "utopian" artisan, and even the deluded follower of Joanna Southcott, from the enormous condescension of posterity. Their crafts and traditions may have been dying. Their hostility to industrialism may have been backward-looking. Their communitarian ideals may have been fantasies. Their insurrectionary conspiracies may have been foolhardy. But they lived through these times of acute social disturbance, and we did not. Their aspirations were valid in terms of their own experience. . . . (12–13)

Like an ethnographer, Thompson treats the past as another culture to be interpreted on its own terms. Like a traditional cultural anthropologist, a historian such as Thompson respects the material, lived experience of the people whose story he attempts to tell, but also sees it as standing in opposition to the dominant historical record as it has been preserved. The historical novelist shares many of the same concerns, but with a greater emphasis on the story that results not from historical facts but from the gaps in those facts. What history does not tell us the novelist is free to imagine. In the case of the Luddites, more dramatically than in some cases, the novelist and historian meet on the ambiguous middle ground of their shared imperatives.

Scarlea Grange or, a Luddite's Daughter

As a Marxist historian, Thompson was seeking evidence in Luddism of the growth of working-class consciousness. With a different political emphasis, Peel's purpose was similar, to sympathetically rescue the Luddites from the specific charge that they had been benighted, had acted in ignorance. Both Thompson and Peel assume self-consciousness lies behind Luddism. For Peel the Luddites were mistaken but noble. Many contemporaries of Peel saw the Luddites as less conscious of their actions, more as victims of nefarious political forces.

Some read the story of Luddism as a cautionary tale. In 1893 the Religious Tract Society in Oxford published Alfred Colbeck's *Scarlea Grange or, a Luddite's Daughter*.[18] This Victorian lesson in duty and loyalty (and proper gender roles) was published around the same time that Peel's history saw its third edition. Following the example of Walter Scott, authors of Victorian historical novels looked one or two generations back for material that was part of the heritable but certifiably historical legacy of the past. This kind of historicism — in the era of the ascendancy of Darwin's and, eventually, Freud's theories — saw the present as an effect of the conflicts of the predecessors. The Luddites seemed relevant to the labor struggles at the latter stages of a Chartism that had its origins in their earlier time and its dramatic troubles.

Unbeknownst to Dorothy Harwood, the heroine of *Scarlea Grange*, her father, Phil, has been recruited by the Luddites. She discovers the humiliating truth on an evening walk with her suitor, Jim Rouse,

when she spies a band of masked men skulking along the road and, with horror, recognizes her father among them. Jim becomes a surrogate father for Dorothy, staunchly refusing to take the Luddite oath of loyalty and silence and gallantly agreeing to watch out for Dorothy's father. Thus the author, Colbeck, contrives a fictional insider through whom we experience secret meetings and midnight ludding. He also invents a tutor, Trevelyan, to snoop around as a detective or local historian, interviewing people about the Luddites. The sexton, Billy Brown, plays the part of oral-history informant, telling Trevelyan who Ned Ludd really is ("just a bit o' mak' believ to blind folks like") and explaining why the hammers are called "Enoch," for example. It is as if Peel or some other Victorian historian were anachronistically placed within the novel to elicit exposition and context at key moments. But the problems of the oral tradition are perhaps unconsciously (and comically) revealed in Trevelyan's reaction to the sexton's stories: "Billy Brown was not only too loquacious for Trevelyan, but the flavour of his dialect was a little too racy of the soil to be easily understood by a Cornishman, and he wished him 'Good-morning'" (65). As in *Shirley* and other Luddite novels, Yorkshire dialect becomes a sign of cultural difference too great to overcome and a metaphor for the impenetrability of historical distance.

One of the aims of *Scarlea Grange* is to reassure its young readers that the Luddites were merely misguided or foolish, not a serious political or social movement, to demystify the threat obviously still posed in the 1890s by similar forms of radicalism. When Dorothy's father Phil admits that he has sworn an oath to Ned Ludd, Jim reacts scornfully if perhaps a little anxiously (armed with the knowledge gained from Billy the sexton): "Ned Ludd's nobody. He's made o' thin air. He's only a name to conjure wi'. There's no such general I' t' West Riding. Who's given t'orders for this gatherin' to-night? Hare-brained Tom Brandedge . . ." (82). Brandedge is a less imposing type — a mere caricature — a dissenting radical in the role of agitator. One dark night at midnight a Luddite press gang comes to force Dorothy's father to accompany them on a raid. In a scene straight out of a theatrical melodrama, the wife and daughter plead with Mr. Harwood not to go. When even this sentimentality proves insufficient to stop Phil

from being "twist' in" with the Luddites, the little brother enters, babbling in excruciating baby talk about his puppy. All of this machinery underscores the threat that Luddite-style collective violence posed to the Victorian ideal of domestic peace.

Through the Fray: a Tale of the Luddite Riots

Another didactic defense of Victorian society against the threat of seventy-five-year-old Luddite history (and radical social violence in general) is G. A. Henty's *Through the Fray: A Tale of the Luddite Riots* (1886 [1885]).[19] This is a classic Victorian boys' adventure story with a clear moral, meant to inculcate the masculine virtues necessary to building and defending the Empire. The preface is addressed to the "Dear Lads" (as Henty's books usually were), and it spells out a reassuring Victorian explanation for Luddism: Benighted workers in troubled times had mistakenly misinterpreted the causes of their suffering and failed to understand the benefits of progress: "The beginning of the present century, glorious as it was for British arms abroad, was a dark time to those who lived by their daily labour at home."

Many of Henty's extremely popular adventures were set in some corner of the Empire and its self-defined history — from the Norman Conquest, to the Crimean War, to the British rule in India and the Boer War — where "Muscular Christianity" and English public-school virtues were tested and proven. This novel is set in another outpost of English civilization, rural Yorkshire. "In the present tale," Henty says, "my hero's enemy was within," and he concludes, "We have all such battles to fight, dear lads; may we all come unscathed and victorious through the fray!"

The teenage hero of the novel, Ned Sankey, is a sort of Zelig figure who just happens to be at the center of events and thus changes history. When he learns of the Luddites' plan, he rushes to Rawfolds Mill, warns Cartwright, and takes part in the chivalric stand against the invaders. We are asked to imagine Ned as one of the historical militiamen; he shoots and fatally wounds John Stukeley, the dissenting smith whose evangelical and political sermons at the Meeting House are blamed for inciting the Luddite mob (297). Cartwright himself says to Ned, "I imagine that your arrival upset all their plans" (290). The

fictional setting may obscure what Henty has done here: He has retold the central Luddite legend, making a hero of one of the locally hated militiamen, leading his "lads" to identify with Cartwright's defensive violence instead of with the Luddites' cause. Ned Sankey is in effect the Anti-Ludd. He has the same given name as the fictional leader of the Luddites, and he effectively displaces the Luddites in their own story, and presumably, if the novel works, in the readers' affections.

Significantly, Ned is the one who acts as a suicide bomber: He threatens to blow up his own mill, with him in it, rather than let the Luddites destroy it. The cover of the book in one edition shows Ned in this decisive, self-destructive moment, just about to fire his pistol into a row of barrels of gunpowder. Just in time the Luddites relent when they see Ned's superior courage on the other side of the property divide. In the end, Ned marries Cartwright's daughter *and* is elected to parliament "as the representative of the mill-owning interest" (315). He predicts "that with a continued improvement of machinery there [will be] a great future for the manufacturing interests of England" (313). Ned's many children (who are Cartwright's fictional grandchildren) become our surrogates in hearing the story,

> a large family, who used to listen with awe and admiration to the tale of the terrible trial which had once befallen their father, and of the way in which he had indeed been "tried in the fire." (316)

Henty's lads are taught a jingoistic version of events that goes well beyond Brontë's "middle class myth." *Through the Fray* offers (to use Henty's own term) a "capitalist" (and, specifically, a British imperialist) myth in which virtue and heroism consist of firm, defensive reaction and, if necessary, self-sacrifice. The Luddites are by extension depicted as anticapitalist forces of confused and cowardly discontent.

Ben O'Bill's: the Luddite

As a counterexample to Henty, a Luddite novel told from a point of view more sympathetic to the workers, consider D. F. E. Sykes and G. H. Walker's *Ben O'Bill's: The Luddite* (1895).[20] Both the most radical and the most readable of the Victorian Luddite novels, it was published

in a third edition by the socialist Worker Press. Sykes (apparently the actual primary author) was a Huddersfield native and local historian who ran a radical newspaper and supported the local weavers in a strike in 1883. As with Peel, the work represents itself as something between factual history and a novel: The authors claim it is "mostly true," and that they "have not felt called upon to vary in any material respects the story as it was gleaned from the lips and in part from the papers of the narrator" (Preface). A later editor of the novel (and another local historian), Lesley Kipling, declares that this is "patently not the case," that *Ben O'Bill's* is "a novel" though one "based on real events," even more, it is a "novel of romance and adventure," and that it plainly gets some of the facts wrong — especially the key fact of Ben Walker's exact role in betraying the Luddites.[21] The generic uncertainty that characterizes Peel is clearly at work as well in this novelized history/historical novel.

The book opens with the narrator, Ben Bamforth (the titular Ben O'Bill's, meaning Ben the son of Bill), summing up the book's purpose and glancing at the reception of Luddite lore in the 1880s and 1890s.

> It hurts me sore that folks in these days should so little understand the doings of us Luddites. To hear young people talk, the Luddites were miscreants that well deserved the hanging they got — a set of idle, dissolute knaves and cut-throats the country was well rid of. Nay, worse, many young lads with a college learning seem to know next to nothing about them, and talk as though all great deeds were done in far-off parts, and as though of heroes and martyrs England has none to show. I am little apt at writing, and my hand is stiff and cramped with years. But my memory is good still, and I can remember better the things of fifty years ago than those of yesterday. So, before hand and mind fail me altogether, I will set on record all I can mind of those memorable days that closed so black after that bloody York Assize. And if to any reader I should seem garrulous or egotistical, be it remembered in excuse that I can only tell the tale as I now recall it, and that I write of things I saw and things I knew, and of doings I took part in. (1)

Before E. P. Thompson did, Sykes and Walker clearly set out to "rescue" the Luddites "from the enormous condescension of posterity." As far as we know and despite the authors' claims in the preface, however,

there never was any single participant-narrator whose memories authorize the "tale" as true history. The authors not only invented Luddite dialogue and motives, they seem to have invented the old informant, the aged Ben, on whose memories (turned into oral history) their novel is purportedly based. The combination of this framing device (for that appears to be what it is) and the authors' tantalizing prefatory remarks about "the lips" and "papers of the narrator" goes a significant step further than Peel did in novelizing Luddite history.

Ben O'Bill's is an engaging book and often a pleasure to read (not something that can be said for every book in this chapter). It is full of Yorkshire particulars that add up to a sense of place and local culture. It also recognizes the daunting barrier of silence facing all who write on the Luddites; at the key point, when Ben is telling of the build-up to the Rawfolds attack, he says simply, "It were quite beyond me to tell all the plans we made that night" (145), and we are left to wonder whether this means that he can't remember or still won't divulge everything. Interestingly, *Ben O' Bill's* is one of the only books about the Luddites to be told by a narrator who himself speaks in Yorkshire dialect — though he does so only within the dialogue of the novel, not in his first-person narration addressed to the reader. Ben is thus a link between the workers' world and the historically distant reader's, providing Thompson's countermyth to Bronte's middle-class myth. At one point Ben argues quietly that the "great mass of the people, those who had to work for their living," supported the Luddites and "believed in General Ludd," because the Luddites promised them amelioration of their condition. And, he concludes by asking rhetorically, "are they the only ones who mistake hope for belief?" (140). Elsewhere he makes a commonsense case for the Luddites' direct action:

> When people in those days met together to set forth their grievances they were persecuted for sedition; when they didn't meet and were quiet and law-abiding our betters said we had no grievances. Nay, if there was no violence both of speech and action the wiseacres in London said and thought all things were for the best in the best of all possible worlds. You couldn't talk sense into them, you just had to poise it into them. So what would you? (125)

Ben's personal story of family struggles and courtship runs parallel to his account of Luddite history without entirely displacing it. At one point he fights with and beats a soldier who has molested his cousin Mary. The community's reaction to the "fray," which is to greatly increase their respect for Ben for taking just revenge, tells us something of the cultural context for the Luddite retributions against infringements on their trade.

The novel ends in a kind of structural parody of *Shirley* — with not a double but a triple wedding — and the narrator reveals a little more of his identity, while also incorporating a fictional audience of children who, like Henty's "dear lads," serve as our surrogate listeners:

> And now, my children, my story is told. You know more about the Luddites, perhaps, than when you began to read it. You know how vain was their attempt to stop the introduction of machinery. And no doubt machinery has been a great boon. Why, I myself, as you know, run my own mill by it.
>
> But don't tell me the Luds were a bad lot — misguided, short-sighted, ignorant, if you like, but rogues, and idle, dissolute n'er-do-weels — No! and still no! (339)

After all the sympathetic mediation of the rest of the novel, this ending comes as something of a surprise. It is remarkably close to Henty's assessment of the inevitability of progress and the futility of the Luddite resistance to modernizing machinery. This may indicate something like a Victorian consensus lying behind both books, one that crossed the authors' political differences. Both Ned Sankey and Ben Bamforth end as "progressive," technology-embracing mill owners. The audience for both books, it seems to be assumed, would expect as much. Sykes and Walker even concede the conventional interpretation of the Luddites as "misguided and short-sighted" in this regard. It is only the Luddites' moral character and their good motives that they hope to rescue. This concession to the anti-Luddite view of the Luddites as "ignorant" seems strange after such a sympathetic tale, and the emphatic, repeated "no!" sounds rather blustering and defensive than convincing in the end.

The Rape of the Rose

Another attempt to explain the Luddites' motives, written a century after *Ben O'Bill's*, is Glyn Hughes's *The Rape of the Rose* (1987),[22] which also tells its story from the point of view of a weaver, Mor Greave. Hughes's strategy is to situate Mor at the dangerous margins of the conflict, making him a born intellectual (he's a schoolmaster) unwittingly caught up in the authorities' network of spies and counterinsurgents. Mor drops his own copy of Paine's *Rights of Man* in the mill, and must leave town to protect himself. His journeys, the people he meets, the prostitute he loves, make this a typically modern, existential tale of character and psychological development. The book is sympathetic to the Luddites' cause (Mor's son, Gideon, is a strident Luddite) and is steeped in the particulars of their history. Hughes has ingeniously contrived to place his autodidact-weaver as the anonymous author of the early pamphlet on Luddism, *The Beggar's Complaint* (which I mentioned in Chapter 2), and he has Mor's companion read from the text of the actual historical publication, thus explaining how such a thing could come to be composed by a mere worker and at the same time giving his fiction the sheen of known Luddite history (199–200). Nonetheless, ultimately, the sensitive protagonist's inner conflicts are emphasized over the socioeconomic and political conflicts that move the larger plot. Hughes figures Mor's exile as a kind of industrial displacement or redundancy: "He too, was a fugitive creature on its way to extinction — a handloom weaver" (128). In doing so, he psychologizes Luddism, making his hero a Romantic individualist and an exception to the class he represents. At one telling moment, as Mor is marching with a group of protestors and potential rioters, he pauses to observe nature in Chadderton Park, Lancashire, the chirping birds and a verdant "hedge bottom . . . thick with violets, their color suggesting distant, misty valleys down in the thorns and the grass."

> For the purpose of changing the world, Mor felt he had to turn his eyes from such sights. Were his bookish concerns, his guilt, his desire for change, merely because he was not big enough to take into his soul a hedge bottom dense with violets, larks skating across gaps of blue on a spring day, or the song of a whitethroat?

> He plucked a violet and gave it to a comrade, who did not understand why he had received the gift, but crushed it roughly through his buttonhole. (213)

This Romantic sensibility Hughes imagines would have been a necessary trait in the author of *The Beggar's Complaint*, a pamphlet written, its fictional author, Mor Greaves, says, "about history, and history's wrongs, to be its witness" — unlike his companion Mary's novels, which he says are just "made up" (248). But to this Mary remarks:

> All 'istory's made up. It's just that your sort is made up in the 'eads of poets and scholars. They don't think they make it up, but they do. How do they really know what 'appened? We're the ones who know what 'appened at Middleton. But when they come to write about Burton' raid, nobody'll mention us. It'll be all about "mobs" and "troops of Scots Greys." Not unless we get tried and 'ung, then our own words might get taken down. So long as we confess, and say it all started wi' not going to church on Sunday. (248–49)

As Hughes recognizes, Luddism — what we know about it and how we interpret it — is all about such questions. Both history and novels, Hughes argues (in the voice of Mary), are ways of "making" the Luddites.

Inheritance

Genealogy offers another way of connecting the present with the Luddite past. One of the more popular Luddite novels, if we consider the size of its audience, was Phyllis Bentley's *Inheritance* (1932),[23] a family saga beginning with the Luddites. Along with successors in its series, *Inheritance* tells the story of an imaginary family of mill owners and their descendants, the Oldroyds, for several generations, from 1812 to 1965. The complicated family tree printed on the flyleaf of the first book is a significant symbol. The whole point of such a multigenerational saga is to make the Luddite story comprehensible, to establish lines of succession and inheritance, even if the genealogy is fictional and what is inherited is the Luddite "theme" — which the novel interprets as a set of conflicts or uneasy compromises between classes and factions of industrial society.

William Oldroyd, a modern descendant of the mill owner, thinks nostalgically about his ancestors and the heroic actions they undertook, but times have changed and *he* becomes a local historian. In Will's profession Bentley marks the descent of the Luddite legacy from historical action to intellectual reflection. Writing history is of necessity reductive, Bentley suggests. She implies that fiction may do a better job of imagining the past as it was really lived. At one point her Luddite hero, Joe, muses that, "it was all very well reading about rebellions in history books . . . but when things happened in real life they were so different, so much more confused" (73).

Bentley's book weaves the fictional Oldroyds into actual historical events and persons, imagining the Luddite leader, George Mellor, for example, to have been a connection of the Oldroyds by marriage. Bentley's opening disclaimer on her use of Luddite history is telling:

> Certain real incidents, persons and places of Yorkshire history put me in the mind to write this book, but as I have modified some details for the sake of unity, the whole must be regarded as fiction and not as fact, as what happened in my imaginary valley or Ire, and not in the real West Riding valleys of Calder or Colne. I hope, however, that my fiction is symbolic and my valley typical.

Bentley hopes for the kind of "truth" provided in modern literature by "symbols" and "types." At times she has modified more than just "some details" and at other times, she has hardly modified any. Clearly she imagines the history of the Luddites as something like her own inheritance as an author, one which she has a duty of stewardship to reinvest and alter for the changed times. In the end, however, as with the loss of ancestors and mills and whole village centers that recurs in the book, this historical inheritance seems in a sense inevitably diminished, something spent or liquidated in the process of novelizing it.

> On Monday the sale began. All that week cars poured into Irebridge to attend it. By the beginning of September Francis neither owed any man a penny, nor owned a penny; he had, however, managed to achieve this result without touching David's thousand pounds. But the Oldroyds no longer owned a mill, a yard of land, a loom or a

> piece of cloth; their ruin was complete. All that remained to them was Charlotte's jointure, the price of Old Syke Mill. (583)

The young David observes that, "in 1812 a certain conflict had begun, and that the conflict had worked itself out until it reached the ruin of to-day" (585). Ruin is his inheritance, and the glory of Luddite days, when "they were men," is no longer accessible to his generation.

Nor is the commitment of capital ownership and faith in progress represented by the 1812 mill owners.

> The Oldroyds — pushing, determined, able men — see their advantage in the introduction of machines; the Mellors and Thorpes see their advantage in the maintenance of hand-labour; and the conflict of interest, a conflict in which each side ever strives to impose its will on the other, begins. (585)

Between these two sides Bentley has placed her own answer to Caroline Helstone: Joe Bamforth the weaver's son (and of the same family name as Ben O'Bill's), a fictional hero who represents the "heart" that might have mediated between the "head" and "hands" (recalling the theme of *Metropolis*). Joe is "a man who understands and loves both parties, a man who might have interpreted them to each other and reconciled them" (585). But instead, Joe is "twist' in" to the Luddite movement against his better judgment and sacrificed in the bloody assizes of 1812 to 1813.

The harsh "Monday morning" auction (echoing that other "Monday morning" in *Shirley*) would seem to bring an end to the mill owner's way of life, and it reflects the economic depression of the 1930s when *Inheritance* was written. Succeeding novels in the series continue the legacy of the Oldroyds (and the Luddites) with new properties, under new management as it were, and with ever-new improvements, including, in the final book in the series, published in 1966, the coming of synthetic fabrics to replace woolens. That 1966 book, *A Man of His Time*,[24] ends with a basically upbeat assessment of the cloth trade as well as the relation between generations (in the 1960s, of course, a matter of great anxiety). Bentley's topic was really in one sense the possibility of closing the larger "generation gap" — between 1812 and 1932.

In *A Man of His Time*, Jonathan Oldroyd, the scion of the old mill-owning family Bentley created in the first book, is a 1960s idealist — the book opens with his civil disobedience arrest in a disarmament protest — and Bentley implicitly connects him to his Luddite past. He is named after Jonathan Bamforth, the Luddite. But as the book progresses, Jonathan does nothing very radical beyond his disarmament protests and leaving the textile business to become a schoolmaster. A descendant of George Mellor works as a secretary in Morcar's mill and later marries his son. The legacy of Luddism seems in these novels to have been safely absorbed into modern society, to have been domesticated, the threat of political and social violence displaced onto the apartheid system of South Africa and an oddly unmotivated intergenerational murder that takes place there. At one point, Morcar says that he has seen Jonathan "reading books about the history of the industrial revolution." But, he adds, they are "just books. Your ancestors were the industrial revolution. They made it" (66).

In the fall of 1967, the *Inheritance* series was adapted as a ten-part British TV program. It starred the popular actor John Thaw as Will Oldroyd. As the (October 2, 1967) London *Times* said in reviewing the show, "In her seventy-second year Yorkshire writer Dr. Phyllis Bentley finds herself involved with a nationwide audience" (9). *Inheritance* was produced by Granada TV — which had first approached Bentley about the possibility of doing the show — and was filmed on location in Yorkshire. It was picked up by all but one of the independent networks. Paperback editions of the novels were reprinted to coincide with the show, and the author approved all the scripts. Apparently the Luddite story and the question of its legacy had a significant appeal in 1967, in the midst of a decade of rapid social and cultural change and political unrest. As I argue in the next chapter, the 1960s were a markedly neo-Luddite decade in terms of general cultural attitudes. The *Times* piece is headlined, "Trouble at t' mill in view" — and of course the point is that it might have been a news headline from 1967. Bentley takes an essentially conservative lesson from her kind of genealogical family saga: "We are what we are because of what happened as far back as 1812. This means there should be a great responsibility about the future."

The Difference Engine

The inventors of cyberpunk science fiction, William Gibson and Bruce Sterling, collaborated in 1991 on a "steampunk" novel about the Luddites. *The Difference Engine*,[25] like all cyberpunk fiction, is about technology, but in this case the authors set the story not in the future but in a past that never was, an alternative-history nineteenth-century Britain. The "McGuffin" or literary device they use is Charles Babbage's early computer, the Difference Engine, and his designs for a more advanced computer, the Analytical Engine. What if Babbage had succeeded in producing, and then mass-producing a punch-card-programmed Analytical Engine? What if the use of such machines had spread throughout society, giving rise to a technology-using subculture in the nineteenth century?

Everything that happens in the book flows from this speculative premise, including an alternative history of Luddism. As literary historian Jay Clayton explains, this places the novel in the popular tradition of alternative history-science fiction, which "raises anachronism, in the literal sense of something out of its proper time, into a methodological principle."[26] What this means in the case of Luddism is that the historical Luddites are changed by the imaginary nineteenth-century cyberculture. In fact, they are anachronistically represented as neo-Luddites before the fact, crossed with "black-hat" (or sabotaging) hackers.

Gibson and Sterling's representation of the Luddites is fundamentally ambiguous. On the one hand there are the original supporters of the 1811 Luddites who, in this world, have risen to political power as the influential Industrial Radical Party. Ironically, Lord Byron himself has become prime minister at the head of this party, which, however, now that it is in power, promotes scientific progress and the free market. In a historical turnabout, Prime Minister Byron represses the new generation of Luddites (or Swing rioters) who rebel against the dominance and complacency of his party's pro-science rule and, for example, its use of Babbage engines to run the surveillance state. The novel's fictional Byron says of this political shift, "But there were Luddites, sir, and then there were Luddites," distinguishing on opportunistic political grounds between the Nottingham "Liberty Lads" and

"a form of Luddism attacking, not the old order, but the order that the Rads themselves has established" (217–18).

This new revolution is led by, among others, the radical poet and friend of Byron, Percy Shelley, whom Byron then exiles to St. Helena, like another Napoleon, after putting down the rebellion. Their descendants, new-model Luddites, as it were, are radicals and terrorists whose leader goes by the name of Captain Swing. As the "savant" (or scientist) hero, Edward Mallory, comments, "History works by Catastrophe! It's the way of the world, the only way there is, has been, or ever will be. There is no history — there is only contingency!" (301).

Technology is a constant in this imagined catastrophic world. It is only a question of which group controls what technology. As Gibson famously said, "the street finds its own uses for things," and the Jacquard loom–inspired computers are used by the counter-conspiracy. A large proto-supercomputer in Paris, the Grand Napoleon, is sabotaged by an infinite-loop program, an early version of a virus or worm. The contraband software resides on punch cards, which are smuggled in by Lady Ada Byron, the daughter of the poet. (The real Ada Byron actually worked with Charles Babbage writing early protocols for his engines that in effect anticipated computer software.)

The Difference Engine is an exercise in "porting" cyberpunk conventions over to an imaginary past. This helps to explain its hard-boiled characters, conventional misogyny, and geeky tech-based action and battle scenes. The alternative history here is a cyber-dystopia in the midst of which a number of subcultures compete with the dominant culture (of the free-market savants). The authors have seemed to some critics sympathetic to this dominant culture and thus unsympathetic to the Luddites,[27] but it is important to realize that the imagined historical moment they create comes *after* Luddism proper (and the heroic idealism of Walter Gerard, a character borrowed from Disraeli) has degenerated into something like urban Swing riots. The novel's rioters are really a post-Luddite movement, their violence fueled by a sense of betrayal. The point is to ask, What if the Luddites or (a more likely nineteenth-century possibility) their supporters in high places had won? Gibson and Sterling then run their simulation of a future scenario for a Luddism that is in our past. They come up with

Lord Byron having given up his Luddism when he gained real power; Luddite heroes being persecuted and replaced by less idealistic rioters in the new era; and technology that has triumphed. Technology is everywhere and available for all imaginable appropriations by the warring classes: from gamblers, to hackers (called "clackers" for the sound of their steam machines) and revolutionaries, to the police and savants (scholars or scientists) who study dinosaurs or fight wars or suppress rebellions with the help of punch cards and the loomlike computers that read them. Pretty clearly, as is usually the case with science fiction, this weird past is intended as a defamiliarized version of our equally weird present. History and fiction are genetically spliced together by the novelizers in a kind of experimental hack. Luddism is a mirror in which to view our own technology-besotted culture.

Coda: Novelizing History and Legend

The question posed by all of these novels — and by our continued cultural engagement with the history of Luddism — is how we can tell the story of what happened in 1811 to 1816, much less understand what that means for our present and future. The new historicist critic Stephen Greenblatt long ago summed up his own first motive in a study of Shakespeare as "a desire to speak with the dead."[28] In many ways, the cultural historian of secret insurgencies and the writer of historical novels about them share the same impulse: to speak with the dead, and to cause the dead to speak. But of course, as Greenblatt and literary critics of all sorts know, the dead never do speak, which is one reason we are so intent to puzzle over the texts they leave us. This is a truth made emphatic in the case of the Luddites, whose oaths of secrecy held firm and led to legends of dying refusals and whose texts are a limited set of threatening letters and ballads, many copied out by someone else. In many ways, the most salient fact about the Luddites is the paucity of firm facts, the limits of what we know as facts about them. In the gaps of the historical record — and sometimes woven right into the fabric of that record — the story of the Luddites becomes the story of their stories, from the ones they acted out "with hatchet, pike, and gun," to the ones they told and sang in taverns ("General Ludd's Triumph"), to the ones told about them (including their refusal to divulge secrets),

from 1811 to the present. But as Hayden White writes, in a passage not altogether out of sync with Walter Scott's *Essay on Romance*, the "affiliation of historiography with literature and myth should provide no reason for embarrassment, because the systems of meaning production shared by all three are distillates of the historical experience of a people, a group, a culture."[29]

Chapter 6

Counterculture and Countercomputer in the 1960s

In 1798, the radical philosopher and supporter of the French Revolution William Godwin (who was also the infant Mary Shelley's father) imagined a future filled with machinery.

> At present, to pull down a tree, to cut a canal, to navigate a vessel, require the labour of many. Will they always require the labour of many? When we recollect the complicated machines of human contrivance, various sorts of mills, of weaving engines, steam engines, are we not astonished at the compendium of labour they produce? Who shall say where this species of improvement must stop?

Already, Godwin reveals, mechanical improvements were seen as a threat to traditional jobs:

> At present, such inventions alarm the labouring part of the community; and they may be productive of temporary distress, though they conduce, in the sequel, to the most important interests of the multitude. But, in a state of equal labour, their utility will be liable to no dispute. . . . Hereafter it is by no means clear . . . that a plough may not be turned into a field, and perform its office without the need of superintendence.[1]

A utopian future in which human labor is taken over by machines (robotic plows!) seemed reasonable to many progressive thinkers in the era of the French Revolution.

A generation later, in *Signs of the Times* (1829), Thomas Carlyle expressed deep anxieties about the same possibility in *his* present, the spread of machinery in what he called the "Mechanical Age."

> On every hand, the living artisan is driven from his workshop, to make room for a speedier, inanimate one. The shuttle drops from the fingers of the weaver, and falls into iron fingers that ply it faster. . . There is no end to machinery. . . . For all earthly, and for some unearthly purposes, we have machines and mechanic furtherances; for mincing our cabbages; for casting us into magnetic sleep. We remove mountains, and make seas our smooth highway; nothing can resist us. We war with rude Nature; and, by our resistless engines, come off always victorious, and loaded with spoils.[2]

Carlyle is alarmed about a condition that in our own time has become a banal commonplace: "no end to machinery." From Godwin's utopian prophecy through Carlyle's Jeremiad, we can plot the curve that leads to our current situation. But development has taken a quantum leap in the last century, as the industrial idea of "machines" and "machinery" has given way to the modern idea of ubiquitous "technology," a force that pervades every area of existence.

The distance traveled between there and here, then and now, is considerable. Modern (and now postmodern) technology is routinely understood as an autonomous, disembodied force operating behind any specific application, the effect of a system that is somehow much

less material, more ubiquitous, than any mere "machinery." The cultural critic Donna Haraway notes that "miniaturization has changed our experience of mechanism." As she says, "Modern machines are quintessentially microelectronic devices: they are everywhere and they are invisible."[3] Moreover, Katherine Hayles points out, the idea of "information" in our era has "lost its body," has begun to be conceived of "as an entity distinct from the substrates carrying it. . . . a kind of bodiless fluid that could flow between different substrates without loss of meaning or form."[4] And information networks are the quintessence of "technology" in our time. Fluid and immaterial, technology is now imagined as omnipresent, a fact of life already free from ties to Carlyle's "rude nature." Technology now penetrates everyday existence in what Carlyle calls the "outward and the inward sense," not only altering "the external and physical" world but also "the internal and spiritual" world of humanity, changing how we think and feel, who we are. At least — and this is my point — everyone now *assumes* that technology has this power. Whereas Carlyle had to actually argue in 1829 the somewhat counterintuitive case that there was "no end to machinery," and then had to shock his reader with a list of all the arenas where mechanical thinking as well as physical machinery was encroaching on traditional life, such encroachment is now taken as a given, as the story of our lives.

This view was reflected in a recent essay by erstwhile neo-Luddite Sven Birkerts, in which he sees less room for resistance in 2004 than he did in 1994, now that electronic, computerized systems "have insinuated themselves warp and woof into the fabric of things,"

> so much so that it can sometimes seem like they in fact are the fabric of things. . . . there is no Archimedean point, no place outside the circuited culture from which to offer a detached assessment. Electronic saturation has happened. . . .[5]

The disoriented sense of panic one hears in Birkerts's prose is the basis of a great deal of today's neo-Luddism, which goes beyond bemoaning the Internet and "ubiquitous computing" to point out that a broader, more menacing technology pervades the air we breathe and the pores and bloodstream of the body, from Prozac to Frankenfoods and GMOs. In the near future, nanotechnology threatens invisible,

perhaps self-replicating, machines in the air around us and in the tissues of our bodies, leading to the specter of a technologically spawned nano-pollution, "gray goo." Carlyle's mechanical shuttle seems quaint by comparison.

The sense that technology is ubiquitous often leads to an ironic paranoia, an attitude that I want to suggest is the necessary condition for modern neo-Luddism. On one level, the feeling is of course justified. As the cliché goes, being paranoid doesn't mean they're not out to get you. There are serious dangers to health and the environment, and to privacy and civil liberties, arising from advanced technology. Surveillance and database technology helps government and intelligence organizations maintain control of the population (at least in theory). This happens using big-business databases and other computerized means of record-processing in ways that can threaten individual liberties and constitutional protections. There are undoubtedly real technology-based conspiracies or patterns of connectedness at work behind the scenes and a general suspicion in this regard is not paranoid in the clinical sense: It is prudent citizenship.

But the nature of any paranoid response is a tendency to universalize its fears, from the government's desire to access databases to a general shadow government, from human agency to the idea of technology as a vaguely autonomous and ubiquitous force. If the threat is everywhere at once, the resistance also must be everywhere, generalized into an abstract hatred and fear. My point is simply that the sweeping suspicion of technology as an all-pervasive thing (see, for example, Kirkpatrick Sale's idea of "the future"), and the conviction that technology is inevitably the tool of oppression, are very different attitudes from the original historical Luddites' strategic and relatively confident resistance to specific machines and their owners. Notice how concrete the imagery is even in Carlyle's most metaphorical passages: "The shuttle drops from the fingers of the weaver, and falls into iron fingers that ply it faster." By contrast, consider the fluid, more paranoid resistance against a ubiquitous and many-faceted technology that characterizes modern *neo*-Luddism. Neo-Luddism (as opposed to the historical Luddism of the original Luddites) is a product of the larger "conspiracy culture" that is now the background for just about every discussion of technology.[6]

This kind of paranoid neo-Luddism, which begins by assuming that a shadowy, generalized technology lies behind many, if not most, of the modern evils of society, seems particularly American, is perhaps a direct response from within American culture to America's global dominance in technology-related business and military force. It first emerged as a popular ideology in the increasing prosperity of the postwar era, especially after Hiroshima and Nagasaki. Its proximate cause was the terrifying sublimity of the bomb — and the reaction took the form of a reaction to the sublime that we associate with paranoia: vast systems of meaning seeming to spread their tentacles everywhere in the darkness, the network of connections only vaguely apparent, and only in the individual experience of the perceiving consciousness. Agent Fox Mulder of the 1990s TV show *The X-Files* — as opposed to Robin Hood, say — is the paradigm mythical hero of modern neo-Luddism. The rogue FBI agent "want(s) to believe" in the shadow conspiracy, or in alien abductions, or in manufactured viruses, and he refuses to believe in the official story of the dominant technocracy. His belief and unbelief are two sides of the same psychological response to an overwhelming system of technological control that remains just out of the field of perception — which is one way to describe a sense of the sublime. This awe-filled paranoia was a major motif in the 1960s counterculture, with its suspicion of the dominant technocratic society, often represented simply as "the machine."[7]

Counterculture Against the Machine

U.C. Berkeley, 1964. The free-speech activist Mario Savio stood on the steps of Sproul Hall and addressed a group of protestors taking part in a sit-in over their right to disseminate antiwar and other political literature on the campus. Savio's imagery was broadly neo-Luddite:

> There is a time when the operation of the machine becomes so odious, makes you so sick at heart that you can't take part; you can't even passively take part, and you've got to put your bodies upon the gears and upon the wheels, upon the levers, upon all the apparatus and you've got to make it stop. And you've got to indicate to the people who run it, to the people who own it, that unless you're free, the machine will be prevented from working at all.[8]

"Make it stop" — that simple, infantile-sounding demand — became a widespread goal even outside the youth counterculture when it came to confronting the oppressive sociopolitical "machine."

For Savio and others in the movement the machine was the apparatus of the state and its technology, to be imagined metaphorically as an industrial "manufactory" system in the nineteenth-century mold. This machine was only on the verge of being computerized, still a long way from being networked and distributed. Most of Savio's listeners would have recognized in his imagery ("put your bodies upon the gears . . . and the wheels") an allusion to well-known scenes in *Modern Times*, in which Charlie Chaplin's little assembly-line worker, wrench in hand, is caught up bodily in the giant "gears" and "wheels" of his machine. He perseveres and gracefully emerges from the machine to mock its owners and escape from the factory, though not from the larger social system it represents. At least some who heard Savio's speech may have imagined the gears and wheels as related to a different kind of "wheel," the familiar spinning tape drives of the iconic mainframe computer, a machine in a significantly new sense.

The Berkeley Free Speech Movement was already concerned with the effects of computers. One of its mottoes was, "I am a human being: Do not fold, spindle, or mutilate" — a parody of the warning printed on IBM's computer punch cards, a satire on Big Brother's big technology.[9] The punch cards and databank tapes of the mainframe system had a tangible solidity not unlike industrial machinery (at least in the mind of the nonspecialist; never mind the actual slipperiness of electronic records in binary code). As computing, and the popular conception of computing, changed, so did the idea of the machine that countercultural neo-Luddites attacked. Technology came to be seen not only as autonomous but as ubiquitous, distributed across an invisible network that could be anywhere and therefore might as well be everywhere. It was becoming the slippery abstraction the twenty-first century has come to take for granted, an insidiously "liquid" and elusive force.[10] This kind of technology called for a new kind of resistance, a neo-Luddism that was equally "liquid" or free-floating, that was often in a technical sense self-protectively paranoid. In effect the perceived reality

of cybernetic machinery that was "everywhere" produced a networked, a massively distributed and "encrypted," form of neo-Luddism.

Midcentury mainframes were room-sized monsters, tools of big science in league with big government. I discussed this iconic mainframe in Chapter 4, as it appeared in 1960s movies, Godard's Alpha 60 and Kubrick's HAL. Such machines were symbolically understood as fulfilling George Orwell's prophecies of "Big Brother." The novel *1984* was in fact extremely popular, in the schools and the culture at large, during the 1950s and '60s. The "relevance" of Big Brother to the sixties was based on the fact that he was an invented, *virtual* dictator, the propaganda construct of a malignant technocracy, in the novel's liberal imagination, part Soviet communism, part European fascism. Like most futuristic science fiction, *1984* was written about its own present moment, which is to say, 1948. So it should not be surprising — though somehow, at this distance, it is — that the novel really doesn't include computers, at least explicitly. This is a key difference between 1948 and 1964 (not to mention 1984): Orwell wrote at a moment when computers were not yet seen as essential tools of totalitarian repression. Twenty years later, they most certainly were. The novel's panopticon of high-tech TV screens extends everywhere, even into one's private rooms, serving as watchful eyes as well as propaganda machines, and there are extensive records kept on all the citizens as a result. But no one ever really mentions computers per se. This becomes immediately clear by way of contrast with Terry Gilliam's 1985 film, *Brazil*, which clearly owes a great debt to *1984*. The film's sets include lots of iconic computers everywhere, in a 1940s and '50s retro style meant to suggest the decay and degradation of this dystopian future.

This symbolic "Orwellian" mainframe reached its peak in the famous TV advertisement for the first Apple Macintosh computer, "1984," in which a young woman runner throws a hammer — primarily like the hammers tossed in the Olympic sport but arguably invoking as well the Enoch sledgehammers of the Luddites — into a gigantic video-screen image of what looks like Big Brother's head during a rally of the zombielike masses. At the time this Big Brother stood for Big Blue, IBM, though later on it might have indicated Microsoft. The ad shows how Orwell's *1984* and all it stands for had come to be associated with

oppressive computer technology in particular. Its voice-over tells consumers that the Macintosh is why "1984 won't be like *1984*."

In January 2004, Apple unveiled a twentieth-anniversary version of the ad, in which the heroine was digitally edited so that she appeared to be wearing the latest symbol of the company's cultural cachet and marketing appeal — a white iPod. (Presumably the Orwellian irony of altering this artifact of advertising history was not lost on the savvy marketers at Apple.) The original ad played on audience expectations that had by 1984 long become a cliché. The cultural changes that made "technology" virtually synonymous with "computers" (and associated with big government or monopolistic corporations) gained momentum during the first postwar decades, under the cold war buildup and the accompanying rise of the surveillance state and the "military-industrial complex."

That resonant term was coined in Dwight D. Eisenhower's final speech as president.[11] Looking back from the perspective "ten years past the midpoint" of the century, Eisenhower warned in 1961 against what he saw as a historically new danger: "the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex." The problem was an unprecedented combination of governmental and scientific power, which left public policy in danger of becoming "captive" to the "scientific-technological elite." Men in white coats working in secret clean-room bunkers, directing the war and surveillance machine — this image was everywhere in American popular culture in the sixties. Resisting the scientific-technological elite, the information machine, became the self-defining characteristic of the counterculture. This resistance defined popular neo-Luddism in the latter half of the century.

Fostered in part by popular authors such as Paul Goodman and Jacques Ellul, antitechnology attitudes became part of the general rebellion against institutional authority in the 1960s and early 1970s.[12] This countertechnology stance accompanied a kind of growing apophenia in popular culture, the recognition of meaningful patterns in supposedly random information, most famously in the Zapruder footage of John F. Kennedy's assassination but culminating in the atmosphere surrounding Watergate a decade later.[13] But, technically speaking, true apophenia presumes randomness. The 1960s were a time of conspiracy

theories in part because it was a time of so many actual conspiracies. Real threats included nuclear war (and, later, nuclear power) but, more generally, the "machinery" that made it possible for the government to fight the Vietnam War and quell domestic dissent. The enemy was the shadowy, virtual "machine" processing draft cards as well as punch cards, managing CIA operations and FBI files on "subversives," and, *at the same time*, running soulless corporate capitalism and degrading the environment. The whole thing was run via humming mainframes that no layperson really understood. The mega-machine was the product of the "scientific-technological elite," Dow Chemical's napalm being the best-known symbolic fruit of the unholy union of government and science, the military-industrial complex. Even the hyphens uniting the two terms are a linguistic sign of the frightening connections within the machine. This is usually seen as the dominant countercultural idea of technology in the 1960s.

The Appropriate-Technology Subculture

Some of the most widely publicized acts of sabotage in the 1960s counterculture had no apparent neo-Luddite motive, such as the bombings by the Weathermen and Weather Underground. And antitechnology attitudes were often expressed outside the counterculture altogether. Nonetheless, a vocal and influential segment of the counterculture was widely viewed (with good reason) as antitechnology, as neo-Luddite. On the other hand, an important lesser-known segment of the counterculture, a faction within the hippie subculture that flowered and was first widely reported on in San Francisco, was not neo-Luddite at all — quite the opposite, in fact. They were pro-technology, as long as it was "appropriate technology." It is sometimes forgotten that some counterculturalists were avid technophiles who mixed do-it-yourself pragmatism with radical optimism and shared a vision of technology's utopian potential for building a new kind of community.

Historian Andrew Kirk is among those who have studied this important technophile subculture within the counterculture.[14] He is primarily interested in how the pro-technology faction within the larger counterculture "helped reshape the American environmental movement" (354).

But this faction had a far-reaching influence even outside the environmental movement, spreading the appropriate-technology ideology to portions of the general American public (360). By the 1990s, this ideology had helped shape the hacker subculture as well, and, by extension, the technology-startup business culture of the booming 1990s (also based in the San Francisco Bay Area, though with ripple effects in the technology companies of the Pacific Northwest). These latter-day counterculturalists were descendants of the sixties type, and they were derided as such by the nineties online satirical magazine, *SUCK*, which called them "hypertext hippies" who imagined themselves part of a "Webstock" nation.[15] In fact, the "wired" subculture of the 1990s was shaped to a significant degree by former 1960s counterculturalists such as Stewart Brand and Kevin Kelly of the *Whole Earth Review* (an offshoot of the *Whole Earth Catalogue*). Kelly went on to be Executive Editor of *Wired* magazine.[16] Both had been involved in creating the WELL (Whole Earth 'Lectronic Link), one of the earliest online bulletin-board communities, with a direct connection back to the Bay Area Community Memory Project and Loving Grace Cybernetics (more about that project below).

In the 1980s, street-level appropriated technology came together with cyberpunk science fiction to make a hacker subculture. This subculture retained a number of symbolic links to the 1960s, evident in the techno-paganism of the Burning Man festivals and early raves, for example, or the deliberately psychedelic-looking graphics by John Plunkett for *Wired* magazine.[17] These were direct emulations of '60s acid tests and trips festivals, but employing new technology in the ironic spirit of postmodernism. The most extreme and intentionally shocking technophilic displays in this subculture — for example, the talk about body implants and bio-hacking and mind uploads — sounded like drug-culture rhetoric of the sixties, but arguably reflected, as if in a Dadaist funhouse mirror, a deeper, more serious ambivalence about the outer limits of technology.

The hacker subculture was represented in a number of cheaply published "'zines" in the late 1980s and early '90s, but most vividly in the glossy *Wired* magazine and its less-conventional precursor, *Mondo 2000*.[18] First published in 1989, *Mondo 2000* was a magazine in search of a subculture — or you might say it was engaged in

willing one into existence. It set out to perform what its editors called a "reality hack" in the spirit of Ken Kesey's Merry Pranksters and sixties "consciousness hackers." Timothy Leary and Terence McKenna were among its earliest contributors. *Mondo* mixed postpsychedelic "designer" and "smart" drugs with do-it-yourself (DiY) computers, virtual reality, and other high-tech experiments. It aimed to include a variety of marginal types: Extropians, voluntary cyborgs, "cypherpunk" encryption-developing libertarians, and Xanadu-inspired hypertext enthusiasts, who stood alongside a number of old counterculturalists and appropriate-technology enthusiasts. Ted Nelson and Marshall McLuhan and Buckminster Fuller provided inspirational texts.

At one party and editorial meeting for the magazine, Douglas Rushkoff reports, a staff writer proposed a story idea on the divergence between cybercultural and new-age types since the sixties:

> New Age people are very much like the *Mondo* or the psychedelic people are — they just go outdoors and camping because they are scared of technology. That's because growing up in the sixties, parents would take TV time away as a punishment. Plus, TV became an electronic baby-sitter, and took on an authoritarian role. And I think a certain amount of TV had to be watched at the time in order to get the full mutation necessary to become one of us. They didn't get enough, so they became New Age people with mild phobias towards technology.[19]

Technology was still an issue in this late enclave of the old counterculture: Why did some of the heirs to the counterculture become technophobic (and outdoorsy, ecologically minded) while others ended up as technophile geeks and cyborgs? The hacker theorist quoted above locates the cause in the twentieth century's favorite scapegoat, television. One suspects that the "New Age people," looking at the problem from the other side, might have agreed. Both sides would probably assume that technology does have a sometimes frightening power to shape individuals and cultures. They would just feel more or less pessimistic about that assumption.

The ambivalence of the sixties counterculture when it came to technology found its way into the concept of "hacker" itself. In its "black hat" mode, hacking is a form of technology sabotage, sometimes

using viruses or worms or denial-of-service attacks on corporate or government systems. In this regard it might be viewed as a selectively destructive, neo-Luddite attack on oppressive technology. But on the "white hat" side, hacking has always been about creative play and a love of the technology, about harmless exploration and experimentation on the part of hobbyists, geeks who explore the machine from the inside. Hackers are technologists who undermine big technology, either for fun and profit, or for darker reasons, some of which overlap with neo-Luddism.

The Two (Counter)cultures

Andrew Kirk sees a fundamental division in the sixties counterculture when it came to the question of technology.

> Often it seemed as if countercultural environmentalists occupied separate but parallel universes defined by whether they considered technology to be the problem or the solution. Thus the relationship between the counterculture and technology was always one of fundamental ambivalence. (356)

I would suggest, however, that the "fundamental ambivalence" is more important than the apparent difference in this case. The "two countercultures" are best understood as two sides of the same subculture, two responses to the perceived importance of technology in the mid-twentieth century.

My phrase alludes to C. P. Snow's extremely influential 1959 lecture, "The Two Cultures," in which he argues that,

> If we forget the scientific culture, then the rest of Western intellectuals have never tried, wanted, or been able to understand the industrial revolution, much less accept it. Intellectuals, in particular literary intellectuals, are natural Luddites.[20]

Snow then cites a collection of Victorian, American Transcendentalist, and modernist thinkers and authors, who published what were in effect "screams of horror against the facts of industrial society." His larger goal is to persuade his readers of the contrary view, that industrial

technology is "the only hope of the poor," to question the division he identifies and challenge what he sees as intellectual Luddism. The ambivalent division, which is perhaps best understood as a dispute between siblings, carries forward into the sixties counterculture. When we look closely, the hacker and the hippie, the technophile and the Luddite, often turn out to be the same person at two stages in the history of the 1960s and '70s, or two members of the same affinity group or commune, inhabiting, as Andrew Kirk says, "parallel universes" but, as one of them might have said at the time, "coming from the same place." Both would have agreed that technology was at the center of modern existence.

Machines of Loving Grace

San Francisco, 1967. The writer Richard Brautigan wanders the streets of the Haight-Ashbury district, distributing mimeographed broadsides, some of them copies of his own poems.[21] Brautigan would soon achieve cult status for his wryly naïve minimalist fictions, and after a brief time would become known as the "hippie poet laureate." He was associated with the Diggers, the group that emerged from the San Francisco Mime Troupe and made a point of handing out free food and clothing to the panhandling local residents and transients, especially during the Summer of Love (1967), and that organized provocative, Dadaist or anarchist-flavored special events like the Invisible Circus.

Brautigan's broadsides were printed under the imprint of the Communication Company ("com/co"), a counterculture publishing venture and ad hoc press in the Haight that turned out a series of broadsides and psychedelic newsletters produced on a Gestetner-brand mimeograph system run by Chester Anderson and Claude Hayward.[22] Com/co became an outlet for the Diggers and other groups and individuals, who could literally walk in off the street and get their texts published: community news bulletins, satires, exhortations, and manifestos, as well as surrealist or futurist-looking works of art and provocation. All were distributed for free.

Among those who published in this way was Richard Brautigan. His first com/co project was a broadside version of what was to become one of his best-known poems, "All Watched Over by Machines of Loving

Figure 6.1 Com/co mimeographed broadside, printed and distributed by Richard Brautigan, Haight-Ashbury, containing "All Watched Over by Machines of Loving Grace," 1967. Reproduced by permission of the author.

Grace."[23] A single printed sheet with image and text, the first issue (probably about 500 copies) contained an image of a megaphone and, when that issue ran out and Brautigan came back for more, the second contained the faint image, rotated vertically and running up the right-hand side, of a room-sized computer with technicians working in it. All around and below that image are simple, childlike, or primitive line drawings of animals superimposed in turn on the typewritten text of a three-stanza poem (see Figure 6.1). The title is handwritten.

ALL WATCHED OVER BY MACHINES OF LOVING GRACE
By Richard Brautigan

I like to think (and
the sooner the better!)
of a cybernetic meadow
where mammals and computers
live together in mutually
programming harmony
like pure water
touching clear sky.

I like to think
(right now, please!)
of a cybernetic forest
filled with pines and electronics
where deer stroll peacefully
past computers
as if they were flowers
with spinning blossoms.

I like to think
(it has to be!)
of a cybernetic ecology
where we are free of our labors
and joined back to nature,
returned to our mammal
brothers and sisters,
and all watched over
by machines of loving grace.

At the bottom of the sheet, running into the computer picture, is the logo, "communication company."

The poem's theme is what is now called cyborg identity. The "cybernetic meadow" with its "pines and electronics," its tape drives figured as "spinning blossoms," is a kind of Romantic utopia. In the context of California in the sixties, it brings to mind the famous microphones, speakers, and lights that were wired up in the woods at author Ken Kesey's three-day psychedelic parties in La Honda. Brautigan's

vision is a kind of wish for a consensual hallucination, a good trip to share. The paradox of the cybernetic organism (and organic technology) is reinforced in the crude illustrations: Primitive animal drawings, invoking children's art (there is some indication they were drawn by a child or young teenager) or the cave-drawings of Lascaux, are juxtaposed with photographs of big machines, both images united by the text of the poet's words. The word "programming" is appropriated and reused in a countercultural way — like the secondhand clothes the hippies wore or the donated food the Diggers used in their soup kitchens — as a positive term for the imagined symbiosis of human, animal, and machine. This utopia is to be "written" into being by the "software" instructions of the poem itself.

Brautigan's religious language — the chiliastic millenarianism of "right now, please!" and the title phrase as if in benediction ("watched over" in "loving grace," amen) — is meant to sacralize the vision in a familiar hippie mode, at once ironic and deliberately naive. But this language also situates this minimalist poem within the American literary-religious tradition that includes calls for awakenings and revivals, simplified lives, from Jonathan Edwards to Henry David Thoreau. The quirkiness of the caretaker machines is the heart of this vision. Fearful Orwellian surveillance by ubiquitous technology is, with a hip shrug, turned on its head. The poem says, simply: Imagine that the machines labor and "watch" so humans can live closer to nature (it's easy if you try). In fact, this is what many hippies would try to do in the decade to follow: Go "back" to the land they had never inhabited, using geodesic domes and solar heaters and even the occasional computer to try to establish machine-shepherded pastorals in the woods of northern California or the New Mexican desert.

The goal was a hippie version of the "postscarcity economy" and an "organic" leisure society, which some writers and economists had long predicted as America's (near) future, as Charles Perry notes. At this moment in the counterculture, he says, "there was a widespread interest in the nature and meaning of technology. This was a new subject without clear antecedents in former bohemias, and the most distinctive nondrug concern of the Haight."[24] Perry cites Brautigan's "Loving Grace" as an example of "the leisure-challenge theory," the utopian idea

that the "robots will do all the work" was "in the air" at the time. He discovers it, for example, in a famous debate between Timothy Leary and Gary Snyder (later published in the *San Francisco Oracle* No. 7), in which both participants criticize modern technology but Snyder predicts, "that in the coming leisure society people would leave the cities and devote themselves to, say, hunting and fishing" (161). He also sees this ideal as lying behind the communal experiment at Morning Star Ranch, of which its founder declared, "The hippies are the first wave of the technologically unemployed." As Perry points out, one of the Diggers said the group was searching for a "creative way to live in a leisure age — ten years away, when machines and computers will do most of the work" (261).

It's easy to dismiss this wish for a postscarcity society as a superficial fantasy of the drug-infused counterculture, mostly composed of privileged white youths with enough leisure to imagine utopia as even *more* leisure. But the idea has a long history and that history is not yet concluded. In the counterculture, the technology part of the vision was hotly debated. Neo-Luddite counterculturalists insisted that it would be the "voluntary primitive," someone who had gone back to the land and was "innocent of technological sin" who would be "best equipped to survive the post catastrophic world" (Perry, 263). The pro-technology faction believed it was possible to create a new kind of countertechnology, an appropriately scaled and designed technology that, come the revolution and the collapse of the military-industrial complex, would rise to the occasion.

For those who dreamed of this alternative-technology future, the cyber-meadow pastoral of a coming age of leisure, then-fashionable thinkers like R. Buckminster ("Bucky") Fuller (the inventor of that iconic structure of hippie technology, the geodesic dome) were cited as authorities. Fuller argued in his long essay, *Operating Manual for Spaceship Earth*, that

> The computer as superspecialist can persevere, day and night, day after day, in picking out the pink from the blue at superhumanly sustainable speeds. The computer can also operate in degrees of cold or heat at which man would perish. Man is going to be displaced altogether as a specialist by the computer. . . . Coping with

> the totality of Spaceship Earth and universe is ahead for all of us. Evolution is apparently intent that man fulfill a much greater destiny than that of being a simple muscle and reflex machine — a slave automaton — *automation* displaces the *automatons*.[25]

As the Beat poet Gary Snyder put it in his prophetic *Four Changes* (1969): "What we envision is a planet on which the human population lives harmoniously and dynamically by employing a sophisticated and unobtrusive technology. . . ."[26]

Again, the notion of labor-saving machines as the noble end of technological development has reappeared throughout history. Edward Tenner sums it up as the "social goal of a new Athens, of machine-supported leisure," and says that it "has proved a noble mirage."[27] But the mirage has continued to flicker at the horizon of technological culture. This is the larger context within which to read Brautigan's utopian cartoon of a poem.

Mimeograph Machines of Loving Grace

Brautigan's poem is also about its own technological mode of production. After all, the closest thing the Diggers had to an actual idyll of the machine was the Communication Company itself and its mimeograph "of loving grace." Chester Anderson was reportedly deeply interested in Marshall McLuhan's (at the time, extremely popular) theories concerning communication in the emerging global village, especially the notion that media formed the extended nervous system of the human species.[28] Many of the com/co flyers were distinctly McLuhanesque in their layout, using collage and graphically self-conscious combinations of image and text. The utopian community the Diggers were trying to build in the Haight-Ashbury was "watched over" by machines primarily of printing and communication. Listen to the giddy hacker's language com/co uses to describe these "machines" in their first flyer, a self-promotional announcement handed out at the momentous Human Be-In of January 1967:[29]

> OUR MAGNIFICENT MACHINES
> * one brand-new Gestetner 366 silk-screen stencil duplicator.
> * one absolutely amazing Gestefax electronic stencil cutter.

WITH WHICH WE CAN

+ print up to 10,000 nearly lithographic quality copies of almost anything we can wrap around our screening drum.
+ on any kind of paper up to 8 1/2 by 14 inches (this being basically an office machine).
* with any kind of art, including half-tones,
* on both sides of the page.
+ in up to four colors with adequate registration (office machine).
* with all manner of outrageous innovations.
* all in a very few hours.

In this same broadside the writers declare themselves "outrageous pamphleteers" and claim to function as the "Haight/Ashbury propaganda ministry" — mixing technological and political idealisms.

The fetish of the DiY mimeograph machine had long been established among countercultural intellectuals and writers. In *A Secret Location on the Lower East Side*, Steve Clay and Rodney Phillips document what they call "the mimeograph revolution" during the 1960s and '70s.

> Direct access to mimeograph machines, letterpress, and inexpensive offset made these publishing ventures possible, putting the means of production in the hands of the poet. In a very real sense, almost anyone could become a publisher. For the price of a few reams of paper and a handful of stencils, a poet could produce, by mimeograph, a magazine or booklet in a small edition over the course of several days. Collating, stapling, and mailing parties helped speed up production, but, more significantly, they helped galvanize a literary group. The existence of independent bookstores meant that it was actually possible to find these publications in all their raw homemade beauty.[30]

Kenneth Rexroth, Jack Spicer, Gary Snyder, and Richard Brautigan were among the Berkeley and San Francisco writers and publishers who exploited this smallest of small-press modes of poetic production from the late 1950s into the early '60s. Brautigan and the Diggers just took the mimeo revolution one step further, from cheap publishing to street theater. And they inevitably began to see computers, as well as mimeograph machines, as potential engines of community as well as communication, a way to create a commune or the global village.

Brautigan had a deeper interest in computers and technology. Around the time that he composed "Machines of Loving Grace," he was Poet in Residence at Cal Tech, where he would have encountered the hacker culture just then beginning to emerge on campuses around the country and in the U.K. One poem published at the time, then titled "San Francisco Weather Report" (and later "Gee, You're So Beautiful That It's Starting to Rain"), begins: "I want your long blonde beauty / to be taught in high school," and concludes with a mock report card, every "subject" graded A except for "Marcia's Long Blonde Beauty" (A+), and including, along with "Playing with Gentle Glass Things" and "Finding out about Fish," this odd class: "Computer Magic / A." In this line we glimpse the hacker ideal near the moment of its birth — the alchemical twist on computer science, the Romantic belief in world-changing technology. For Brautigan, this magic offered a way to conjure up an alternative to life under the military-industrial complex. When he used the com/co mimeo machine to print flyers for the Digger happening called the Invisible Circus, Brautigan named his performance (not only the machine itself), the "John Dillinger Computer."[31] In the name we see no essential difference between a computer and a Gestetner mimeograph machine. The essence of both seems to be the outlaw's hacker "magic" of making a community through technologically aided acts of creative communication.

Counterculture to Hacker Subculture

Leopold's Records, Berkeley, 1972. People hover around a teletype machine reading publicly posted bulletin-board messages on a computer, something that had rarely been done before outside of limited university labs and campus user groups. This however was a public terminal sponsored by a hippie-hacker group, Community Memory, under the heading of a company they called Loving Grace Cybernetics. [32] "All Watched Over by Machines of Loving Grace" had by then become a kind of unofficial motto for the appropriate technology movement.[33] The project's flyer in 1972 announced its intentions to provide "an experimental information service" in "an attempt to harness the power of the computer in the service of the community." The plan was a "sort of super bulletin board" posted on a computer — at the time a new idea.

> Our intention is to introduce COMMUNITY MEMORY into neighborhoods and communities in this area, and make it available for them to live with it, play with it, and shape its growth and development. The idea is to work with a process whereby technological tools, like computers, are used by the people themselves to shape their own lives and communities in sane and liberating ways. . . . We have a powerful tool--a genie--at our disposal; the question is whether we can integrate it into our lives, support it, and use it to improve our own lives and survival capabilities. We invite your participation and suggestions.
>
> Loving Grace Cybernetics

This group forms a node where the sixties counterculture meets the future hacker subculture. In the early seventies, most people still saw computers as "as inhuman, unyielding, warmongering, and inorganic." Going against the grain, Loving Grace Cybernetics set up their terminal linked to a mainframe in a record shop and opened it to the community. Stephen Levy calls the result "a living metaphor," and a "testament to the way computer technology could be used as guerilla warfare for people against bureaucracies" (Levy, 156). The link between the counterculture and the hacker subculture was the kind of relative technological optimism expressed in Brautigan's Gestetnered poem (and its illustrations).

Ted Nelson's Computer Lib

The most significant movers and shakers in the emerging hacker subculture were only a few degrees of separation away from Community Memory and its circle. These included members of Fred Moore's Homebrew Computer Club, the famous seedbed for Steve Jobs and Steve Wozniak's creation of Apple Computer, Bob Albrecht and Stewart Brand and their appropriate-technology publication the *Whole Earth Catalog*, as well as Ted Nelson, who coined the term "hypertext" (long before there was a World Wide Web) and self-published in the early 1970s his own 'zinelike books under the motto, "computer power to the people."

Nelson's *Computer Lib/Dream Machines* — two books back-to-back, one running one way and the other starting at the back, with the book

flipped over and running the other way — first appeared in 1974 in a homemade mix of typefaces, calligraphy, and paste-up, with text, photos, cartoons, and clip art; it's no accident that it resembles early Webpages, since the Web itself grew up out of a shared set of overlapping subcultures.[34] It contained articles on technical and historical aspects of computing, including theories of Nelson's proposed universal hypertext system, Xanadu, but its larger purpose was the sociopolitical message conveyed in the motto cited above. Like the "two Steves" at Apple, Nelson envisioned positive social change taking place as the result of people getting their hands on smaller "personal" computers. These could be used for purposes contrary to IBM and the computer establishment, what Nelson called "cybercrud." He imagined people using computers to enhance communication, art, publishing, and games. In a telling answer to popular neo-Luddism "Damn that Computer!" Nelson acknowledges in the book that "Everybody blames the computer," but that the real culprit is "the system" and the companies that own the computers. The people only need to make technology their own in order to reverse this alienation. Nelson exposes neo-Luddism's "Myth of the Machine (A Deep Cultural Engram)":

> there is something called the Machine, which is Taking Over The World. According to this point of view The Machine is relentless, peremptory, repetitive, invariable, monotonous, inexorable, implacable, ruthless, inhuman, dehumanizing, impersonal Juggernaut, brainlessly carrying out repetitive (and often violent) actions. Symbolic of this is of course Charlie Chaplin, dodging the relentless, repetitive, monotonous, implacable, dehumanizing gears of a machine he must deal with in the film Modern Times. . . . What people mainly refuse to see is that machines in general aren't like that. . . . The Machine is a myth.

Nelson advocates not smashing the machine but appropriating it, hacking it. Though the style and some of the arguments of *Computer Lib* in particular imply that this might be done for radical, countercultural purposes, most of the actual suggestions turn out to be typical 1970s-style calls for the empowerment of the creative individual (the sort of self-fulfillment Apple Computer would later come to market to "the rest of us").

Stewart Brand's Alternative Technology

Nelson moved in some of the same California circles as Stewart Brand, and his books are partly modeled on the famous *Whole Earth Catalog* and its successors, the *Whole Earth Review* and *Co-Evolution Quarterly*, which Brand founded and edited. Brand has been an extraordinarily influential entrepreneur, think-tank participant, consultant, and media hacker in cultural and technological circles over the past thirty years. The author Bruce Sterling calls him (perhaps with a bit of winking hyperbole) "one of the most influential people in the whole world," and describes him as "A man with a double life, a hard-core activist Summer of Love California hipster who nevertheless had serious, prolonged, profound engagements with giant multinational oil companies. His behavior was so contradictory and inexplicable that it couldn't register with people."[35] Brand is the single figure whose creative projects connect the mid-'60s counterculture with late-'90s hacker culture, literally linking the *Whole Earth Catalog* with *Wired* magazine. He was a collaborator with Ken Kesey's Merry Pranksters and others in early Bay Area happenings and light shows, as well the creator of agitprop media events like the printing and distribution of the famous buttons asking, "Why haven't we seen an image of the whole earth from space yet?" He also championed Buckminster Fuller's geodesic domes before they became a standard icon of hippie communes, and promoted the ideal of space colonies as well as early personal computing.

Brand's catalogs are postpsychedelic compendia of DiY appropriate(d) technology. The small-is-beautiful guerrilla technology advocated by the *Catalog* is based on the ideal of appropriation *in lieu of sabotage* — or, actually, as a form of relatively slow and benign sabotage — a way of using human-scale technology to resist and gradually undermine the dominant technocracy. This strategy is seen most clearly in Brand's advocacy of windmills, solar panels, and so on, to enable communards or homesteaders to "go off the grid" of the centralized fossil-fuel power system. On one level, the scheme is an ecologically minded extension of the sixties ideal of dropping out of straight American society. In one commonly imagined scenario, if enough people dropped out, the system, the "machine" itself, would collapse from lack of use, big technology would simply be abandoned, rusted rather than smashed.

The ideal is also manifest in Brand's advocacy of appropriating cultural and information technologies: forms of media, communication, and creativity, including computing. Interestingly (and reportedly unbeknownst to Brand), part of the money disbursed upon the demise of the *Whole Earth Catalog* in 1972 ended up in an $8,000 loan to the Resource One organization and thus, indirectly, to Loving Grace Cybernetics and the Community Memory Project.[36]

Counterculture and Countercomputer

> October, 1972, 8 PM, at Stanford's Artificial Intelligence (AI) Laboratory, moonlit and remote in the foothills above Palo Alto, California. Two dozen of us are jammed in a semi-dark console room just off the main hall containing AI's PDP-10 computer.

This passage is taken from an article by Stewart Brand, who is credited with inventing what became the hacker credo, "information wants to be free" (though he also actually added, "it also wants to be expensive" — a deliberate paradox usually ignored by early hackers).[37] In December 1972 — the same year his final *Whole Earth Catalog* came out and (symbolically enough) the Community Memory Project began — Brand published an article in *Rolling Stone* magazine entitled "Spacewar: Fanatic Life and Symbolic Death Among the Computer Bums," one of the earliest uses in the media of the term "hacker."[38] Brand's piece opens with: "Ready or not, computers are coming to the people," followed by: "That's good news, maybe the best since psychedelics."

> It's way off the track of the "Computers — Threat or Menace?" school of liberal criticism but surprisingly in line with the romantic fantasies of the forefathers of the science such as Norbert Wiener, Warren McCulloch, J.C.R. Licklider, John von Neumann and Vannevar Bush.
>
> The trend owes its health to an odd array of influences: The youthful fervor and firm dis-Establishmentarianism of the freaks who design computer science; an astonishingly enlightened research program from the very top of the Defense Department; an unexpected market-Banking movement by the manufacturers of small calculating machines, and an irrepressible midnight phenomenon known as Spacewar.

The early computer game (with the subculture that surrounds it) becomes in Brand's essay a hopeful metaphor for the playful and creative uses to which computers might be put, in other words, as machines of loving grace. As Brand says, "until computers come to the people we will have no real idea of their most *natural* functions" (emphasis mine). The goal is less personal computing than populist computing.

> Where a few brilliantly stupid computers can wreak havoc, a host of modest computers (and some brilliant ones) serving innumerable individual purposes can be healthful, can repair havoc, feed life. (77)

Brand advocates "any funky playing with computers," as furthering these aims.

One section of the article not about the game players but providing background for their story is headed "Counter-computer," a play on the term "counterculture" and an implicit argument for the subversive effects of appropriate(d) computer technology. Interestingly enough, Brand cites as his chief example Resource One, the parent organization of Loving Grace Cybernetics. His interview with Pam Hart, the founder of the group, contains a description of his subject that reveals Brand's own aspirations for the hacker subculture:

> She speaks quietly in a hasty, gentle, self-effacing murmur. You have to lean close to hear the lady helping you help her to plant dynamite in the very heart of the Combine. (73)

There it is: the image of Luddite sabotage used to illustrate the cultural potential of hacker computing. This is the paradox at the heart of mid-century neo-Luddism, which sought ways to use technology, machines, to sabotage the Machine (the "Combine"). The two sides of the sixties counterculture when it comes to technology are actually flipsides of one idealization — of the infinite possibilities of technology in the postwar era. The image of technology as a ubiquitous evil force has its photonegative image in the hacker view of technology as a ubiquitous, potentially liberating force, a kind of good silicon monkey wrench for stopping bad, oppressive technology and building a whole new alternative way of life.

Edward Abbey's Eco-Luddism

In 1975 a satirical novel, *The Monkey Wrench Gang,* appeared and quickly became the de facto underground bible of the radical ecology movement.[39] Its author was the most prominent neo-Luddite writer of the 1960s and '70s, Edward Abbey. Even before his death in 1989, "Cactus Ed" had become the hero and patron saint of Earth First! (and the Earth Liberation Front), especially the activist wing of the Deep Ecology movement, tree-spiking and SUV-burning ("monkey wrenching"), as well as an icon for many more moderate ecologists. His comic eco-sabotage fiction was always understood by its fans to be based on the author's real-life adventures. The confusion of myth with life was one of Abbey's chief rhetorical tactics. In this particular way, whether he was conscious of it or not, he was following the example of the original Luddites.

Ten years after *The Monkey Wrench Gang* first appeared, an anniversary edition was published in 1985 illustrated by underground comic artist R. Crumb, a significant collaboration that immediately highlights the countercultural credibility of the novel, its sixties DNA, as it were.[40] In Crumb's cover image the "gang" is depicted in a key scene from the book, crouching in the foreground beside railroad tracks as a train approaches, wearing jeans and boots, cowboy hats and hardhats. At the center is a kneeling woman (Bonnie Abbzug) with her hands on a dynamite plunger. The pulp-fiction lettering and lurid palette make the novel look like one of Crumb's subversive underground comics (the artist is himself a self-professed neo-Luddite). The cover highlights the eco-sabotage for which the book had by then become famous, and it does so in the visual language of superheroes and true-crime antiheroes. Crumb clearly gets the point of Abbey's fiction: One of his later illustrations (for the spin-off *Monkey Wrench Calendar*) is a simple black-and-white drawing of a monkey wrench, squiggly lines emanating from it to signify, comic-book-style, either the gleam of the metal or some supernatural aura (or both). The monkey wrench, traditionally tossed into the works to halt machines by machinist-saboteurs, the weapon of choice for Charlie Chaplin's Little Tramp in *Modern Times*, is a resonant neo-Luddite object, a tool for resistance and a symbol in the direct line of the historical Luddites' "Great Enoch" sledgehammer.

Indeed, Abbey's novel is dedicated "IN MEMORIUM" to "Ned Ludd," followed by the familiar dictionary biography of the "lunatic living about 1779, who in a fit of rage smashed up two frames," and a pithy quotation from one of Lord Byron's pro-Luddite songs: "Down with all kings but King Ludd."

When the book first appeared in 1975, it took a defiantly neo-Luddite position within the countercultural debates on technology. Besides attacks on bulldozers and earthmovers, and (projected or fantasized) attacks on dams and railways, the book also represents an internecine war between the two countercultures, satirizing the "appropriate" technology then being embraced by countercultural types who might otherwise be assumed to be allies of Abbey and his fictional gang.

The character of Bonnie Abbzug, the vaguely "feminist" heroine of this antifeminist novel, participates in the *Whole Earth Catalogue*–inspired, proto-hacker subculture, which is the occasion for satiric ridicule throughout the early chapters of the novel. Her lover, the Abbey stand-in, Dr. Sarvis, repeatedly declares himself the sworn enemy of such appropriate-technology optimism, an attitude encapsulated for him in the countercultural fashion for geodesic domes. Abbzug herself lives in one of the hated structures.

> Her "quarters" was a hemisphere of petrified polyurethane supported by a geodetic frame of cheap aluminum, the whole resting like an overgrown and pallid fungus on a lot with tomato patch in the wrong or southwestern sector of the city. (41)

The dome is just the most obvious exponent of Bonnie's wrongheaded cultural affiliations, according to Sarvis, as her bookshelves make clear, "loaded with the teenybopper intellectual's standard library of the period," a dead-on satiric list that includes (no surprise) Richard Brautigan, Stewart Brand's *Whole Earth Catalog*, and R. Buckminster Fuller, the inventor of the geodesic dome. Fortunately for her, we are told by Abbey, Bonnie no longer reads any of these bad books, and insects are beginning to break them down into the mulch Abbey (and his novel's hero, Doc Sarvis) believes they really are.

> Dr. Sarvis detested geodesic domes. Too much of the American countryside, he thought, was being encysted with these giant sunken golf balls. He despised them as fungoid, abstract, alien and inorganic structures, symptom and symbol of the Plastic Plague, the Age of Junk. (42)

The dome was indeed a symbol at the time of the appropriate-technology subculture, as exemplified in communes such as Drop City or Solux, the latter of which a 1967 article in the *New York Times* referred to as the home of a "tribe of McLuhan-oriented poets, artists, engineers and filmmakers," who created "eye-popping, mind-blowing electronic environments."[41]

At one point in the novel, in a Luddite gesture, Dr. Sarvis destroys the TV with a single sharp kick (during an infuriating oil company commercial): "'Thus I refute McLuhan,' he muttered" (236). Bishop Berkeley was famously "refuted" in this way by Dr. Johnson in the eighteenth century (by his kicking a solid object), and Abbey wants to argue a similar empirical common sense against hippie idealism. The McLuhan–Fuller–*Whole Earth Catalog* faction of the counterculture is anathema to Abbey and the book's most virulent satire is reserved for it, much more than for the industrial machine the gang attacks directly.

For example, Abbey mocks the new-age ceremony that had dedicated Bonnie's geodesic dome: "Then the six middle-class college-educated Americans sitting under an inflated twenty-first century marshmallow of plastic foam intoned a series of antique Oriental chants which had long ago been abandoned by educated people in the nations of their origin" (43). Elsewhere Abbey refers to an anthill as "the dome home of the harvester ants" and has Doc Sarvis kick it to dust, a blow against modernist technological utopianism: "Thus do I refute Paolo Soleri, B. F. Skinner and the late Walter Gropius," he declares. The anthill, "like the Fullerian foam fungus," according to Sarvis, "is the mark of social disease. . . . The plastic dome follows the plague of runaway industrialism, prefigures technological tyranny and reveals the true quality of our lives, which sinks in inverse ratio to the growth of the Gross National Product" (84).

An eco-Luddite connected with the sixties counterculture, Abbey shares its distrust of authority and implicit celebration of personal

motivation, individualism, and symbolic direct action in politics. He reacts against the appropriate-technology subculture in part because it is the enemy within, is in direct competition with his eco-Luddism as an alternative to mainstream society. The Fuller dome is the symbol of everything he must "refute" (with a kick) in order to make his own case, and it is no accident that it is represented as a fungus, an opportunistic growth popping up out of nowhere, spread by invisible spores (but, thankfully, with no roots or only shallow ones); or an anthill, with its frightening invocation of the "hive mind" of a collective delusion. *The Monkey Wrench Gang* makes it clear that the hippie-hackers building domes and experimenting with electronic communication media represent not a polar opposition to eco-Luddism so much as a rival resistance, a close alternative within the same countercultural horizon.

The doubleness Abbey represents has carried over into more recent anticapitalist and ecology activism. As George McKay says in his study of protest subcultures in 1990s Britain, the do-it-yourself (DiY) movements of the nineties included both "the rejection and embracing alike of technological innovation."[42]

> Such embracing of technology for its liberatory or expressive possibilities was found in the 1960s counterculture, too, in spite of its reputation for being anti-technology. The underground press, for instance, took advantage of offset litho printing equipment as well as other, newer developments. . . . DiY activists and cultural workers have employed innovations in information technology from desk-top publishing to the Internet for the purposes of publicity, campaigning and mobilization, while the computer-generated rave scene produces music, image and, for some, narcotic influence in a kind of luvdup ecstatic utopianism. (10–11)

McKay may be underplaying the neo-Luddite suspicion of technology in such groups, the role played by the ideal of the natural or the primitive, perhaps because of his focus on British culture. Edward Abbey is a particularly American kind of activist, and his brand of eco-Luddism has an American face. Both the ideal of nature and the deep ambivalence about technology seem to have been more pronounced, more clearly delineated, in American counterculture and protest subcultures.

Technology Is Sublime

In *The Machine in the Garden*, Leo Marx analyzed the two sides of American identity when it came to technology, an analysis recently extended by David Nye in *The American Technological Sublime*.[43] British artists reacted to industrialization with Romantic naturalism, but many nineteenth-century American writers responded to their less centralized, more rural factory system as a sign of the potential harmony of man and nature by way of technology — a way of planting gardens in the wilderness and making the deserts bloom.

> . . . the American sublime fused with religion, nationalism, and technology, diverging in practice significantly from European theory. . . . Rather than the result of a solitary communion with nature, the sublime became an experience organized for crowds of tourists. Rather than treat the sublime as part of a transcendental philosophy, Americans merged it with revivalism. Not limited to nature, the American sublime embraced technology. (Nye, 43)

In America, Nye says, "the machine tended to be seen as an organic outgrowth of society that could flourish in a laissez-faire economic system, to the benefit of all" (110).

The ideology of the "technological sublime," the possibility of transcendence not despite technology but in the very face of it — transcendence *by way of* iron, steam, and speed: railroads, bridges, canals, and factories — is, in fact, also present in England during the Industrial Revolution. We see it in William Turner's celebrated paintings of railroads and steamships and even in William Wordsworth's profound ambivalence about technology. But more systematically in American culture, technology itself is figured as sublime.

During the twentieth century, the sublimity of modern technology shifted away from bridges to computers, what one recent book calls the "digital sublime."[44] The conventional mode of the sublime, a sense of transcendence in the face of scenes of natural or manmade grandeur, gigantic bridges and seemingly infinite railways which competed with the divine in provoking terror and awe gave way to a more slippery, "liquid" kind of technological sublimity that is everywhere and nowhere at once and whose material synecdoche — the symbolic part

that represents the larger whole — became the Internet. Internet router nodes, boxes of chips and cables humming away in closets all over the world, have taken on the mythic resonance that used to be attached to industrial technology. As Bruce Sterling points out, they may seem invisible but are in fact today's "cybernetic smokestacks . . . every bit as solid and terrifying as William Blake's 'dark satanic mills.'"[45] Going back to the mid-twentieth century and culminating in the Internet age at the end of the century, this is a view of technology as sublime in a different way, quietly terrifying in its indeterminate ubiquity, awesome in its invasive as well as its pervasive power, the dynamo always already humming away *behind* the virginal landscape.

This uncanny sublimity was the subject of the 1998 film *The Truman Show*, in which the whole world turns out to be a banal reality TV program, with hidden surveillance cameras everywhere and weather created by special effects. Recognition of the enormity of what is covered by the banal façade leads to the sublime catharsis of Truman, when he discovers that his world is a gigantic soundstage, and his viewing audience, for whom the stage is the network. The movie in turn foreshadowed the hidden cameras in the palm trees in "Survivor" and in the confessional closet in "Big Brother," once the era of "reality TV" actually arrived a few years later. This modern banality barely concealing sublime terror descends from the fiction of Franz Kafka and George Orwell, is seen in Terry Gilliam's movie *Brazil*, and is the subject of much of the cultural theory of Michel Foucault. In the present context, we might call it the information-network sublime. Arguably, the sublime is always potentially related to paranoia, since both attitudes involve the perception of a connectedness of meaning hiding behind the visible world, an invisible source of power that inspires awe and terror in part because it refuses to divulge itself and remains obscure, but still continues to run the world. This is in our own time an extremely common view of technology, as the ultimate source of transcendence, a mythic resonance and sublimity based in the misperception that information technology is somehow immaterial (as Katherine Hayles has it), and thus even finally escapes from nature. This view has its origins back in the early stages of the mainframe networks that would later become the Internet, in the

middle of the twentieth century. But it first became a truly widespread popular mythology under the aegis of the sixties counterculture.

Thomas Pynchon's Neo-Luddite Paranoia

Chester Anderson, the Digger com/co founder and Gestetner publisher, wrote a science-fiction novel of the paranoid sublime in 1967, at the peak of the Haight-Ashbury scene and the same year Brautigan's "Machines of Loving Grace" was published in broadside. Anderson's *The Butterfly Kid* is about two hippie detectives uncovering a vast and insidious plot on the part of the establishment (represented psychedelically in the figure of the Blue Crustacean) to drug the community into blasé conformity.[46] This kind of paranoia was of course everywhere in the drug-inflected counterculture. My point is that it was often focused on the system of technology as the subject of sublime terror and fascination.

A much better-known version of this sort of countercultural fantasy is the work of Thomas Pynchon. *Gravity's Rainbow* (1973) is about the technologies of behavioral psychology and rocket-bomb ordnance during World War II. In *The Crying of Lot 49* (1966), the quintessential postmodern neo-Luddite novel, technology is beginning to be computerized.[47] The whole point of *The Crying of Lot 49* is that paranoid apophenia — obsessive pattern recognition — may well be the most appropriate response to modern technological society. At any rate, this response is endemic. The Pynchonesque plot is all about coming to perceive meaningful connections between phenomena we have been told are innocently unrelated, patterns of networked relationships beneath the surface of everyday reality, a machine behind the appearance of organic nature. This attitude, this myth of sublime technology, *is* modern (or postmodern) neo-Luddism.

In *The Crying of Lot 49*, the secret, anarchist "Tristero" postal system, which may or may not have inscribed its semiotic traces on postage stamps and the texts of revenge tragedies, is tied to banal corporate conspiracy and the military-industrial complex. Yoyodyne is the book's IBM or Grumman, the aerospace division of a technology company with plenty to hide and extensive invisible power. When she attends a Yoyodyne stockholders' meeting, the heroine, Oedipa Maas, hears a company song

about Department of Defense contracts for research and development ("R&D"). When she visits the company headquarters, she gets lost in the corporate office suite — what we now recognize as the fluorescent-lit cubicle maze of the knowledge worker — and experiences it as a sublime landscape, full of awe and terror. The workers look at her impassively, machinelike (84). She roams the streets searching for further sinister connections, meanings concealed by a screen of signs, and technology seems to be the key. Near the beginning of the book, she looks down on the fictional San Narciso and compares the rows of houses and streets to a printed circuit in a transistor radio. In both the human settlement and the circuit she recognizes a pattern, a "hieroglyphic sense of concealed meanings . . . an intent to communicate" (24).

When uncovering the vast conspiracy of the Peter Pinguid Society, Oedipa's lawyer lover, Metzger, remarks that Pinguid sounds in Mike Fallopian's account as if he were against industrial capitalism. The paranoid storyteller corrects him: Both industrial capitalism and Marxism are at bottom "part of the same creeping horror." — "Industrial anything," hazarded Metzger. "There you go," nodded Fallopian (50–51). In discussing co-opted and disaffected technology workers with Oedipa, Fallopian places their rebellion in the context of America's founding myths of identity. They are disillusioned, he says, because they have been taught the "Myth of the American Inventor — Morse and his telegraph, Bell and his telephone, Edison and his light bulb, Tom Swift and his this or that." But the reality of post-war technological research and development, the corporate, impersonal power of the machine under the regime of "industrial anything," co-opts their work.

> they found they had to sign over all their rights to a monster like Yoyodyne; got stuck in some "project" or "task force" or "team" and started being ground into anonymity. Nobody wanted them to invent — only perform their little role in a design ritual, already set down for them in some procedures handbook. (88)

In fact, the underground communications network of the Tristero conspiracy and its WASTE system may be a kind of neo-Luddite resistance to the machine of industrial technology. A secret society

uniting discontents against the established order, it takes the form of a shadow postal system, a network off the grid of the official infrastructure — which is much the way the Internet would be depicted by the hacker subculture a few years later. Tristero represents "a calculated withdrawal, from the life of the Republic, from its *machinery*" (124; my italics). It was revived in the very belly of the beast, the industrial park in the early 1960s, when a Yoyodyne executive "found himself, at age 39, automated out of a job," made technologically redundant and "replaced by an IBM 7094" (113, 115). He is saved from suicide (an ironic literalization of being "made redundant" by technological progress) only when he is brought into his version of the WASTE counterconspiracy.

What makes the book truly neo-Luddite, however, is the "liquid" nature of both the system and the counterconspiratorial resistance. In *The Crying of Lot 49*, both the machine that supports the system and the secret society that grows up to resist it are similarly structured: ubiquitous and invisible, vast conspiracies whose patterns of meaning reveal themselves psychologically (or psychedelically) in sublime revelations, as when the urban sprawl toggles into an image of a transistor circuit and back again. As old Mr. Thoth remarks apropos of television, "It comes into your dreams, you know. Filthy machine" (91).

Near the end of the novel, Oedipa has a negative epiphany about "excluded middles" ("they were bad shit") and the nature of modern technocratic society. The passage was usually read in the 1970s and '80s in the light of poststructuralist linguistic theory, as a deconstruction of binary oppositions and the logocentrism they indicate. But at this late date it seems to foreshadow in a more literal way the cyberpunk dystopias that came after it (from *Blade Runner* through *Neuromancer* to *The Matrix*), not to mention recent financial and power-system breakdowns that have revealed the extent of the embedded network of technology and our dependence on it.

> For it was now like walking among matrices of a great digital computer, the zeroes and ones twinned above, hanging like balanced mobiles right and left, ahead, thick, maybe endless. Behind the hieroglyphic streets there would either be a transcendent meaning, or only earth. (181)

Pattern-recognition in this case is common sense as well as paranoia, because the skein of technology has in fact become coextensive with the world of experience, like some updated hypertext version of the medieval Book of the World. Given this situation, neo-Luddism, in the form of an ironic, emotionally paranoid resistance against technological totality, seems an eminently reasonable response.

The reasonableness of neo-Luddism is the starting point for Pynchon's much-downloaded (and frequently cited) later essay, first published in the *New York Times Book Review* for October 28, 1984, "Is it OK to Be a Luddite?" In Chapter 2 I cited this article for its astute reading of Ned Ludd's "comic shtick." But in the context of the present discussion of *The Crying of Lot 49* as a neo-Luddite novel, Pynchon's topical essay offers an extremely useful post-sixties view of neo-Luddism's particular outlines.

Pynchon begins with C. P. Snow's "Two Cultures," mainly in order to dismiss its fundamental opposition as out of date, given the sublime ubiquity of information technology during the sixties. What is remarkable about Pynchon's 1984 essay (its opening line refers to that scary date) is its own wry, Oedipa-like resignation to the inevitability and increasing ubiquity of technology, now that technology means *information* technology in its most "liquid" forms.

Pynchon retells the myth of Ned Ludd and summarizes the history of industrialism and Luddism, in order to argue that it is okay, even honorable, to be a Luddite, if that means someone who resists technocratic oppression, who is willing to be against technology. Luddism, in Pynchon's view, was a battle fought over social-class conflicts. Though he indulges in the facile opposition of the Age of Reason and the Age of Miracles (and the Romantic cliché of transcendence), he also astutely characterizes twentieth-century technology, providing a context for his own influential fiction.

Starting at the midpoint in 1945, he sees nuclear weapons, German rocketry, and the Holocaust as the legacy of the Industrial Revolution (thus clearly hinting, by the way, that his own Tyrone Slothrop, the "Rocket-Man" protagonist of *Gravity's Rainbow*, should be read as a neo-Luddite hero). In the process, Pynchon has subtly shifted ground, by way of a discussion of *Frankenstein*, from factories to science fic-

tion, suggesting that modern neo-Luddism is a cultural identity more than a form of industrial action. Contemporary neo-Luddism is unable to imagine a "countercritter" as scary as the horrors of nuclear warfare. Pause for a moment to note Pynchon's rich suggestion, here (which recapitulates the larger historical shift from 1811 to 2001): that Luddism as a resistance movement is less about sledgehammers than about inventing a countercultural "critter" (or "creature") whether Frankenstein's creature or the mythical Ned Ludd himself. In the computer age, Pynchon concedes, everyone is easily co-opted, with even hardened Luddites giving up the "old sledgehammer and stroking a few keys instead."

At this point Pynchon starts to sound like the hacker he sometimes is (he has a background in technology): "it may be that the deepest Luddite hope of miracle has now come to reside in the computer's ability to get the right data to those whom the data will do the most good." Then he predicts that the next frontier for technological skepticism will have to be the convergence of robotics, artificial intelligence, and molecular biology, the results of which will require a neo-Luddite response precisely because they will be so unforeseen.

If this sixties neo-Luddite sounds strangely enamored of the possibilities of technology, that's not surprising. Especially in American culture, technology is sublime, precisely because it seems so banal, because it is everywhere, but also seems to possess untold powers. It inspires both terror *and* awe, is regarded as mysterious and inevitable, ubiquitous and inexorable. Whether we imagine ourselves being watched over by machines of loving grace or being surveiled by an omnipresent monster is a matter of where we stand. But almost everyone assumes that the technology is inescapable.

The legacy of the two countercultures of the middle of the last century continues in today's ambivalence. In 1945, J. Robert Oppenheimer famously quoted from the *Bhagavad-Gita* on the occasion of the detonation of the atomic bomb: "I am become Death, the destroyer of worlds." In 1968, counterculture technologist Stewart Brand published a motto in the *Whole Earth Catalog* that should be seen as the utopian counterstatement, not to Oppenheimer's remark but to the general spirit of sublime awe in which it was made: "We are as gods and might

as well get good at it." The two countercultures, the neo-Luddites and the hackers, were always to some degree flipsides of the same deeply utopian desire to leverage power over the world with the tools we have made — what Carlyle called "our resistless engines" — and the symmetrical, accompanying fear that we might succeed in doing just that. For a time in the 1980s and '90s, playing god, in this practical sense, seemed an attractive option for some in the technoculture. But the deep-seated neo-Luddite resistance to (and fear of) what was seen as techno-hubris never really went away. And it surfaced again in the late 1990s — with a vengeance.

Chapter 7

Ned Ludd in the Age of Terror

For several days beginning on August 11, 2003, the Internet worm MSBlast spread throughout the network while system administrators worked to eradicate it. Almost immediately, rumors also began to spread that it was the work of terrorist hackers, even perhaps al-Qaeda operatives. Three days later, on August 14, there was another kind of technology failure, a massive electrical-grid blackout that affected the northeastern United States and part of Canada. For a couple of hours after the blackout there were rumors that it, too, had been a terrorist attack against the infrastructure of the U.S. economy. One analyst later suggested that the worm and the blackout may after all have been linked, not by terrorism but by the close interdependence of technologies, because

MSBlast may have masked the software failure at FirstEnergy that precipitated the cascading power failure.[1] One headline that August read: "Dueling disasters hit last week, leaving hard-core geeks and Luddites alike to ponder the true meaning of life."[2]

Worms and viruses continue to sweep across the network, and security holes in Windows, in particular, have become everyday worries, along with e-mail spam and identity theft (major breaches at ChoicePoint and LexisNexis caught the public attention in early 2005). But the convergence in 2003 of overlapping network failures pushed a button, invoked a fear that went beyond a hard-drive crash, lost e-mail, or stolen data. On TV and on the Web that week, North America's dependence on the electrical grid was vividly depicted in a pair of before and after satellite photos. From space one could see two stages: before the failure, the blazing east coast; after the failure, a major portion of the same shoreline entirely in the dark. The image said eloquently that the infrastructure of society itself could easily collapse, whether as the result of "Luddite" hacker terrorism, through political acts, or merely as an unintended consequence of society's technological dependency. Terror and dependency suddenly seemed to be twin effects of modern society's relationship to technology.

In the present age of terror, technology is both a threat and a potential target, a means of destruction as well as the "fabric" (network, web, weave) of society that is threatened with destruction. And the Luddites — who terrorized their local mill and shop owners with threatening letters and acts of sabotage — still seem to provide a way to think about this new problem. In early 2004 a reader wrote to the *New York Times Magazine* in response to a story about young hackers who create viruses and worms and post them on the Web, making the connection between fear of technological dependency and fear of Luddites who would exploit that dependency.

> In the Industrial Revolution, a few Luddites smashed a few machines. What we see now are their proliferating descendants. The Luddites were soon controlled and absorbed, for they were not so very clever or powerful. How do we deal with the "e-infectors" who are very clever indeed, very destructive and can instantly communicate all over the globe?[3]

Clearly many are anxious about the possibility that malicious hackers might act as super-Luddites, which is to say as cyber-terrorists setting out to sabotage the network as a whole. This is why an incident in December 1999, for example, in which eco-saboteurs appear to have knocked down a power-company transmission tower near Bend, Oregon, seemed so ominous at the time, coming at the auspicious and anxious end of the century. Much more frightening than an attack on a bulldozer, this was a blow against the grid itself.

A recent novel by the cyberpunk author Bruce Sterling, *The Zenith Angle*, which was marketed as a techno-thriller, focuses on this kind of millennial anxiety and its history since 9/11/01.[4] Its hero is a former dot-com millionaire who loses everything when the tech-stock bubble bursts, then suddenly finds himself working for the government as a cyber-security specialist. The complicated psychological associations in the popular imagination between the stock market crash and the plane crashes form the central theme of the book, which reads as a fantasy of purging or sublimation, and an act of ironic mourning for techno-optimism in the new era of the War on Terror.

Apart from writing fiction, Sterling sometimes gets paid to serve as a futurist or consultant, and he is interested in the general problem of "cyber-security." The novel is well informed and technologically savvy, and as a result it is sometimes a frighteningly bellicose book, with the conventional cyberpunk dystopian violence transferred into the recognizable wartime present and to otherwise normal characters. Sterling seems unsure of whether to celebrate or sound the alarm about his cyber-warrior's newfound cause of fighting al-Qaeda with high tech. One senior spy tells the hacker hero, Van Vandeveer,[5] speaking of people's cell phone calls from the downed planes in 9/11, "That is going to be the future of this story, Van. It's phones versus razors. It's our networks versus their death cult. For as long as that takes" (45). And the hero's inner monologue later romanticizes his new calling:

> Remember that hot stock that you bet on, Mr. and Mrs. America? All those nerds you trusted to bring you a New Economy? Well, they're driving massive trucks in Colorado. Lost, alone. With drunken ex-soldiers. In a War on Terror. (176)

Van comes to realize that cyber-warfare is not a hands-on fight, but comforts himself with a dismissive view of the terrorists' own technology.

> Al Qaeda were Third World fanatics on low-tech bicycles who talked only to their mullahs and their cousins. . . . They were bitter, freaked-out, culture-shocked men. (228)

All of this leads up to a James Bond-style ending involving very big technology indeed, but the enemy is not al-Qaeda; he is within the system, a greedy capitalist entrepreneur from the dot-com world who is engaged in a strangely neo-Luddite act of his own — vandalizing high-tech spy satellites. The hero uses hacker technology against him to destroy the big-money technology that is in turn being used to damage American military-industrial security technology.

The novel explains the recent apocalyptic zeitgeist as the result of the convergence of the tech bubble's bursting and the attacks of 9/11, suggesting more than once that around 2000 the bubble was simply transformed into "The Terror."

> The Internet belonged to the world of the 1990s, a Digital Revolution. The people in the 2000s were way over the Digital Revolution. They were deeply involved in the Digital Terror. The nervous system of global governance, education, science, culture, and e-commerce, it was all in a spasm. It had all broken down in a sudden terrible panic in the last mile. (241)

In the end Sterling's cyber-security cowboy gives up the war for global diplomacy and fatherhood, like George Washington retiring to Mount Vernon, and reassuringly predicts, "The Terror was merely an overexcited phase, and like the Bubble, it was going to burst of its own hype" (304).

The tech bubble and the current wave of terror are of course related. Both are ultimately causes and effects of American global dominance and third-world reactions to it. Technology is associated with both the triumph of capital in the 1990s and what some have depicted as its comeuppance in the two collapses: those of the stock market and of the World Trade Center towers. Seen more broadly, terror looks like the dark shadow of global technological supremacy. Anxiety about global conflict seems built into the grand dream of global technological progress.

The 1990s are usually characterized as a booming decade of heady technological optimism, from the birth of the Web (1993) to the tech-stock run-up until spring 2000. I discussed this optimism at the opening of Chapter 1. But it is possible to see the technology decade in another light. The 1990s opened with the Gulf War, which (as it has now become a cliché to point out) was represented on CNN in infrared and night-vision hues, remote-controlled video-game bombs falling on targeted bunkers, all against a dark backdrop of bio-terror (as actually pursued by Saddam Hussein and as threatened against U.S. troops, though not yet very vividly against America's domestic front). The other end of the technology decade offered Y2K hype (though this failed to amount to much), along with continuing threats to the Internet. Soon enough, there was September 11, 2001, the wars in Afghanistan and Iraq, more threats from biological weapons and anthrax, runs on duct tape and bottled water, and concerns about new GMO crops and that unintended consequence of advanced agricultural technology, Mad Cow disease. The decade of the technology bubble turns out to have been simultaneously the beginning of the age of terror, framed by and permeated with technological anxieties — and with neo-Luddite responses to these anxieties.

ca. 1990

In such circumstances, reading novels may seem a particularly frivolous pursuit, but cultural expressions, even relatively obscure ones, can matter in ways that are hard to trace at the level of the headlines. Cultural anxieties and conflicts may be both reflected in and provoked by such imaginative expressions, on the analogy of the famous butterfly's wing; small acts of representation can affect larger events elsewhere in the cultural climate. Even if they have no such demonstrable effects, cultural expressions provide us with an imaginative vocabulary — a way to think and talk about cultural change.

Hayduke Lives! was Edward Abbey's very late (1990) sequel to the neo-Luddite classic I discussed in the previous chapter, *The Monkey Wrench Gang*. In the second novel's pivotal scene, an Earth First! activist smashes the blade of a bulldozer with what the confused machine operator sees as "some kind of godawful battle club — a mace?"— but

which is in fact (what else?) a massive sledgehammer.[6] This neo-Luddite tableau is staged as a mock-Homeric battle ("his blade, plowing into the ground, parted itself in twain along the jagged split of fracture"). Earth First!, the radical ecology group that was in real life inspired by Abbey's earlier fiction, is the novel's collective epic hero. This 1990 scene in a sequel to the famous seventies novel has a nostalgic quaintness about it, a bit of old-school, iron-age bulldozer monkey wrenching (using an actual sledgehammer!) at the dawn of the era of activist Web sites, cell phone-controlled flash mobs, and cyber-tactics. Soon enough the bulldozer would be replaced as a symbol by the new neo-Luddite bête noir, the personal computer. Logging and antilogging activism continued during the nineties (a wave of tree-sitting protests garnered a great deal of press at mid-decade), but the symbolic focus of popular neo-Luddism shifted toward the global information network, which came to be seen as the problem (the machine), as a potential contributor to a solution (the network as organizing device), and, in some cases, as the target of the hacker's monkey wrenches (viruses, worms, and, less commonly, direct hacks).

ca. 2002

Flash forward: Just over a decade after Abbey's novel was published with its bulldozer scene, another neo-Luddite offered this instructive parable, which can be read as a kind of commentary on the commonplace iconography of the novel:

> Suppose a bulldozer belonging to a logging company has been tearing up the woods near your home and you want to stop it. It is the blade of the bulldozer that rips the earth and knocks trees over, but it would be a waste of time to take a sledgehammer to the blade. If you spent a long, hard day working on the blade with the sledge, you *might* succeed in damaging it enough so that it became useless. But, in comparison with the rest of the bulldozer, the blade is relatively inexpensive and easy to replace. The blade is only the "fist" with which the bulldozer hits the earth. To defeat the machine you must go behind the "fist" and attack the bulldozers vital parts.[7]

Rather than sledgehammer the blade, this author suggests, it's more effective to strike the "engine" of the "machine," clearly meaning the bulldozer as a metaphor for a larger "megamachine" (to use a word favored by some activists)[8] that is "the system" or global technology as a whole. Even as a symbol, the sledgehammer is no longer a resonant enough tool of resistance. This writer wants to go after the root cause, the Platonic ideal, the abstraction of modern technology.

> Technology, above all else, is responsible for the current condition of the world and will control its future development. Thus, the "bulldozer" that we have to destroy is modern technology itself. Many radicals are aware of this, and therefore realize that there [sic] task is to eliminate the entire techno-industrial system.

The article makes a startling claim, though it may not seem so startling at first: "technology itself is responsible," so we should "destroy . . . modern technology." It draws the absolutist conclusion that the "entire" technological "system" must be wiped out in order to fix what is wrong with modern society. By now you may have guessed that the neo-Luddite author of this essay is the Unabomber himself, Theodore Kaczynski. It was written in prison in Florence, Colorado, and published in the Spring 2002 issue of *Green Anarchy,* a journal edited by the Oregon-based neo-Luddite and anarchist author John Zerzan.

Zerzan visited Kaczynski when he was first arrested in 1996, and he maintained a correspondence in the years that followed his incarceration. In that same issue, the editorial collective of *Green Anarchy* declared that they "whole-heartedly support Kaczynski" as an "anarchist political prisoner," but also carefully distanced themselves from some of his political views.

> if we want to dismantle the technological megamachine that is now devouring the biosphere, then we need to understand how the megamachine came to be, what led to its creation, and how it serves the interests of civilization's rulers.

Smashing the "technological megamachine" may require forging alliances with neo-Luddites with unsavory tactics, such as the Unabomber, then serving four consecutive life sentences for setting

off sixteen mail-bombs over eighteen years, killing three and injuring another twenty-three academics, researchers, a computer salesman, a forester, and an advertising executive (whose firm had done business with oil companies). Kaczynski's campaign against technology involved crudely engineered bomb technology, devices meant to kill and maim.

Defending Ted, Invoking Ned

So Kaczynski's arrest in the spring of 1996 focused media attention on modern "neo-Luddism" in ways mainstream political or philosophical neo-Luddites understandably did not always welcome. An article in *The Economist* for April 13, 1996, which connected Kaczynski by association with the Second Luddite Congress in Ohio, Chellis Glendenning, and Kirkpatrick Sale, noted the surprising sympathy for the Unabomber among neo-Luddites, but concluded that Ted was a false, "lost leader" of the movement, "never really one of them."[9] The accompanying cartoon depicted Kaczynski addressing a chaotic convention of machine-smashers, "Technophobes of America." For the year that followed the arrest, Earth First!, for example, was repeatedly asked to deny any connection to the Unabomber. The charge arose in the first place because the media conflated this highly visible group, which continued to claim a policy of nonviolence, with more radical anarchist and eco-sabotage groups, especially the Earth Liberation Front (ELF), which, however, may have been founded in England in 1992 as an offshoot of Earth First! The latter group became well known for its strategic arson directed at housing developments and SUV dealers at around the same time the manifesto appeared.[10]

A Frequently Asked Questions (FAQ) flyer for ELF, produced in 2001 and made available for a time on the Web, makes a point of linking that group to the historical Luddites.[11] Luddite history, it complains, is woefully underrepresented in the schools.

> from 1811 to 1816, the Luddites caused extreme damage to the weaver industry in England. Angry at the threat to life and culture that the new machines of the industrialized revolution posed, the Luddites fought back using tactics very similar to those performed

> by the ELF today. . . . If an item or piece of property is threatening life for the sake of profit, shouldn't it be destroyed? (22–23)

A textbook example of neo-Luddite appropriation of Luddite history, this document explicitly defends "economic sabotage" (the ELF proudly claims to have inflicted $100 million of its own "extreme damage"[12]), assumes a specific psychological and emotional motivation for the Luddites, and assumes that they reacted against a threat to "culture" as well as their livelihoods. Reconstructed in this way, the historical Luddites are more like modern ELF members and seem to offer a precedent for a new battle in the cultural arena, symbolic direct action as a form of information or propaganda.

Although there were plenty of anecdotal reports of widespread support for "Ted" among sympathizers, if not members, of the ELF, no direct connection seems to have existed. And it was not the *Earth First! Journal* but an anarchist newsletter, *Live Wild or Die*, that reportedly published the "Eco-Fuckers Hit List" from which Kaczynski may have taken the personal or organizational names of two of his victims. John Zerzan and his radical organization(s), not the ELF, most publicly supported Ted after his imprisonment. Zerzan said in one interview, "Luddites like me hope that the new invasive heights of an ever-colonizing technology will bring folks to question its entire trajectory and logic."[13] Zerzan is something of a Romantic primitivist for whom everything after hunter-gatherer society represents a fall into the ever-increasing specialization and alienation of labor. The historical crux from his point of view was the (first) Industrial Revolution, when, he believes (echoing the theories of Michel Foucault) "the factory system was introduced in large part as a means of social control." Thus he considers the Unabomber's manifesto, which he refers to by its original title, *Industrial Society and Its Future*, to be "an extremely important text" for our time, the age of the second Industrial Revolution. The manifesto, he judges, explains "in very clear, accessible prose," the "dead-end that is industrialism."

Of the Unabomber's methods Zerzan will only say they "were the result of frustration," because Kaczynski found so little support for his vision and couldn't publish his "important text." Zerzan claims that "there was a vocal pro-Ted presence at the '98 Round River Rendezvous,

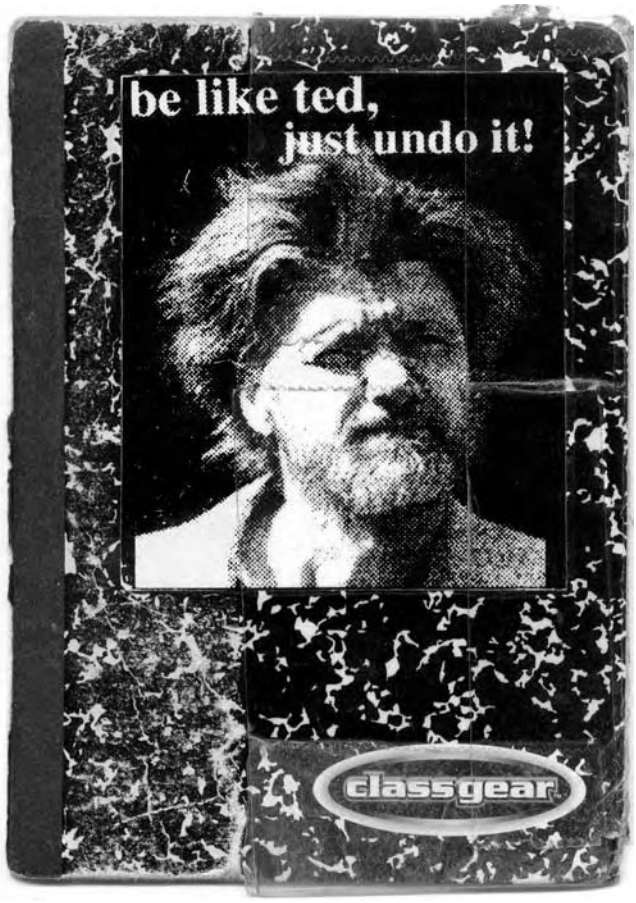

Figure 7.1 Sticker on an activist's notebook ca. 2003: "be like ted: just undo it!" It conveys both antiglobalization (a parody of the Nike ad campaigns) and neo-Luddite messages, united by the image of the Unabomber.

the annual Earth First! national gathering" (the very gatherings Abbey so colorfully narrated in *Hayduke Lives!*). I have myself heard anecdotal reports of this pro-Ted contingent among the eco-activists. As I mentioned in the Introduction, one young antiglobalization protestor I encountered used to carry a notebook with a black-and-white sticker on it depicting Kaczynski's wild-eyed bearded face just after his arrest, looking out from beneath the words: "be like ted, just undo it!" (see Figure 7.1). And when I said that I was working on a book on Luddism, another young activist told me that I should just "write to

Ted." He claimed to know several people in the green faction of the antiglobalization coalition who had done so and who had received long and helpful replies from the prisoner in Florence.

The bottom line for my anarchist interlocutor, as for Zerzan and apparently a number of other people, is that "Ted is not crazy" (in Zerzan's words) because the whole technological society is. Even Kirkpatrick Sale basically agrees with this assessment. Though he of course deplores the Unabomber's acts of violence, Sale nonetheless told the *New York Times* that Kaczynski "is a rational man and his principal beliefs are, if hardly mainstream, entirely reasonable."[14] And he repeated the sentiment in *The Nation*: "The Unabomber and I share a great many views about the pernicious effect of the Industrial Revolution, the evils of modern technologies," he said, though he added that "We disagree, to be sure, about what is to be done about all this and the means by which to achieve it." The murders, Sale attributes to "simple madness" and seems to dismiss as irrelevant to the argument about technology. The politics of the manifesto, he believes, are entirely sane and recognizably neo-Luddite.[15]

It is true that when you ask people to name a prominent neo-Luddite of the late twentieth century, many think first of Kaczynski. On the other hand, people often express surprise that Kaczynski's views, once they hear them, are so close to the mainstream. In 1999 a quiz circulated on the Internet satirically asking people to try to identify which quotations were from Kaczynski and which were from the pro-ecology liberal presidential candidate, Al Gore. It's tricky.[16] Andrew Solomon, to cite another example, the author of a book on clinical depression, mentions Kaczynski sympathetically, as someone "whose techniques of communicating his Luddite sensibilities were disastrous but whose insights into the perils of technology are sound" (Solomon then quotes from the manifesto a passage on the widespread use of Prozac).[17] This kind of strange understatement by otherwise reasonable people ("techniques of communicating?") seems a clear sign that a broader neo-Luddism runs just under the surface of popular culture. People from all walks of life have said in effect that their own distress about technology is so desperate that they — however ironically or reluctantly — find themselves driven into sympathy with the Unabomber.[18]

Remember York, the Florence Manifesto

In a speculative passage in his 1999 book, *The Age of Spiritual Machines*, Ray Kurzweil imagines that a future neo-Luddite movement will arise, directly inspired by the Unabomber. Kurzweil shares the common opinion that historical Luddism was a failed movement, but he believes that it has remained active underground and will return again to prominence in the twenty-first century.[19] In fact he predicts that neo-Luddism will likely morph from an economically based movement into a general concern with what it means to be human (182), a trajectory in keeping with what I have been suggesting is the general shift from the historical Luddites to modern neo-Luddism, from a specific labor subculture and direct-action movement to today's generalizing antitechnology philosophy.

Kurzweil includes imaginary e-mail exchanges with a correspondent from the future (2009–2099), discussing a growing neo-Luddite backlash during our new century against developments in genetics, nanotechnology, and artificial intelligence. He projects the birth of future organizations such as "Remember York" groups, named for the site of the 1813 trials of original Luddites, and the more radical "Florence Manifesto Brigade," named for Florence, Colorado, where Ted Kaczynski is imprisoned. Kurzweil imagines a manuscript by Kaczynski being smuggled out of prison to inspire the new activist underground — actually fairly close to the truth as of 1999. Indeed, Kaczynski's writings have remained controversial tokens. In the summer of 2005 an appeals court ruled that they must be sold to compensate his victims rather than donated to the radical history collection at the University of Michigan. Kurzweil's vision of the future is a straight extrapolation, what the business world (which regularly hires "futurists" like Kurzweil as consultants) calls a "scenario," a thought-experiment for dealing with risk and potential profits. Kurzweil's fiction is a kind of early warning of a coming backlash.

The catalyst for the future neo-Luddite movement, according to this scenario, will be the growing evolutionary merging of human and machine. This prospect, recall, is also what sparked Bill Joy's "Why the Future Doesn't Need Us"; Joy was reading Kurzweil's book in manuscript, then encountered the unidentified quotation from Kaczynski's

"manifesto." His own neo-Luddism was in this sense inspired by a "smuggled" Unabomber manuscript. Kurzweil foresees a split between MOSH — "mostly original substrate humans" — and those who choose to "enhance" their genetic and general biological makeup, becoming cybernetic organisms to the degree they are posthuman. Some of them even choose to upload their consciousness into computer circuits. This, Kurzweil predicts, will add a whole new fuel to the neo-Luddite fire. His imaginary correspondent from the future reports uneasiness with these radical Remember-York Luddites, their rigid antiscientific positions. The more radical Florence Manifesto Brigade, it seems, has been applying pressure. The Florence Manifesto Brigade, however, is mostly not violent, we are told, because violent sabotage would at this date in the future be futile (229).

This dialogue is dated 2029. Seventy years after, by 2099, Kurzweil imagines a further ironic twist: The Remember York groups, though they are rooted in the "old antitechnology movements," will cross over to the side of the posthuman and shift their focus to issues of individual liberty rather than economic or labor disputes. Accordingly, Kurzweil's posthuman friend from the future respects the Florence manifesto's position on humans who choose not to become cyborgs (246). This future neo-Luddism is extrapolated from the twentieth-century kind: It is intellectual, philosophical, and focused on "lifestyle" choices. It turns out, ironically, that the Remember York movement got its start as a neo-Luddite Web discussion group (311).

Kurzweil projects a split between the moderate, philosophical faction named after the original Luddites, and a more radical activist group (though still mostly nonviolent) named after Kaczynski. From Ned (Ludd) to Ted (Kaczynski), these are the poles at either end of a continuum in twenty-first century neo-Luddism. At one point in the dialogue, Kurzweil's interlocutor suggest that it's unfair, playing with loaded dice, to associate neo-Luddism with Kazynski's example, and Kurzweil in part concedes, but sees the threat of neo-Luddite violence as real (184). In the end, Kurzweil concludes that the benefits of powerful technology outweigh the risks posed by technology as well as by an antitechnology backlash. Kurzweil believes that humans can "shape" and "channel" technology, but he also believes that Kaczynski and his

published ideas represent a watershed for the future of neo-Luddism, a marker of a divide in society, and a threat to his imagined future (185–86). In this regard Kurzweil is doing what any futurist always does, looking carefully around him in the present. At the moment he wrote the book, plenty of support for Kaczynski was evident among a diverse range of neo-Luddites.

It Must Be Abstract

The Unabomber manifesto, *Industrial Society and its Future,* is symptomatic, not so much of its author's personal pathologies as of the driving assumptions behind a great deal of late twentieth-century neo-Luddism. What are these ideas about technology that Kurzweil can picture as the basis for a future movement and many neo-Luddites have claimed to admire or at least to regard as "reasonable?"

First, in what readers of this book should recognize as a familiar neo-Luddite article of belief, Kaczynski sees technology as an autonomous, abstract force, a total ubiquitous system. For him it is the motive power behind all civilization, a faceless monster enslaving humanity: "technological progress marches in only one direction; it can never be reversed" (129).[20] That "direction" is toward total dominance of humanity and the increasing reduction of individual freedom, the greatest evil imaginable from the libertarian and psychological point of view of Kaczynski (130). "There has been a consistent tendency, going back at least to the Industrial Revolution[,] for technology to strengthen the system at a high cost in individual freedom and local autonomy," he explains (111).

It Must Be Destroyed

In addition, Kaczynski sees technology as a monolithic conspiracy, "a unified system by which all parts are dependent on one another" (121). Passive citizens have been hoodwinked to the extent that they do not recognize the threat. Compromise and partial solutions — selective relinquishments — are therefore out of the question. "You can't get rid of the 'bad' parts of technology and retain only the 'good' parts," he asserts. Given this hopeless situation, facing an unstoppable monolithic machine that threatens individual freedom in seductive ways, to

destroy the evils of technology requires the destruction of the technological system as a whole. The homemade bombs that destroyed the lives or health of Kaczynski's victims seem a strangely impotent assault on such an all-encompassing system, but, then, if the enemy is everywhere at once, it hardly matters which particular exponents of the "system" one "destroys."

The extent of this totalizing vision is clear in Kaczynski's later piece, published in *Green Anarchy* and quoted above, where he advises fellow neo-Luddite anarchists to attack the system "where it hurts" (behind the blade of the bulldozer, as it were). He defines this target as the electric power grid, the communications industry, the computer industry, the biotech industry, but also, significantly, what he calls the "propaganda industry" — which includes for him the education and entertainment sectors of society. This phrase, which invokes Adorno and Horkheimer's hegemonic "culture industry," is another sign of how the Unabomber exemplifies important features of modern neo-Luddism: Despite his bombs and the very real death and destruction he caused, and despite his talk about the power grid and the computer industry, Kaczynski's campaign was fundamentally a media and communications battle in pursuit of a larger culture war. This is, of course, another way to say that it was a campaign of terror.

His battle was over what he perceived as the collective mindset of civilization and was about redressing or correcting psychological and (secondarily) sociological injuries caused by technology: alienation, unhappiness, the lack of individual fulfillment. This aspect of his manifesto has led Alston Chase to interpret Kaczynski himself as a rogue product of psychology experiments on human subjects run at Harvard during his time there, or at any rate, as a product of the larger "scientistic" culture that sanctioned those experiments.[21] In the end, this is another variant on the Frankenstein myth. Mad scientists — in this case unethical Skinnerian behaviorists — created a monster, the Unabomber himself. Society paid the price. Chase is correct, however, that Kaczynski's worldview is dominated by an extreme individualism, even a form of existentialism, which defines itself in heroic rebellion against the triumphal rationalism of the faceless abstraction named "industrial society."

Industrial Society and its Future really shows very little concern with steel mills or even semiconductor factories, with sweatshops or with workers and their rights, despite some feeble rhetorical truisms about how, for example, small business owners are forced to use the latest technology if they are to stay competitive, and therefore have "only limited autonomy" (120). Kaczynski's main concern is with the psychological distress caused by living in a technological society. This places him in the general tradition of 1960s thinkers such as Jacques Ellul, whose outraged humanism on behalf of the disenfranchised and alienated individual, and belief in the dominating autonomy of technology as a system, Kaczynski shares. Kaczynski is by inclination a philosophical idealist (rather than a materialist). His solution was *not* primarily to undermine the material infrastructure of technocracy but to wage a propaganda war against it by way of threatening letters and strategic, focused acts of terror. He is clearly obsessed with public opinion. The bombings seem to have been largely motivated by the desire for publicity — even to the extent that he may have bombed primarily to get published. Ted Kaczynski's neo-Luddism sees itself as part of a larger culture war. But then, so does most modern neo-Luddism of the more rational and peaceful variety.

Neo-Luddism and Anticapitalism

Kevin Robins and Frank Webster acknowledge the Kaczynski connection in their attempt to define a more intellectually serious neo-Luddism for the twenty-first century.[22] They wish to argue that "there is more than one way to be a Luddite" today, "quite different ways of formulating a Luddite politics" (60). Acknowledging the publicity generated by (in particular, American) neo-Luddites in the late 1990s and citing (yet again) the Second Luddite Congress and the writings and lectures of Kirkpatrick Sale, they also note, "Unfortunately, it was also easy to associate this neo-Luddism with the agenda of the then recently arrested 'Unabomber' . . . ."

Robins and Webster try to distance themselves from the "predictable" damning criticism by association, in part by arguing that the neo-Luddism of Sale and others is "deeply conservative and fundamentalist" in its politics, a "fossilized Luddism." For these neo-Luddites, they

point out, the trouble with modern society is "industrialism and the technosphere as such," or, really, "modernity itself" (61). In their view, the neo-Luddites make a fetish of family values, rural community, and hold an oversimple view of postmodern social ills (62).

Robins and Webster are quite right that a Romantic, nostalgic hatred of modernity and an idealization of the primitive cuts across Glendenning's and Sale's neo-Luddism, Zerzan's green anarchism with its affiliations with ELF and other eco-activist groups, as well as Kaczynski's brand of individualist, psychological neo-Luddism allied with terrorist tactics. Just considering his individualism, Kaczynski is not so far from the libertarianism of many technophiles of the 1990s, for example.[23]

Robins and Webster argue against this nostalgic conservative reaction and for an anticapitalism they claim is the true legacy of the historical Luddites, who were resisting the capitalist idea of "progress" rather than the "future" or change in general. Robins and Webster are absolutely correct, as I have suggested throughout this book, that one crucial difference between historical Luddism and neo-Luddism is the latter's view of "technology" as the central, abstract, and autonomous force dominating modern society. This they see in terms of the "fetishism of technology" and they attribute it not to neo-Luddism but to capitalism as a whole system: "the way in which capitalist technology assumes the form of a discrete and reified entity, with its own autonomy and momentum, entirely separate from the rest of society, and to which society must react" (52). Modern neo-Luddism simply follows the capitalist example by hypostasizing and reifying technology, turning what is the product of human labor and ingenuity into an externalized "monster" or alien being with power over humanity.

This insight, as I have argued, is indeed crucial for understanding contemporary attitudes toward technology. Many neo-Luddites do view technology as an autonomous monster. Furthermore, many of the anticapitalist, antiglobalization protestors of the 1990s identified with the very primitivist or "organic" forms of neo-Luddism that Robins and Webster wish to critique (and in whose camp Ted Kaczynski is situated). Though they attempt to align themselves more closely with the politics of historical Luddism in order to separate the wheat from

the chaff among the self-declared anticapitalists of the 1990s, to reclaim neo-Luddism for a more "cosmopolitan," post-Marxist way of "resisting the new global logic of techno-mobilisation," Robins and Webster cannot finally argue away the reifying tendencies of neo-Luddism itself, or succeed by mere assertion in claiming the relevance of historical Luddism.

> In this new context of global enclosures, it seems to us that, far from being some kind of residual historical reference point, Luddism is more relevant than ever. Whatever it may mean, "Luddism" is a concept that we simply cannot do without. (62)

"Whatever it may mean" is somewhat less than helpful, rhetorically, and what comes across here is less an argument and more an expression of the authors' *desire* to keep alive the connection to an authentic image of Luddism.

Thus Robins and Webster paradoxically appear to share some of the limitations of the nostalgic neo-Luddism they wish to critique, and which has been so popular among the anticapitalist constituency they would like to influence. What stands out in the end, given the contexts I've tried to establish in the present book, is how much Robins and Webster *share* with Sale and other Romantic neo-Luddites. They, too, are seeking "a Luddism appropriate to a phase of accumulation which had now moved beyond the factory, to capitalise all aspects of society, the environment, and life itself" (60). They also call for, in other words, a more "liquid" form of neo-Luddism, a kind of counterconspiracy that is itself inevitably more totalizing. What Robins and Webster say they want from Luddism is "a new form of direct action," but then they define that action almost entirely in symbolic terms, as a "project of self-valorization — the project to reappropriate the world of use values" in the face of global capitalism and the fetishization of "technology" (60). This sounds remarkably like a more self-aware, Marxist version of Ted Kaczynski's kind of vision — neo-Luddism as a battle between the individual versus the "system" (which Robins and Webster refer to as the "technoculture").

Ned Ludd Lives (Sort of)

One participant in the antiroad protests in London in the 1990s tellingly described the movement and its subcultural style as a way to "visualize industrial collapse."

> Perhaps this movement has sown the seeds for new forms of struggle for the twenty-first century. Perhaps the twenty-first century will see the end of industrial capitalism and the return of some sort of social and ecological balance.[24]

Perhaps, though one might suppose that actually bringing about the "end of industrial capitalism" would entail some form of action more direct, more physical than mere "visualization." The phrase conceals from itself the wished-for violence on which it is based.

Contrast this generalizing neo-Luddite manifesto — and the many more like it I have adduced throughout this book — with two letters written by Yorkshire Luddites in March 1812.[25] These examples of performative discourse — they aim to *do something* by being posted — are found copied among the papers of a Leeds woolen manufacturer from amid the most intense Luddite activities of that year. One is addressed "To all Croppers, Weavers &c & Public at Large," and makes its appeal in broadly national-political terms that are nevertheless still pointed (and even personal in their references to the Royal family):

> You are requested to come forward with Arms and help the Redressers to redress their Wrongs and shake off the hateful Yoke of a Silly Old Man, and his Son more silly and their Rogueish Ministers, all Nobles and Tyrants must be brought down. Come let us follow the Noble Example of the brave Citizens of Paris who in Sight of 30,000 Redcoats brought A Tyrant to the Ground. by so doing you will be best aiming at your own Interest. Above 40,000 heroes are ready to break out, to crush the old Government & establish a new one.
>
> Apply to General Ludd Commander
> of the Army of Redressers.

The second letter is addressed to one "Mr. Smith Shearing Frame Holder at Hill End Yorkshire." It begins with deceptive politeness.

> Sir
>
> Information has just been given in that you are a holder of those detestable Shearing Frames, and I was desired by my Men to write to you and give you fair Warning to pull them down, and for that purpose I desire you will now understand I am now writing to you. you will take Notice that if they are not taken down by the end of next Week, I will detach one of my Lieutenants with at least 300 Men to destroy them and furthermore take Notice that if you give us the Trouble of coming so far we will increase your misfortune by burning your Buildings down to Ashes and if you have the Impudence to fire upon any of my Men, they have orders to murder you, & burn all your Housing, you will have the Goodness to your Neighbors to inform them that the same fate awaits them if their Frames are not speedily taken down . . . the Grievances of such a Number of Men are not to be made sport of for by the last Returns there were 2782 Sworn heroes bound in a Bond of Necessity either to redress their Grievances or gloriously perish in the Attempt in the Army of Huddersfield alone, nearly double sworn Men in Leeds. . . .

The letter goes on to extend the threat in the context of government legislation and oppression, and is signed "by the General of the Army of Redressers Ned Ludd Clerk."

Look below the superficial resemblances and think for a moment about the distance between these frightening and direct documents — which most certainly do trade in the rhetoric of terror — and most modern neo-Luddite writings, about how far such performative letters are from the kind of general, abstract theory we find in the call to "visualize industrial collapse." And for all that they share in their murderous terror-inducing language with the Unabomber's letters to his bombing victims, it is remarkable how little space they devote to "the machinery question," much less to any conceptualization of "technology" or even the general ills of industrial society. Kaczynski's rhetoric remains very much more abstract and theoretical than these angry letters. The Luddites' enemies are clear and (so they claim) directly culpable, tied to them by the bonds of their trade. Their campaign is practical and surgically targeted. National and international politics (the second letter looks forward to a "just Republic") inform the threatened actions, but the actions are not to be made merely as

symbols of national or international political goals. These documents represent a labor subculture and movement at least tenuously related by intervening history and myth to modern neo-Luddism, but in the end, very distantly related — and in ways that must be clearly understood and delimited if we are to understand their true legacy. Their threat of an extremely focused collective violence is a far cry from Ted's forestalled academic career, wilderness shack, lonely pipe bombs, and rambling, abstract manifesto, not to mention the public responses of his various sympathizers.

Clearly, most neo-Luddites have no sympathy with terror, even the threat implied in violence against property that might spill over into violence against persons, like what we see in the Luddite letters I've just quoted. They are not for the most part as radical as deep-ecology ideologues or anarchist activists. They would never condone sabotage of machinery — power supplies, the computer network, or parking lots full of SUVs — and most are certainly not seeking to bring about anything so radical as total "industrial collapse." Many people who identify with the term "Luddite" just want to reduce or control the technology that is all around us and to question its utility — to force us not to take technology for the water in which we swim. Some of these more liberal or moderate neo-Luddites, however, have also had their moments of sympathy for the Unabomber and, in a widely shared kind of confusion, have expressed this sympathy by Romanticizing the nighttime raids of General Ned Ludd. The letters quoted above, and I hope this book as whole, might at least give them pause, and might productively trouble their assumptions.

We live in an age of terror and we are all on edge. Symbolic sabotage, acts of "culture-jamming" or being a terrorist "in theory," along with writing threatening documents in imitation of nineteenth-century movements, appear as somewhat trivial or desperate gestures at a moment when suicide bombs are going off every week, sometimes every day, around the world.[26] More violence against the infrastructure of industrial capitalism seems simultaneously less scary and less viable, less meaningful as a political tactic than it did a decade ago. At least at this moment, smashing any machinery, like hammering on a bulldozer, probably seems quaintly beside the point even to many neo-Luddites.

With a very strange war on, high-tech terrorism *and* high-tech warfare happening for real and being depicted on the Internet and on TV dramas and in video games, Kurzweil's science-fiction prospect of a neo-Luddite "Florence Brigade" inspired by the Unabomber somehow doesn't seem as likely or as exciting a scenario as it once might have seemed.

On the other hand, for many people, technology itself is more than ever associated with terrorism: cell phones and satellite dishes, videotaped executions and communiqués, Web sites with secret messages encoded in the pixels of an online image, bio-weapons, airplanes, and suicide car bombs — even the bombers seem in the news coverage to have become machinelike, cyborgs made of flesh and plastic explosives. Never mind that most of this is anything but cutting-edge technology (box cutters, shoe bombs, VCR tapes). There seems to be a general sense that terror and technology are inherently related, both out of control and relatively impersonal forces threatening existence.

This feeling may be partly explained by the fact that for decades now, technology has been associated with a quieter and slower-acting form of terror, a deep-seated fear that humans have relinquished control over existence, ceding it to a force grown bigger and more autonomous than mere tools. Gradually, between 1811 and the present, technology has ceased to seem like something we constructed and has started to seem like something that was constructing us. Neo-Luddism has been one response, and it has taken on the outline and urgency of a matching force, a counterconspiracy of sublime proportions and sublime vagueness. This process reached a kind of critical mass (at least as far as the media were concerned) in the heady days of the late tech bubble during the 1990s. Twenty-first-century neo-Luddism is in part the product of the bust that followed the bubble, but it is also the product (as well as the potential vehicle) of the new climate of terror. It took its current form in response to anxiously perceived and long-anticipated threats, some of which have turned out to be very real.

One response has been to invoke somewhat automatically the potent myth and historical legacy of the Luddites. Drawing upon the mythic dimensions of General Ludd, the romance overtones of the associated Robin Hood legend and the siege of Rawfolds Mill, filtered through nineteenth-century poetry and novels as well as twentieth-century

cultural representations, neo-Luddism has been constructed as if it had descended directly from the Luddites. Improbably, the symbolic figurehead of the modern antitechnology philosophy known as neo-Luddism is the resurrected outlaw, General Ned Ludd. The claim for unmediated continuity, for direct inheritance, that is implied in that symbolism is worth questioning, both for the limited ways it makes sense — the shared anticapital radicalism, the effectiveness of the method of symbolic naming and mythmaking — and for the ways it does not make sense — the vastly different social and economic circumstances, gaps in social class (manual laborers versus knowledge workers), materialist practice versus idealist personal philosophy, concrete machinery versus abstract technology.

In the end, Luddism's legacy — a legacy which from now on inevitably includes neo-Luddism — is yet another thing humans have made, beginning with the collective self-fashioning of the original Luddites and continuing to neo-Luddism today. The purpose of this book has been to shed some light on that act of making, and on the needs, anxieties, and desires that lie behind it. Apparently, the desire for the symbolic heroism of Ned Ludd persists. In this age of terror, the name Luddite has continued to serve as a kind of talisman, a way to ward off one curse of modern life — the frightening complexities of technology and our own implications in its global consequences. But, of course, no one can really ward it off. We are all cursed with the complexities of what we have made, are all responsible for technology, as the original followers of Ned Ludd well knew.

Notes

Chapter 1

1. Edward Tenner notes this popular identification of the Internet with technology as a whole in *Our Own Devices: The Past and Future of Body Technology* (New York: Alfred A. Knopf, 2003), ix.
2. Kirkpatrick Sale, *Rebels Against the Future: The Luddites and Their War on the Industrial Revolution: Lessons for the Computer Age* (Reading, MA: Addison-Wesley, 1995).
3. Besides Sale's *Rebels Against the Future*, other neo-Luddite books published at around the same time include Sven Birkerts, *The Gutenberg Elegies* (Boston and London: Faber and Faber, 1994), a treatment of hypertext versus literature (but compare the surprising recent essay by Birkerts announcing his new editorship of the online review for the literary magazine *AGNI*: http://www.bu.edu/agni/essays-reviews/online/2003/birkerts-stage2.html); David Noble's political argument, *Progress Without People: In Defense of Luddism* (1993; Between the Lines, 1995), one of the few neo-Luddite treatments of post-industrial labor; Clifford Stoll's *Silicon Snake Oil: Second Thoughts*

on the Information Highway (New York: Doubleday, 1995); Theodore Roszak's *The Cult of Information: A Neo-Luddite Treatise on High-Tech, Artificial Intelligence, and the True Art of Thinking* (Berkeley: University of California Press, 1986; second edition 1994), by a former analyst of the 1960s counterculture; Neil Postman's *Building a Bridge to the 18th Century: How the Past Can Improve Our Future* (New York: Random House, 1999), as well as his earlier *Technopoly: The Surrender of Culture to Technology* (New York: Knopf, 1992; Vintage ed., 1993). Much of 1990s neo-Luddism coalesced around an essay by the psychologist Chellis Glendenning, "Towards a Neo-Luddite Manifesto," *Utne Reader* 38 (March–April 1990): 50–53. Among radicals, perhaps the most pervasive influence has been the anarchist John Zerzan, though in his collection, *Questioning Technology: A Critical Anthology* (London: Freedom Press, 1988), but even more in his 'zine-style pamphlets and various online publications. All of these sources ultimately owe a debt to the treatment of the Luddites in the influential social history by E. P. Thompson, *The Making of the English Working Class* (New York: Random House, 1963; Vintage ed., 1966) — and so do I. On the Web, see the portal on "Luddism and the Neo-Luddite Reaction," created and maintained by Martin Ryder of the University of Colorado at Denver: http://carbon.cudenver.edu/~mryder/itc_data/luddite.html.

4. Edward Tenner, *Why Things Bite Back: Technology and the Revenge of Unintended Consequences* (New York: Vintage 1997), 6.
5. Robert Newman, *The Fountain at the Center of the World* (Brooklyn, NY: Soft Skull Press, 2004).
6. Quoted by Sale 1997, online at http://mondediplo.com/1997/02/20luddites. He deliberately connects three events: the International Centre for Technology Assessment and its setting up the Jacques Ellul Society, the Learning Alliance's meeting in "voluntary simplicity," and the then-planned IFG teach-in on globalization (a precursor to the February 2001 meeting I cite in this chapter, its third annual meeting).
7. In addition, neo-Luddites tend to be middle-class "knowledge workers" who are fighting a culture war, not fighting for their economic livelihood, a point made early on by columnist Jon Katz in "Return of the Luddites," *Wired* 3.06 (June 1995): 162–210; and repeated by *Wired* Editor Kevin Kelly in an interview with Kirkpatrick Sale in the same issue, "Interview with the Luddite," *Wired* 3.06 (June 1995): 166–211 http://www.wired.com/wired/archive/3.06/saleskelly.html. Many of the important features of neo-Luddism (as opposed to original, historical Luddism of 1811 to 1816) follow from this larger socioeconomic fact, the far-reaching

differences between industrial workers in the nineteenth century and knowledge workers today.

8. Kirkpatrick Sale's address to Second Luddite Congress, Center for Plain Living, Barnseville, OH, April 13–15, 1996, as reprinted ("slightly edited") in the *Aisling Magazine* online: http://www.aislingmagazine.com/aislingmagazine/articles/TAM24/TheLuddites.html.
9. Kevin Binfield, ed., *Writings of the Luddites* (Baltimore: Johns Hopkins University Press, 2004), 32, 46–47. This important anthology contains careful transcripts of Luddite primary documents, which I cite in Chapter 2, but it is also extremely valuable for its historical notes and contextual introductions.
10. Lionel Basney, "Questioning 'Progress': The Resurrection of Ned Ludd," *Books and Culture: A Christian Review* (September–October, 1998), accessed at the Christianity Today Web site: http://www.christianitytoday.com/bc/8b5/.
11. Quotations from the IFG conference talks are from my own transcriptions of audio recordings (cassette) made February 2001 at Hunter College (Panels #1A and #1B, "Overviews: Technology and Globalization") and distributed by TUC Radio. Two summaries of this conference and its relation to neo-Luddism and antiglobalization protests can be found in Joshua Glen, in *Utne Reader* 76 (July–August 1996): 80; and Ronald Bailey, "Rage Against the Machines: Witnessing the Birth of the neo-Luddite Movement," *Reason* 33.3. (July 2001): 27–35.
12. *Earth First! Journal* 21.6 (2000): http://www.earthfirstjournal.org/efj/feature.cfm?ID=91&issue=v21n6.
13. The California Croppers' own press release was reprinted many times on the Internet 1998–99. One investment service Web site picked it up: http://www.ethicalinvesting.com/monsanto/news/10024.htm.
14. Facsimile image reproduced in Eric Hobsbawm and George Rudé, *Captain Swing: A Social History of the Great English Agricultural Uprising of 1830* (New York and London: W. W. Norton & Co., 1975), 208.
15. Letter to the Editor from "Captain Swing," *The Daily Californian*, August 17, 1999.
16. The Minnesota Bolt Weevils, who sabotaged rural power-line towers in the 1990s and changed public opinion and state law as a result, are mentioned by Noel Perrin in a book review of Sale's *Rebels Against the Future* in the *Los Angeles Times*, June 18, 1995: 4.
17. As reported in GE-GMO news online, September 23, 1999: http://www.gene.ch/info4action/1999/Sep/msg00078.html.

18. Robert Shapiro, "The Welcome Tension of Technology: The Need for Dialogue about Agricultural Biotechnology," Center for the Study of American Business, Washington University, St. Louis, *CEO Series*, no. 37, February 2000.
19. "Anti-globalization protestors are modern-day Luddites — ICC President" (January 26, 2001), reported on the International Chamber of Commerce Web site: http://www.iccwbo.org/home/news_archives/2001/bbc.asp.
20. Henrique Cardoso, writing in a local newspaper in Brazil, as reported by BBC News Online, January 27, 2001: http://news.bbc.co.uk/2/low/americas/1139291.stm.
21. Quoted in Laurent Belsie, "Looking For Substance Behind the Protest," *Christian Science Monitor*, September 28, 2000: 13.
22. Posted online at Gilder's Web site: http://www.Gilder.com, and printed in *The American Spectator*, as "Luddites Over Broadway," September 2001. In this article Gilder refers in a general way to "the Luddite Left," into which he groups both Al Gore and Ted Kaczynski, the Unabomber.
23. Lancashire Luddism in particular took place in a preexisting context of radical politics, and also "revealed . . . the greatest spontaneity and confusion," as pointed out by E. P. Thompson (*The Making of the English Working Class*, 553), and discussed by Kevin Binfield (*Writings*, 32–47).
24. E. P. Thompson, *The Making of the English Working Class*, 549.
25. Microsoft attorney John Warden's opening statement was widely reported, but the full transcript is available at this Harvard Web site: http://cyber.law.harvard.edu/msdoj/transcript/102098am.html.
26. Bill Gates, *The Road Ahead* (New York: Viking, 1995), 11.
27. Bill Gates interview in the German *Focus Magazine* 43 (October 23, 1995): 206–12.
28. Bill Joy, "Why The Future Doesn't Need Us, *Wired* 8.04 (April 2000): 238–62.
29. Slightly later in the essay, Joy cites the work of Amory and Hunter Lovins, the ecology activists and consultants, on the dangers of genetic engineering. Reacting defensively to a *New York Times* op-ed headline, "Food for the Future: Someday, rice will have built-in vitamin A. Unless the Luddites Win," Joy retorts, "Are Amory and Hunter Lovins Luddites? Certainly not" (244).
30. In a 2003 interview (*Wired News* 11.12 [December 2003]), "Hope Is a Lousy Defense": http://www.wired.com/wired/archive/11.12/billjoy.html, Joy explained his motivation for publishing "Why the Future Doesn't Need Us":

> My biggest worry then was that people weren't paying attention. . . . These technologies won't stop themselves, so we need to do whatever we can to give the good guys a head start."

31. Bill Joy interview, "Hope Is a Lousy Defense," *Wired News* 11.12 (December 2003): http://www.wired.com/wired/archive/11.12/billjoy.html.
32. Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin, 1999), 85.
33. Jaron Lanier, "One Half of a Manifesto," *The Edge* 74 (2000): http://www.edge.org/3rd_culture/lanier/lanier_index.html.
34. Winn Schwartau, *Cybershock: Surviving Hackers, Phreakers, Identity Thieves, Internet Terrorists, and Weapons of Mass Disruption* (New York: Thunder's Mouth Press, 2000).
35. Paulina Borsook, *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High Tech* (Public Affairs [Perseus], 2000), 47.
36. David Foster Wallace, *Infinite Jest* (Boston: Little, Brown, and Co., 1996), 150–51.
37. Tom Standage, *The Victorian Internet* (New York: Walker & Co., 1998). On the telegraph and changing culture, see also Jay Clayton's stimulating *Charles Dickens in Cyberspace: The Afterlife of the Nineteenth-Century in Postmodern Culture* (Oxford: Oxford University Press, 2003), 50–80. Clayton's Chapters 4 and 5 are particularly relevant to my approach in this book, tracing what he calls the "concealed circuits" between Charles Babbage's early computers, Mary Shelley's *Frankenstein*, and recent representations of cyberculture. I am however interested in examining the constructed sense of "concealed circuits" between Luddites and neo-Luddism, even in the face of obvious discontinuities or gaps.
38. Angela Bull, *The Machine Breakers: The Story of the Luddites* (London: William Collins, 1980), 124.

Chapter 2

1. "General Ludd's Triumph," in Kevin Binfield, ed., *The Writings of the Luddites* (Baltimore and London: Johns Hopkins University Press, 2004), 98–100. Though I have consulted original documents in the archives, especially the Home Office papers at the Public Record Office and the materials at the University of Nottingham, this and all other original historical Luddite documents are cited (by page number) in Binfield's reliable and usefully organized collection.

2. E. P. Thompson, *The Making of the English Working Class*; Malcolm Thomis, *The Luddites: Machine-breaking in Regency England* (1970; reprint. Hampshire, U.K.: Gregg Revivals, 1993); Adrian Randall, *Before the Luddites: Custom, Community and Machinery in the English Woollen Industry, 1776–1809* (Cambridge: Cambridge University Press, 1991); Kevin Binfield, ed., *Writings of the Luddites* (Baltimore and London: Johns Hopkins University Press, 2004), which includes a preface by Randall, is a valuable source of historical information as well as a useful anthology of primary Luddite documents. In addition, my general descriptions of Luddite history have benefited from the harder to find but valuable monograph, *Death or Liberty; Radicals, Republicans, & Luddites, 1793–1823*, by Alan Brooke and Lesley Kipling (Huddersfield: Garian Press, 1993).
3. A. J. Pollard, *Imagining Robin Hood: The Late-Medieval Stories in Historical Context* (London and New York: Routledge, 2004), 4, argues that Robin Hood does not take from the rich to give to the poor (preferring instead to say that he "robs from the undeserving and helps the deserving"), but he is talking about the very early Robin of the middle ages. By the nineteenth century the more class-oriented modern versions of the myth were emerging.
4. As E. J. Hobsbawm pointed out in *Labouring Men: Studies in the History of Labour* (New York: Basic Books, 1964), 7. But, as Adrian Randall has established, there was a long tradition of machine breaking by British labor, even before the Luddites proper emerged in 1811.
5. Kevin Binfield argrees that "Ludd is an eponym for a subculture, a selective trade culture, that grew out of a larger culture" (*Writings*, 32).
6. Ken Gelder poses the question of method this way: "how does a modern researcher produce activated subjects out of discursive formations (legal, journalistic, moral, literary, 'sociological,' and so on) to which subcultures have already been subjected?" *The Subcultures Reader*, ed. Ken Gelder and Sarah Thornton (New York: Routledge, 1997), 267.
7. For a useful survey of subculture studies, see Ken Gelder and Sarah Thornton, eds., *The Subcultures Reader* (New York: Routledge, 1997), which places in context the various schools of cultural studies. Part Five, on historical subcultures, raises questions of obvious relevance to the concerns of the present study. Several recent film documentaries take up the ethnographic study of recent youth subcultures. See for example, Doug Pray's *Scratch*, on "turntablist" DJs (2002); and Stacy Peralta's *Dogtown and Z Boys* (2001) and (based on Peralta's script) Catherine

Hardwicke's *Lords of Dogtown* (2005), on California skateboarders in the 1970s.

8. Dick Hebdige, *Subcultures: the Meaning of Style* (1979; London and New York: Routledge, 1988).
9. Kirkpatrick Sale referred to neo-Luddism in 1997 as a "movement": "time will tell whether the technological juggernaut will consign the movement to the same ignominious fate as the original Luddites": http://mondediplo.com/1997/02/20luddites.
10. George Beaumont [anon.], *The Beggar's Complaint, against rack-rent landlords, corn factors, great farmers, monopolizers, paper money makers, and war, and many other oppressors and oppressions. Also, some observations on then conduct of the Luddites in reference to the destruction of machinery . . . by one who pities the oppressed* . . . , 2nd edition (J. Crome, 1812 [1813]), 98–99.
11. Kirkpatrick Sale admits that today's neo-Luddites are united by a "philosophical kind of Luddism" (*Rebels Against the Future*, 255).
12. See Robert C. Elliott, *The Power of Satire: Magic, Ritual, Art* (Princeton; Princeton University Press, 1960).
13. Thomas Pynchon, "Is It OK to Be a Luddite?," *New York Times Book Review* (October 28, 1984): 1, 40–41.
14. On the (tenuous and speculative) links between Ned Ludd and King Lud or Lud Gate, see Brian Bailey, *The Luddite Rebellion* (New York; NYU Press, 1998), x–xi.
15. E. P. Thompson, *Customs in Common: Studies in Traditional Popular Culture* (New York: The New Press, 1991), 478. For another view of carnival and cultural subversion, see Peter Stallybrass and Allon White, *The Politics and Poetics of Transgression* (Ithaca, NY: Cornell University Press, 1986). It should be noted that this kind of customary trade culture is regional, less in evidence for instance in the Northwest (see Binfield, *Writings*, 32–47).
16. Kevin Binfield, "Industrial Gender: Manly Men and Cross-Dressers in the Luddite Movement," in *Mapping Male Sexuality in Nineteenth-Century England*, ed. William Brewer, Elizabeth Dell, and Jay Losey (Madison, NJ: Fairleigh Dickinson University Press, 2000), 29–48.
17. Robert Darnton, *The Great Cat Massacre and Other Episodes in French Cultural History* (New York: Vintage, 1985), 75–104.
18. Though there are bound to be great national differences in these kinds of European cultural practices, there seems to be some general continuity in this case. See, for example, the strange hilarity mixed with violence

on the part of the crowd in John Clare's poem "The Badger," about the folk of rural England.

19. On the history of the Robin Hood myth, see Stephen Knight, *Robin Hood: A Mythic Biography* (Ithaca, NY: Cornell University Press, 2003); and A. J. Pollard, *Imagining Robin Hood: The Late-Medieval Stories in Historical Context* (London and New York; Routledge, 2004).
20. See A. J. Pollard, 4.
21. Sir Walter Scott, *The Abbot*, vols. 19–20 of *The Works of Sir Walter Scott*, 50 vols. (Boston and New York: Houghton Mifflin, 1913), n.10 to vol. I (in vol. 19), 317–18.
22. James Chandler makes the connection between Scott's own novels and his 1824 "Essay on Romance" in England in 1819; *The Politics of Literary Culture and the Case of Romantic Historicism* (Chicago and London: University of Chicago Press, 1998), 170–71; 339.
23. Sir Walter Scott, "Essay on Romance," in *The Prose Works of Walter Scott* (Edinburgh: Robert Cadell; London: Whitaker and Co., 1834), VI, 129–216 (170).
24. Leigh Hunt, "How Robin and his Outlaws Lived in the Woods" (1855; 1860), in *The Poetical Works of Leigh Hunt*, ed. H. S. Milford (Oxford: Oxford University Press, 1923), 108–109.
25. On the sometimes overlapping audiences and purposes for various kinds of Luddite writings, see Binfield, *Writings*: "Some are celebratory or self-congratulatory. Others are inspirational, the literary equivalents of a fortifying pint of ale before a raid or a meeting in the forest or on the moor, as we know from Frank Peel's historical accounts. Still others lament hardship. Often, the functions are combined . . . " (95).
26. On Luddite appeals to "constitutional" authority for their rights to regulate their trade, see Binfield, *Writings*, 21–23.
27. On the use of legalistic rhetoric, see Binfield, *Writings*, 28.
28. "Cropper's Song," in Binfield, *Writings*, 202–03.
29. According to John R. Rumsby, Museums Collector, Tolson Memorial Museum, the hammer came to the musem from the Taylor family in the 1920s, so it is not likely that it was actually used by the Luddites in 1811; it is however of the same type and manufactured by the same workshop. Noble's plan to take an Enoch hammer on tour is reported in an online biography for a conference at which he was a speaker: http://smccd.net/accounts/onlineed/bios.htm.
30. Cited in Brooke and Kipling, *Death or Liberty*, 99–100.
31. The connection is made in Brian Bailey, *The Luddite Rebellion*, 60–61.

32. Bernard Barton, "Death of Robin Hood," in *A New Year's Eve and Other Poems* (1828), quoted in Stephen Knight, *Robin Hood: A Complete Study of the English Outlaw* (Oxford: Blackwell, 1994), 166–67.

Chapter 3

1. Kirkpatrick Sale, *Rebels Against the Future*, 17; William Safire, "Return of the Luddites," *New York Times Magazine* (December 6, 1998); Paulina Borsook, *Cyberselfish; A Critical Romp Through the Terribly Libertarian Culture of High Tech* (New York: Public Affairs, 2000), 48.
2. One way to get a sense of the field of literary Romanticism is to browse the "Romantics" section of Alan Liu's online database, The Voice of the Shuttle: http://vos.ucsb.edu/browse.asp?id=2750, and the Romantic Circles Web site: http://www.rc.umd.edu. On the changes in the last two decades in the idea of "Romanticism" as a field of study see Jerome McGann, "Rethinking Romanticism," ELH 59 (1992): 735–54.
3. Jerome McGann, *The Romantic Ideology: A Critical Investigation* (Chicago and London: University of Chicago Press, 1983).
4. The verses later known as "Jerusalem" come at the end of Blake's prose preface to *Milton* (copies A and B). I quote them from David V. Erdman, ed., with commentary by Harold Bloom, *The Complete Poetry and Prose of William Blake* (1965; rev. ed. Berkeley: University of California Press, 1988), 95–96. All quotations from Blake in this chapter as from this edition.
5. James McKusick, *Green Writing: Romanticism and Ecology* (New York: Palgrave Macmillan, 2000), 95–96.
6. Peter Ackroyd, *Blake: A Biography* (New York: Ballantine Books, 1995), 130.
7. David V. Erdman, *Blake: Prophet Against Empire*, 3rd ed. (Princeton, NJ: Princeton University Press, 1957), xiii.
8. This is decidedly *not* to say, as Nicols Fox comes pretty close to saying in the following convoluted passage, that there is any evidence at all that Blake was involved in Luddite actions: "To imagine this genius of delicate sensibility on Luddite forays seems a reckless flight of fancy. But it is tempting — and not as big a stretch as it might seem at first" (*Against the Machine: The Hidden Luddite Tradition in Literature, Art, and Individual Lives* [Washington, Covelo, London: Island Press, 2002], 42). This slippery claim (wrong on Blake's "sensibility," as well — "delicate?") comes on the heels of several sentences in the subjunctive mood ("To suppose") in

which Fox imagines this very thing, leaving an impression contrary to fact that Blake was indeed essentially a Luddite (41).

9. William Wordsworth, "The World Is Too Much With Us" in *The Poetical Works of William Wordsworth*, ed. Ernest de Selincourt and Helen Darbishire, 5 vols. (Oxford: Clarendon Press, 1940–49), III, 18–19; all citations of Wordsworth's poetry are from this edition.
10. For examples of "Green Romanticism," see Jonathan Bate, *Romantic Ecology: Wordsworth and the Environmental Tradition* (London and New York: Routledge, 1991); Karl Kroeber, *Ecological Literary Criticism: Romantic Imagining and the Biology of Mind* (New York: Columbia University Press, 1994); and the essays in James McKusick, ed., *Romanticism and Ecology*, Romantic Circles Praxis series: http://www.rc.umd.edu/praxis/ecology/.
11. "To one who has been long in city pent," in *The Poems of John Keats*, ed. Jack Stillinger (London: Heinemann, 1978); all citations of Keats's poetry are from this edition.
12. Friedrich Schiller, *On the Naive and Sentimental in Literature (Über naive und sentimentalische Dichtung)*, trans. Helen Watanabe-O'Kelly (Manchester, U.K.: Cacanet New Press, 1981).
13. Byron's letter to Holland, in *Byron's Letters and Journals*, ed. Leslie Marchand, 13 vols. (London: John Murray, 1973–1994), II, 166; other Byron letters are cited in this edition as BLJ.
14. Byron's Frame Work Bill speech, in *Lord Byron: The Complete Miscellaneous Prose*, ed., Andrew Nicholson (Oxford: Clarendon Press, 1991), 22–27.
15. Byron, "An Ode to the Framers of the Frame Bill," *Morning Chronicle*, March 2, 1812. The bill was introduced in the Commons by Richard Ryder, Home Secretary. Eldon was Lord Chancellor.
16. Tom Mole, "Byron's 'Ode to the Framers of the Frame Bill': The Embarrassment of Industrial Culture," *Keats-Shelley Journal* 52 (2003): 111–29 (120).
17. As Tom Mole suggests, 124–25.
18. "Cropper's Song," in Kevin Binfield, *Writings*, 201.

Chapter 4

1. Frederick L. Jones, ed., *Letters of Percy Bysshe Shelley*, 2 vols. (Oxford: Clarendon Press, 1964), I, 210–14 (213). Hereafter cited in the text.

2. Percy Bysshe Shelley, *The Mask of Anarchy, in Shelley's Poetry and Prose*, ed. Neil Fraistat and Donald H. Reiman, Norton Critical Edition (New York: W. W. Norton, 2002).
3. *The Clairmont Correspondence: Letters of Claire Clairmont, Charles Clairmont, and Fanny Imlay Godwin, 1808–1879*, ed. Marion Kingston Stocking, 2 vols. (Baltimore and London: Johns Hopkins University Press, 1995), I, 89–95 (October 27–November 19, 1816).
4. Critics who wish to read *Frankenstein* as a Luddite novel often have to resort to qualifications like those of Paul O'Flinn, "Production and Reproduction: The Case of *Frankenstein*," in *New Casebooks: Frankenstein*, ed. Fred Botting (New York: St. Martin's, 1995), 21–47, who argues that the novel is "in an oblique way" about industrialism, or "in oblique terms" addresses "the impact of technological development on people's lives and the possibility of working-class revolution" (22, 24).
5. Betty T. Bennett, *Mary Wollstonecraft Shelley: An Introduction* (Baltimore and London: Johns Hopkins University Press, 1998), 38.
6. Interestingly, "Frankenfood" and "dot-commer" entered the *American Heritage Dictionary* in the same week at the end of June 2003.
7. Greenpeace's visual satire, FrankenTony, whose campaign started in 2000, is found at: http://archive.greenpeace.org/geneng/highlights/food/00_03_23.htm; Frederic Golden, "Who's Afraid of Frankenfood?" *Time Magazine* 154.22 (November 29, 1999).
8. Kirkpatrick Sale, *Rebels Against the Future*, 16–17.
9. William Safire, "Return of the Luddites," *New York Times Magazine*, December 6, 1998.
10. Hugh Gusterson, "Short Circuit: Watching Television with a Nuclear-Weapons Scientist," in Chris Hables Gray, ed., *The Cyborg Handbook* (London: Routledge, 1995), 107–18 (109).
11. Steven Best and Douglas Kellner, *The Postmodern Adventure: Science, Technology, and Cultural Studies at the Third Millennium* (New York: The Guilford Press, 2001), 158–64.
12. As Chris Baldick points out, *In Frankenstein's Shadow: Myth, Monstrosity and Nineteenth-century Writing* (Oxford: Clarendon Press, 1987), 86.
13. Anne K. Mellor reprints one such cartoon in her *Mary Shelley: Her Life, her Fictions, her Monsters* (New York: Methuen, 1988), 141: "Le Peuple Mangeur du Rois," from *Revolutions de Paris* (1793), Musée Carnavalet (as photographed by Lynn Hunt). In it a gigantic monster in revolutionary dress representing "the people" wields a club with one

hand and holds the king by the throat with another, ready to drop him into the fire.

14. Chris Baldick, *In Frankenstein's Shadow*, points out that by an 1838 burlesque of *Frankenstein*, "The New Frankenstein," we already see evidence of the "cliché of the mad scientist . . . taking shape" (142).
15. Steven Earl Forry, *Hideous Progenies: Dramatizations of Frankenstein from Mary Shelley to the Present* (Philadelphia: University of Pennsylvania Press, 1990), 16–17.
16. Edward Tenner, *Why Things Bite Back: Technology and the Revenge of Unintended Consequences* (New York: Vintage, 1997). Tenner's first chapter is titled "Ever Since Frankenstein."
17. See Denise Gigante, "The Monster in the Rainbow: Keats and the Science of Life," *PMLA* 11.3 (May 2002): 433–48.
18. Paul di Filippo, *Ribofunk* (New York: Four Walls Eight Windows, 1996); Rudy Rucker, *Software* (1982) and *Wetware* (1988), collected in one volume as *Live Robots* (New York: Avon Books, 1994).
19. *A Dialogue for the Year 2130 Extracted from the Album of a Modern Sibyl*, by the Author of Granby [T.H. Lister], digital edition: http://www.rc.umd.edu/editions/mws/lastman/2130.htm, collected in the Romantic Circles edition of Mary Shelley's *The Last Man*, ed. Steven E. Jones: http://www.rc.umd.edu/editions/mws/lastman/index.html.
20. Forry, *Hideous Progenies*; and O'Flinn, 22.
21. Ernst Toller, *The Machine-Wreckers: A Drama of the English Luddites in a Prologue and Five Acts* (1923), trans. Ashley Dukes, in *Seven Plays* (London: John Lane and the Bodley Head, 1935), 1–54.
22. See Donna J. Haraway, *Modest_Witness@Second_Millennium. FemaleMan©_Meets_OncoMouse™: Feminism and Technoscience* (New York, London: Routledge, 1997). In the well-known early essay "A Cyborg Manifesto," Haraway differentiates her ironic feminist cyborg from its apparent ancestor, Mary Shelley's monster: "Unlike the hopes of Frankenstein's monster, the cyborg does not expect its father to save it through a restoration of the garden; that is, through the fabrication of a heterosexual mate, through its completion in a finished whole, a city and a cosmos," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149–81 (150). As she remarks in *Modest_Witness*, "Shelley's fiction participates in the dramas of Enlightenment humanism" (285n28).
23. Langdon Winner, *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought* (Cambridge, MA, and London: MIT Press, 1977).

24. Ray Kurzweil noted on his Web site: http://KurzweilAI.net, May 18, 2003, that *The Matrix* has a "strong Luddite posture."
25. Jean Baudrillard, *Simulacra and Simulation*, trans. Sheila Faria Glaser (Ann Arbor: University of Michigan Press, 1994).
26. Jean Baudrillard, *Simulations* (1983), excerpted in *Storming the Reality Studio*, ed. Larry McCaffrey (Durham, N.C., and London; Duke University Press, 1991), 178–81.
27. Leo Marx, "The Idea of 'Technology' and Postmodern Pessimism," in *Technology, Pessimism, and Postmodernism*, ed. Yaron Ezrahi, Everett Mendelsohn, and Howard P. Segal (Amherst: University of Massachusetts Press, 1994), 11–28.
28. Tom Standage, *The Turk: The Life and Times of the Famous Eighteenth-Century Chess-Playing Machine* (New York: Walker & Co., 2002).
29. Standage, *The Turk*, 68–70; for Vaucanson and Shelley, see his article, "Monster in a Box," *Wired News*, 10.03, March 2002: http://www.wired.com/wired/archive/10.03/turk.html. On the nineteenth-century fascination with automata, and particularly the examples of Charles Babbage and Charles Dickens, see Jay Clayton, Charles Dickens in Cyberspace: The Afterlife of the Nineteenth Century in Postmodern Culture (Oxford: Oxford University Press, 2003), 106–08.
30. *R.U.R.*, in *Toward the Radical Center: A Karel Capek Reader*, ed. Peter Kussi (New Haven, CT: Catbird Press, 1990).
31. Theodore Rozsak, *The Memoirs of Elizabeth Frankenstein* (New York: Random House, 1995). Rozsak also produced as early as 1975 a stage version of some of this material, *The Crime of Dr. Frankenstein, a Pop Myth and Monster Show*, which he billed as "a multimedia rhapsody on Frankensteinian themes," according to Timothy Morton, ed., *A Routledge Literary Sourcebook on Mary Shelley's Frankenstein* (New York and London: Routledge, 2002), 63.

Chapter 5

1. Sir Walter Scott, "Essay on Romance," in *The Prose Works of Sir Walter Scott* (Edinburgh; Robert Cadell; London: Whitaker and Co., 1834), VI, 139, 153–54.
2. *The Factory Lad: A Domestic Drama in Two Acts*, by John Walker, 1832; reprint, *English Plays of the Nineteenth Century*, ed. Michael R. Booth, 5 vols. (Oxford: Clarendon Press, 1969–76), Vol. I, *Dramas: 1800–1850*.

3. As reported on a local heritage education Web site, "Luddites in the Spen Valley": http://www.kirklees-ednet.org.uk/nonpassword/learnonline/resources/luddsites/luddites2/luddites/rawfolds.htm.
4. Charlotte Brontë, *Shirley* (1849; Harmondsworth, U.K.: Penguin, 1974).
5. According to Brian Bailey, *The Luddite Rebellion* (New York: N.Y.U. Press, 1998), 61.
6. This argument is made by Terry Eagleton, *Myths of Power: A Marxist Study of the Brontës* (New York and London: Palgrave Macmillan, 1988), 45–60 (46–47). "Shirley chooses to ignore contemporary conditions, imaginatively translating them to an earlier phase of the Yorkshire class-struggle . . ." (45).
7. E. P. Thompson, *The Making of the English Working Class*, 561.
8. John Plotz, *The Crowd: British Literature and Public Politics* (Berkeley: University of California Press, 2000), 168. Plotz stresses the "passivity" and "emotional involvement" of the women and, intriguingly, the sense in which the novel argues that working class unrest necessitates "middle-class female domestication" (156).
9. Frank Peel, *The Risings of the Luddites, Chartists and Plug-Drawers* (1880; third edition 1895, reprint, with introduction by E. P. Thompson, London: Frank Cass and Co., 1968).
10. E. P. Thompson, introduction to Peel, *The Risings*, xii–xiv (xiv).
11. For example, Malcolm I. Thomis, *The Luddites*, 36–38. Thomis says (speaking of Peel), "the hypothesis of the imaginative historian must fall some way short of the fiction of the novel-writer if it is to be a useful working basis for future research" (38).
12. Anthropologist Clifford Geertz, in "Thick Description: Toward an Interpretive Theory of Culture," in *The Interpretation of Cultures* (New York: Harper Basic Books, 1973), 15–16, compares an ethnography of Berber tribesmen to Flaubert's *Madame Bovary*: both he says are "fictions, in the sense that they are 'something made.'" As he clearly states, this is not a judgment of truth or falsehood but a reminder of the constructed nature of all accounts — in whatever genre — of culture.
13. Malcom I. Thomis, *The Luddites*, 37–38.
14. This is well understood by every author of a historical novel, as pointed out, for example, by Michael Upchurch in a review of Katherine Govier in the *New York Times Book Review*, 13 July 2003: 11: "Any gap in the historical record is an invitation, an opportunity for speculation."
15. In his key chapter on Luddism (14), E. P. Thompson makes use of the *Leeds Mercury* for events of 1812, then, remarking on the distribution of

Luddite "commands" in different villages and towns in the West Riding, cites Peel, saying cautiously only that, according to him, a meeting is "supposed" to have taken place. The footnote defends Peel's fictionalized history as a source, since, "wherever Peel's account can be checked it is generally accurate, even in detail" (557n2). Elsewhere Thompson uses one of Peel's other local history articles (not *The Rising of the Luddites*) as a source for a text of a Luddite ballad (559).

16. On the idea of "fiction" as "forming, shaping, molding" and the practice of historiography, see "The Historian and Literary Uses," by Natalie Zemon Davis, in *Profession 2003* (New York: MLA, 2003), 21–27.
17. Hayden White, *The Content of the Form: Narrative Discourse and Historical Representation* (Baltimore and London: Johns Hopkins University Press, 1987), 44.
18. Alfred Colbeck, *Scarlea Grange or, a Luddite's Daughter* (Oxford: The Religious Tract Society, 1893).
19. G. A. Henty, *Through The Fray: A Tale of the Luddite Riots* (London: Blackie; New York: C. Scribner's Sons, 189[1]).
20. D. F. E. Sykes and G. H. Walker, *Ben O'Bill's: The Luddite* (Huddersfield, U.K.: The Advertiser Press, 1895; London: Simpkin, Marshall, Hamilton, Kent, 1898; reprint, Huddersfield: Lambsbreath Publications, 1988). I cite the 1988 reprint edition.
21. Lesley Kipling, introduction to 1988 edition of *Ben O' Bill's*, iii. Elsewhere, Kipling and Brooke suggest that Sykes's main source may have been John Cowgill's 1862 *Historical Account of the Luddites*, a reprint of the report of the York Special Commission on the trials of 1812: Alan Brooke and Lesley Kipling, *Death or Liberty; Radicals, Republicans, & Luddites*, 1793–1823 (Huddersfield: Garian Press, 1993), 98. These authors also mention three novelizations of the Luddites that, for reasons of overlap and practicality I do not discuss in this chapter, Arthur Lodge's *Sad Times* (1866), Mrs. Linnaeus Banks's *The Bond Slaves* (1893), and the anonymous *Daisy Baines the Luddites' Daughter*, which was serialized in the Huddersfield Weekly News in 1880.
22. Glyn Hughes, *The Rape of the Rose* (New York; Simon & Schuster, 1987).
23. Phyllis Bentley, *Inheritance* (New York: Macmillan, 1932).
24. Phyllis Bentley, *A Man of His Time* (New York: Macmillan, 1966).
25. William Gibson and Bruce Sterling, *The Difference Engine* (New York, Bantam Books, 1992).
26. Jay Clayton, *Charles Dickens in Cyberspace*, 113.
27. For example, Jay Clayton, 111–12.

28. Stephen Greenblatt, *Shakespearean Negotiations: The Circulation of Social Energy in Renaissance England* (Berkeley and L.A.: The University of California Press, 1988), 1. Greenblatt returned to the theme in an MLA Presidential Address, using a parable from Kafka, "'Stay Illusion' — On Receiving Messages from the Dead," *PMLA* 118.3 (May 2003): 417–26. And this kind of historical self-consciousness shaped his recent biographical study of Shakespeare, *Will in the World: How Shakespeare Became Shakespeare* (New York and London: W. W. Norton, 2004), which is focused on "the imaginative life" of legends surrounding Shakespeare as much as on documented biographical facts.
29. Hayden White, *The Content of the Form*, 44–45.

Chapter 6

1. William Godwin, *Enquiry Concerning Political Justice*, 3rd ed., ed. Isaac Kramnick (1798; Harmondsworth, U.K.: Penguin, 1985), VIII.8, 759.
2. Thomas Carlyle, *Signs of the Times* (1829), in *The Collected Works of Thomas Carlyle*, 16 vols. (London: Chapman and Hall, 1858), vol. 3; also accessible at The Victorian Web: http://www.victorianweb.org/authors/carlyle/signs1.html.
3. Donna J. Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149–81 (153).
4. N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), xi. Hayles sees the disembodiment of information, the idea of the cyborg, and the notion of a posthuman identity as three interrelated "stories" (or we might call them myths) that characterize our cultural moment (1–2).
5. Sven Birkerts, "Stage 2," introduction to his online editorship of the literary magazine, AGNI, May 2004: http://www.bu.edu/agni/essays-reviews/online/2003/birkerts-stage2.html.
6. Peter Knight, in *Conspiracy Culture: from Kennedy to 'The X-Files'* (New York: Routledge, 2000), offers a survey of this attitude, including the widespread fears of "alien" technology (sometimes literally imagined as coming from outer space) threatening to invade one's body (171–73).
7. The argument that the counterculture was essentially a rejection of and resistance to "technocratic" society was popularized by Theodore Roszak

in *The Making of the Counter Culture* (New York: Doubleday, 1969) and is by now widely taken for granted.

8. Mario Savio's speech is briefly excerpted in the anthology by Richard Rhodes, *Visions of Technology: A Century of Vital Debate About Machines, Systems and the Human World* (New York: Simon and Schuster, 1999), 240.
9. This motto is coupled with Savio's speech in Richard Rhodes's anthology, *Visions of Technology*, 240, where both appear, tellingly, under the editorial title, "King Lud."
10. See Zygmund Baumann, *Liquid Modernity* (Cambridge, U.K.: Polity Press, 2000) on the shift from industrial era "solid" modernity to digital era "liquid" modernity — and the resulting changes in the circulation of global capital and its relation to labor. Compare the more freewheeling book by George Piccard, *Liquid Conspiracy* (Kempton, IL: Adventures Unlimited Press, 1999), which links the Usual Suspects: "JFK, LSD, the CIA, Area 51, and UFOs."
11. Eisenhower's farewell speech, from Public Papers of the Presidents, is available in full on the Web at the Eisenhower Memorial Library Web site: http://www.eisenhower.utexas.edu/farewell.htm.
12. Paul Goodman, *Growing Up Absurd* (New York: Vintage, 1960); Jacques Ellul, *The Technological Society* (1950; New York: Knopf, 1964); Charles Reich, *The Greening of America* (New York: Random House, 1970), E. F. Schumacher, *Small Is Beautiful: Economics as if People Mattered* (New York: Harper & Row, 1973).
13. William Gibson's novel *Pattern Recognition* (New York: Putnam, 2003), is an extended fictional exploration of apophenia at the historical moment just after the 9/11 attacks on the World Trade Center. The word was coined by the neuropsychologist Klaus Conrad in 1958.
14. Andrew Kirk, "'Machines of Loving Grace': Alternative Technology, Environment, and the Counterculture," in *Imagine Nation: The American Counterculture of the 1960s and '70s*, ed. Peter Braunstein and William Michael Doyle (New York and London: Routledge, 2002), 353–78. Kirk is among those who recognize Richard Brautigan's poem — which I discuss below — as one sign of an interest in technology within the counterculture. This interest is also noted by Charles Perry, *The Haight-Ashbury: A History* (New York: Rolling Stone Press/ Random House, 1984), 261–63, and of course by some of the principle participants, notably Stewart Brand.

15. "Be-In Digital," SUCK, January 28, 1997: http://www.suck.com/daily/1997/01/28/. This popular satirical Web column was produced on the side by moonlighting employees of *Wired* magazine.
16. As editor of *Wired*, Kevin Kelly later had the opportunity to confront Kirkpatrick Sale directly on the topic of Luddism in a 1995 "Interview with the Luddite," *Wired* 3.06 (June 1995): http://www.wired.com/wired/archive/3.06/saleskelly.html.
17. Plunkett's designs allude to the psychedelic collage style of the 1960s and '70s in the context of new technology images for *Wired*, according to Gary Wolf, *Wired: A Romance* (New York: Random House, 2003), 50–51.
18. On the history of *Mondo 2000* and the cyber-underground scene that grew up around its editors, R. U. Sirius (Ken Goffman) and St. Jude (Jude Milhon), see Jack Boulware, "Mondo 1995," *SF Weekly* 14.35 (October 11, 1995).
19. See Douglas Rushkoff, *Cyberia: Life in the Trenches of Hyperspace*, (Clinamen Press, 1994). Chapter 18 is available online at: http://www.rushkoff.com/cyberia/.
20. C. P. Snow, *The Two Cultures: and A Second Look* (1959; Cambridge: Cambridge University Press, 1979), 22.
21. See Perry, 145–47; and see the Diggers Archives Web site, including an excerpt on that site from Peter Coyote's *Free-Fall Chronicles*: http://www.diggers.org/freefall/freefram.html; on Brautigan, see also Keith Abbott, *Downstream from Trout Fishing in America: A Memoir of Richard Brautigan* (Santa Barbara: Capro Press, 1989).
22. For an account of the Communications Company (com/co), and a facsimile of their first announcements, see the Diggers Archive Web site: http://www.diggers.org/com_co.htm; and Perry, 128–29.
23. Richard Brautigan, "All Watched Over by Machines of Loving Grace," *The Pill Versus the Springhill Mine Disaster* (New York: Dell Publishing, 1968). The poem is quoted here with the permission of Sarah Lazin Books. After its first appearance in the com/co broadsides, it was printed by com/co in book form before appearing in *The Pill Versus the Springhill Mine Disaster*, where the verbal text is exactly the same as in the broadside. For the physical details of the first com/co broadside version, produced in two issues, see the bibliographic record at the Diggers Archive Web site: http://www.diggers.org/asp/bibcit_fulltext.asp?BIBLIO+ID=27, and the complete record of the second-issue version at the useful Brautigan Bibliography online, ed. John F. Barber: http://www.brautigan.net/brautigan/

machines.html. I'm grateful to Barber for e-mails sharing his detailed information on this broadside and on the history of com/co.

24. Perry, 261. Kirk also places the "appropriate technology" movement in the context of the idea of a "post-scarcity economy" (e.g., 354, 168).
25. R. Buckminster Fuller, *Operating Manual for Spaceship Earth* (Carbondale and Edwardsville: Southern Illinois University Press; London and Amsterdam: Feffer & Simons, 1969), 44.
26. Gary Snyder, "Four Changes," IV (1969), rept. in *Turtle Island* (New York: New Directions, 1974), 91–102.
27. Edward Tenner, *Why Things Bite Back*, xi.
28. Perry, 128–29.
29. Facsimile, Diggers Archive Web site: http://www.diggers.org/com_co.htm.
30. Steve Clay and Rodney Phillips, ed., *A Secret Location on the Lower East Side* (New York: Granary Books, 1998).
31. Perry, 145.
32. The best account of this group is found in Stephen Levy's *Hackers: Heroes of the Computer Revolution* (Harmondsworth, U.K.: Prenguin, 1994), 155–80. Though documenter of the counterculture Theodore Rozsak, in his later neo-Luddite work, *The Cult of Information* (1986), also cites this organization as an example, it would seem his account is derived at least in part from Levy and contains some distortions straight out of the paranoid sixties, such as blaming the chemical "technology" of LSD for opening the door to later mindless technophilia among counterculturalists ("Domes, Data, and Dope," 150–53).
33. Brautigan himself seems to have regarded the poem as important; a copy was reportedly found with his suicide note in 1984, according to a memoir by Greg Keeler: http://www.troutball.com/Brautigan/19_Goodbye_Bolinas.htm: "Richard once told me that he never finished high school, but [Thomas] McGuane told me that before he shot himself, he propped up his high school diploma, his reading glasses and a copy of All Watched Over by Machines of Loving Grace next to him."
34. Theodore Nelson, *Computer Lib/Dream Machines* (1974).
35. Bruce Sterling, *Tomorrow Now: Envisioning the Next Fifty Years* (New York: Random House, 2002), 226.
36. (As was later reported by Brand himself.) The essay first appeared in *Rolling Stone* but was republished, along with an essay on Gregory Bateson, in book form, *II Cybernetic Frontiers* (New York: Random House, 1974).
37. Stewart Brand, *The Media Lab: Inventing the Future at M.I.T.* (Harmondsworth, U.K.: Penguin, 1987), 202: "Information Wants To

Be Free. Information also wants to be expensive. Information wants to be free because it has become so cheap to distribute, copy, and recombine — too cheap to meter. It wants to be expensive because it can be immeasurably valuable to the recipient. That tension will not go away."

38. Stewart Brand, *II Cybernetic Frontiers*, 49.
39. Edward Abbey, *The Monkey Wrench Gang* (1975; New York: HarperCollins Perennial Classics, 2000).
40. The 1985 cover by R. Crumb can be seen at: http://www.abbeyweb.net/books/ea/monkey_wrench.html.
41. "New Mix for New Mex," *New York Times*, Arts Notes column, March 26, 1967.
42. George McKay, ed., *DiY Culture: Party & Protest in Nineties Britain* (London and New York: Verso, 1998), 2.
43. Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (1964; Oxford: Oxford University Press, 2000); David Nye, *American Technological Sublime* (Cambridge, MA: M.I.T. Press, 1996). Marx has in recent essays argued that the nineteenth century saw a shift in perceptions of technology: from being a means to the end of progress and an improved standard of living, technology began to seem an end unto itself.
44. Vincent Mosco, *The Digital Sublime: Myth, Power, and Cyberspace* (Cambridge, MA, and London: MIT Press, 2004), looks at the myths embodied and driven by digital networks and "cyberspace," including the idea that digital technology would allow us to transcend time, space, and power (2–3). This idea of transcendence through technology is clearly related to Katherine Hayles's modern myth of the disembodiment of information (see note 4 above). Both views of technology can be seen as preconditions for the kind of paranoid neo-Luddite sublimity I am discussing here.
45. Bruce Sterling, *Tomorrow Now: Envisioning the Next Fifty Years* (New York: Random House, 2002), 243.
46. Chester Anderson, *The Butterfly Kid* (New York: Pyramid, 1967).
47. Thomas Pynchon, *The Crying of Lot 49* (1966; New York: Harper & Row, 1990).

Chapter 7

1. Bruce Schneier, "Did MSBlast Worm Cause August 14 Blackout?," *C/NET* (December 9, 2003): http://www.schneier.com/essay-069.html.

2. Suneel Ratan, "It's a Flawed World After All," *Wired News* (August 16, 2003): http://www.wired.com/news/infostructure/0,1377,60063,00.html.
3. *The New York Times Magazine* (February 22, 2004): 6.
4. Bruce Sterling, *The Zenith Angle* (New York: Ballantine Books, 2004).
5. The name Vandeveer may be a nod by Sterling to a previous cyber-warrior, Vannevar Bush, who is widely credited with conceiving of a prototype of later hypertext Web browsers (his "memex"), as well as helping to establish early government agencies for channeling scientific research in support of allied efforts in World Wars I and II.
6. Edward Abbey, *Hayduke Lives!* (New York: Little, Brown, and Co., 1990), 90–97.
7. Theodore Kaczynski, "Hit Them Where it Hurts," in *Green Anarchy*, 8 (Spring 2002): http://greenanarchy.org/zine/GA08/, where the article is followed by the address for writing to Kaczynski in prison.
8. The term descends from Lewis Mumford, *The Myth of the Machine: The Pentagon of Power* (New York: Harcourt Brace Jovanovich, 1970), Chapter 13.
9. "The Luddites' Lost Leader," *The Economist* 338 (April 13, 1996): 28.
10. A story making the connection aired April 5, 1996, on ABC News. On April 7, Earth First! sent an open letter refuting the alleged connection to Kaczynski. It was immediately published and widely distributed on the Internet, for example at: http://www.things.org/~jym/ef/letter-to-abc-news.html.
11. ELF Frequently Asked Questions (FAQ) document, accessed early 2005 at: http://earthliberationfront.com, but no longer available as this book goes to press.
12. According to Brendan I. Koerner, "What does the ELF Want from Us?," *Slate* (October 31, 2003): http://slate.msn.com/id/2090581. In December 2005 and January 2006, a number of people were indicted on charges related to arson attacks going back to the nineties, a move authorities said was aimed at the ELF and the ALF (Animal Liberation Front).
13. John Zerzan interview at the Primitivism Web site: http://www.primitivism.com/zerzan.htm.
14. Kirkpatrick Sale interview, *The New York Times*, quoted in Alston Chase, *Harvard and the Unabomber: The Education of an American Terrorist* (New York: W.W. Norton, 2003), 22.
15. Kirkpatrick Sale, "Unabomber's Secret Treatise: Is There a Method in His Madness?," *The Nation* (September 25, 1995); excerpt online at: http://www.eff.org//Censorship/Terrorism_militias/sale_unabomber.analysis.

16. At the time of writing the 1999 quiz is still available at Ken Crossman's Web site: http://ourworld.compuserve.com/homepages/ken_crossman/Gore.htm.
17. Andrew Solomon, *The Noonday Demon: An Atlas of Depression* (New York: Scribner, 2003), 125.
18. See Daniel J. Kevles, "E Pluribus Unabomber," *The New Yorker* (August 14, 1995): 2–4, who points to the "gauzy romanticism" (4) of Kaczynski's nostalgia and notes how widespread is this underground sympathy for it.
19. Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin, 1999), 85.
20. Theodore Kaczynski, *Industrial Society and its Future*, accessed online at: http://hotwired.wired.com/special/unabom/list.html and cited by section number.
21. Alston Chase, *Harvard and the Unabomber: The Education of an American Terrorist* (New York: W. W. Norton, 2003).
22. Kevin Robins and Frank Webster, *Times of the Technoculture* (New York: Routledge, 1999).
23. This argument is made by Mark Dery, "'Wild Nature' (the Unabomber Meets the Digerati)," in *Mimesis: The Future of Evolution/Ars Electronica Festival '96* (New York: Springer Wien New York, 1996). Reprinted online at the author's Web site: http://www.levity.com/markdery/ESCAPE/VELOCITY/author/wildnature.html.
24. John Jordan, "The Art of Necessity: The Subversive Imagination of Anti-Road Protest and Reclaim the Streets," in George McKay, ed., *DiY Culture: Party and Protest in Nineties Britain* (London and New York: Verso, 1998), 129–51 (151).
25. In Binfield, *Writings of the Luddites*, 207–11.
26. I allude here to Jean Baudrillard's cannily self-deconstructive claim to being a "terrorist and nihilist in theory" (*Simulacra and Simulation*, trans. Sheila Faria Glaser [Ann Arbor: University of Michigan Press, 1994], 163), which once may have sounded like a significant rhetorical gesture but nowadays sounds more like "terrorism in the head," a form of the frustrated Romantic idealism that I think lies behind a great deal of modern (and postmodern) neo-Luddism as well.

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"Jones's command of two centuries' worth of material from various nations is impressive—all the more so due to his great care not to conflate actual Luddism with neo-Luddism. *Against Technology* is, I believe, the best of the recent works on a Luddite tradition and a model of how scholarship treating the movement of a myth into popular culture ought to be done."

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STEVEN E. JONES is Professor of English at Loyola University in Chicago. He is the author of *Satire and Romanticism* and the editor of *The Satiric Eye: Forms of Satire in the Romantic Period.*

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