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## **The Past and the Internet**

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In the course of human (and nonhuman) history, it is rare enough for a significant new regime of recording the past to develop. There have been two in the past millennium before the present change: the development of the practices of written record keeping (Clanchy, 1993, p. 3) and the invention of the printing press (Eisenstein, 1979).

What we know about the past—and who has access to such knowledge—has changed dramatically with each such change. The changes run far deeper than the mere proliferation of data points. As written records of large estates held in monasteries in France achieved legal and social dominance, the role of women as the tellers of the past fell into decline (Geary, 1994): The technological and the social were deeply intertwined. The outcome was that different kinds of records were kept. With the invention of the printing press, the progenitor of modern computing Charles Babbage (1837) proclaimed that, until the invention of printing, “the mass of mankind were in many respects almost the creatures of instinct” (p. 59). Now, the great were encouraged to write, knowing that “they may accelerate the approaching dawn of that day which shall pour a flood of light over the darkened intellects of their thankless countrymen,” seeking “that higher homage, alike independent of space and time, which their memory shall for ever receive from the good and the gifted of all countries and all ages” (p. 54). Since printing, the rate of progress of humanity has “vastly accelerated”; over the past three or four centuries “man, considered as a species, has commenced the development of his intellectual faculties” (ibid.). The language is overblown, but the possibility of conversations across the ages (Landor, 1882) through access to table talk in salons as well as philosophical tracts has indeed changed our relationship with the past.

We are perhaps not quite at the point of witnessing the inaugural act for the archive of computer-mediated communication, but its prophets are many. One relatively sober form comes from Avi Silberschatz, Michael Stonebraker, and Jeff Ullman (1994):

**There is now effectively one worldwide telephone system and one worldwide computer network. Visionaries in the field of computer networks speak of a single worldwide file system. Likewise, we should now begin to contemplate the existence of a single, worldwide database system from which users can obtain information on any topic covered by data made available by purveyors, and on which business can be transacted in a uniform way. (p. 929)**

Computer scientists have frequently announced the dawning of a new age. Thus, Pierre Auger (1960) declaimed, “Now, after the age of materials and stuff, after the age of energy, we have begun to live the age of form” (p. ii). The old age, he argued, was one of diachrony and materialism: It gave us the historicist visions of Darwin and Marx. This age, he argued, is that of synchrony and form. When such an epistemic break is operated, the knowledge of the previous age becomes irrelevant; when the break is constituted by the move from diachrony to synchrony, the past is doubly deleted. Ravi Sundaram (Chapter 4, this volume) cites Debord’s tying this move to synchrony with the dominance of the commodity form; indeed, the commodity as “form” (a class of grain with no past traded on the futures market, say) rather than content (a particular sack of potatoes that holds its history all the way to distant markets) is, in Cronon’s (1991) analysis, key to the transformation of mid-19th-century America. There are many analogous inaugural acts for perfect memory systems woven into the fabric of our history.

As social scientists engaged with the new technology of the Internet, we are faced with myriad claims about how the present is different and how the future will be reconfigured. However, we rarely think about how our relationship with the past changes with such new technology. In this opening chapter, I propose that a new regime of technologies for holding and shaping past experience has been developed through a process I call *databasing the world*<sup>1</sup>—and I explore some implications of this new regime for how people understand their lives and their collective histories—how, in other words, they negotiate this profoundly altered structure of participation and representation of their worlds. In particular, I argue that only through understanding our ways of configuring the past with new technologies can we develop new models of participation in the construction of knowledge and power. This challenge is fundamental, and will be explored throughout this volume.

### **what traces do we leave? (in which it is argued that we leave a lot of traces)**

So where are we today? I rarely think about the traces that I leave in the world as an ecology. I tend to think of them (when at all) quite concretely. First, there is my library. It operates as a form of external memory for me (on the rare occasions when I use it) and as a commemoration of things I have read. Its probable fate after my death is its dispersal into a hundred homes. Marginal notes that I have written will lower the selling price rather

than attract attention. Second, there is the Internet. It is interesting to track dead people online. My friends and acquaintances who died before Mosaic (1992), the first browser, are sparsely represented, and when they are it is generally in a classical, canonical academic style (e.g., footnote references, bibliographies), or in a Mormon database. Those who died more recently carry on a rich afterlife. They often still receive email messages; links to their websites rot very slowly; their informal thoughts are often captured on Listserv archives, on comments they have left on a website (signing the visitors' books). Some people even have "eternal flame" websites,<sup>2</sup> where the problem of maintenance is as live as it is for the Olympic torch. Each of these modes of memory was in place before Mosaic, but it is now possible to articulate them in ways that were previously unworkable. It would take a researcher a lifetime to track down my written traces: where I have signed guest books in weird museums and twee hostels, people with whom I have carried on informal correspondence. Those of us enjoying and being irritated by post-Mosaic syndrome (PMS), leave legible traces across a wide range of our activities in electronic form. Everyone their own Boswell (compare the observation by Greg Crane [Chapter 3, this volume], that the stories of the names on the Vietnam memorial could only be followed by a single person in 200 years—a Funesian futility).

When I think, rarely, about the articulation of the set of traces that I am leaving, I have the immediate apprehension that it is not the real me that's out there on the Web. I know the times when I have censored myself (oh problematic concept!) and when I have performed actions to complement—and frequently to confound—a trace. Thus I might write a positive review of a friend's book and then offer close colleagues a different reading.

Taken globally, the set of traces that we leave in the world does without doubt add up to something. It is through operations on sets of traces that I understand an event that I take part in. Tolstoy wrote about the foot soldier in the Napoleonic wars. The soldier he describes cannot have the experience of the war he is waging nor the battle he is fighting because the only "global" traces of the war are inscriptions—notably, maps and statistics. There is no scalable observation that moves from "I was in a copse hiding behind a tree and was terribly confused" to "I took part in Napoleon's bold attack on Uvarov's flank." In this case, where is the "experience" of the war? When we experience a war, we rely on the aggregations of other experience to ground and shape our experience. In general, we use scientific representational forms

to fashion our experience—notably, over the past 150 years, statistical analysis has acted as a proxy for collective memory.

With digital archiving in all its forms, however, a new regime of technologies for holding past experience has emerged. Our past has always been malleable, but now it is malleable with a new viscosity. Whereas in the past our experiences were frequently (literally!) pigeonholed into rigid classification systems, leading to a relative paucity of tales we could tell of our past, today the traces have multiplied and the rigid classifications are withering. (Who now does a “tree” search using Yahoo categories in preference to the random access mode of Google?) New forms of governmentality, based on holding knowledge about the past, are emerging in which the map and the statistic become the prime instruments for governing the territory. It is not that we have the ability to aggregate brute numbers—that has been available since the early 19th century at least in a number of domains (notably the insurance industry; Yates, 1993). Rather, it is that we can aggregate that data along multiple different dimensions, and perform complex operations over that set of dimensions. It is the pleats and the folds of our data rather than their number that constitute their texture. There is a new, rich interiority accompanying the faster global exchange of information and people. I have access to my fleeting thoughts of previous years in my Eudora outboxes, all carefully kept since memory is so cheap today (contrast with the scrapbooks of previous generations). My subconscious and unconscious vie in what could be called my “paraconscious” —the massive sets of traces of my past that I have randomly accessible to me (cf. Derrida, 1995).

A central aporia<sup>3</sup> is constituted by the very general condition that what we leave traces of is not the way we were, but rather a tacit negotiation between ourselves and our imagined auditors (whether in the sense of listeners, readers, or moral or economic watchdogs); and yet we also need at some level an understanding of what actually happened in order to forge our futures. The aporia takes many forms. The recent Microsoft trial is a good example. Microsoft was hurt during the deliberations by the seizing of internal email correspondence that had been pretty explicit about their brutal business practices for assuring CEO Bill Gates his power base. After a series of similar actions, companies started springing up offering products to completely clean disks of all traces of correspondence. Merely erasing the messages is not enough (they might still be there as information blocks that a hacker could access) and shredding hard disks is expensive and a little silly; go to Secure

Delete, “the digital document shredder” ([http://www.aladdinsys.com/mac/secure\\_delete/](http://www.aladdinsys.com/mac/secure_delete/)). Companies are now generally aware of the need to destroy and massage their email, much as they have destroyed and massaged paper records over the centuries. A similar move was made in the 1930s by the Schlumberger company, when they realized that their internal records could be scrutinized by a court. They shifted very quickly from writing detailed accounts of their practices in French to writing highly sanitized versions in English (Bowker, 1994). Similarly, Ed Hutchins (1995) observes that records kept of navigation on Navy ships are written with an eye to a future legal enquiry should there be an accident (p. 20). Scientific texts are written not to record what actually happened in the laboratory, but to tell the story of an ideal past in which all the protocols were duly followed. The past that is presented should be impregnable, thus avoiding perpetual worrying over whether Pasteur misrepresented his findings or Mendel messed with his peas.

It takes a great deal of hard work to erect a past beyond suspicion. When I tell my life story to a boss or a coworker, there are many things I do not mention, discontinuities I skate over (Linde, 1993). It is very rare to commit a story to paper with a view to telling it, in Ranke’s phrase, “wie es eigentlich gewesen ist” (As it actually happened). Stories are told in a context, under a description (Hacking, 1995). The aporia to which we shall return is that despite this central fact about record keeping, there is still a need to keep good records. The Microsoft Corporation needs to retain and propagate a memory of how to be a predator; Schlumberger wants to know how to work around regulations; scientists want to be able to show their students how an experiment really works. This brings us to the central question of memory practices. Acts of committing to the record (such as writing a scientific paper) do not occur in isolation—rather, they are embedded within a range of practices (technical, formal, social) that I define collectively as *memory practices*. Taken as a loosely articulated whole, these practices allow (to some extent) useful and/or interesting descriptions of the past to be carried forward into the future.

### **the promise of the searchable database**

In Eugène Sue’s *Le Juif Errant* (Sue & Gavarni, 1845) two memory regimes are pitted against each other: the Wandering Jew, who tracks his family and its fortune by remaining incessantly awake; and the Jesuit, who tracks the

same family and fortune across the centuries through extremely efficient record-keeping practices. The problem with personal memory and records is that there must be an act of recording: Either Ahasuerus must have a memory trace in his brain or the Jesuit needs to write his secret reports and file them efficiently. One read on the current set of memory practices is that we are moving culturally from the era of recorded memory to one of potential memory. There are so many and multiply determined traces out there on the Internet, and they are so easily searchable, that I (this is the comedy of the commons) do not have to worry so much about collecting my own books and films, annotating them, jotting down obscure facts and quotes on index cards, memorizing genealogies. It's all out there, should I need it at any time—and it's truly random access. For example, if I am caught on a recondite reference in the *New York Times* Sunday crossword I certainly do not need to rack my brains as I might once have done, or search sequentially through several dictionaries and encyclopedias. I simply can type in two or three keywords and someone somewhere will have written about whatever it is and put it on the Web. If I want to remember (as I have) the name of a childhood friend, I don't need to call up my ever-unreliable brother—I can find it on the Web.

Recall the optimism of Aldous Huxley (1963) that, with due attention to spirituality and drug ingestion, one could recover all those lost traces and enjoy the total memory that our brains record. In a sense I now have this available to me because a lot of other people are endlessly writing, recording, putting online. A few points about this activity though: First, my potential memory is so great partly because I am white, bourgeois, male, academic, and American—my set of traces is much more likely to have been covered by these effectively random acts of recording than those of a Cameroonian avocado farmer. In the welter of data, it is often hard to remember how culturally and politically weighted the Internet is. Second, this random-access potential memory is culturally central. Ants seem collectively to be intelligent because they individually leave countless chemical traces in their environment: The environment itself is altered such that a stupid ant can still find food. Similarly, as Halbwachs (1968) argued, we configure our physical environment to act as a constant aide-mémoire, from the Stations of the Cross in a church to the architecture of our offices. Now we have a past which is much more, and multiply, present in our lives, and this changes who we are, what we think, and what we can say. Third is that we can only talk about an “immanent technological space,” to borrow Sundaram's (Chapter 4, this volume)

felicitous phrase, for the technologically competent—our environment now is intelligent for those with the technological hardware and competence to listen to it closely.

### **so what difference does it make? (in which it is argued “a lot”)**

Historians refer to the period 1920–1980 as the lost years. During those years, a lot of schmoozing, conferring, and deal-cutting was done over the phone, with no trace being left for the sorry chronicler, who was forced into semi-otic analysis of recondite documents to guess real motivations for a given action. In the 19th century this was not the case—there was so much use of letters, and postal delivery was so much more regular. Thus if I want to know about Charles Babbage’s real reasons for writing his awful Ninth Bridgewater Treatise (a paean to the emerging computer as a metaphor for God’s action on earth), I can go to his correspondence with John Herschell and Charles Lyell—frequently several letters a day. In the lost years, the restrained astronomer and geologist would have called Babbage on the phone and pummeled him orally rather than have written.

It is so easy to leave and to assemble traces that we are developing a kind of universal prosthetic memory. That memory creates profound differences in our consciousness and in our work practices. All that had been fleeting or consigned to a folder itself consigned to dust is now, should we wish, active and present in our lives. The past, L. P. Hartley wrote, is a strange land—they do things differently there. What we are witnessing is not a cultural shift from no memory (the lost years) to good memory (after the Internet), but from memory practices marked by written and oral communication to memory practices marked by electronic and oral communication. The distinction is important. When network technologies came on the scene, the ecology of storytelling and record keeping changed fundamentally. M. T. Clanchy (1993) remarks that in Europe it took about 200 years for people to trust written documents over witnesses with memories. There were just too many ways to forge documents in the old days, until the invention of practices like the chirograph (the tearing of a document in half, with the agreement reproduced on both halves). It took a few hundred years for footnotes to develop. It took hundreds of years to move from a recognized need to make documents to a recognized need to store them (the invention of the archive).

We are currently undergoing just such a slow yet dramatic shift in our relationship with the past. Its final results are unclear: The “save everything” mentality of the early days has already been replaced by the “save the minimal legal set” mentality of many companies and individuals today. At the same time we are exploring new genres for keeping people and events live on the Internet long after their respective ends.

The really important shift that I see occurring is in the way of storing and accessing the past and its knowledge. The encyclopedists in the 18th century and the great classifiers of the 19th century regarded knowledge as a relatively stable edifice, built out of relatively standard bricks. The grand overviews of knowledge and hierarchical orderings of knowledge they gave us have generally crumbled. Now we are freed from the technological underpinnings of their beliefs, that is, we are no longer forced to engage in the same sets of orderings of the knowledge and events from the past in order to encompass huge datasets.

Social scientists have generally been loath to study information infrastructures—the record itself has seemed secondary to the story that the record could yield. Yet when new methods of record keeping are emerging that radically alter our relationship with the past, it behooves us to explore the possibilities and limitations of our new infrastructure. Geary (1994) points out that the new writing culture in France spawned a wave of forgeries, which led future historians to see a radical break in European history about the year 1000—a break due to a change in record-keeping practice. Clanchy (1993) notes that the story of the liberating power of the printing press (which he associates quite plausibly with the rise of the totalitarian state) has been told by precisely those humanist scholars who benefited from the invention. Finally, with so much of our social gaze directed at the future possibilities of the new technology (e.g., databasing species to preserve biodiversity; producing a world encyclopedia; realizing the nightmare of a surveillance society), social scientists need to draw attention to and seek ways to understand how our very relationship with the past is quietly being reconfigured, and with revolutionary effect.

### **why it makes a difference (one context)**

The past 200 years have witnessed the growth of global planetary management (Elichirigoity, 1999; Serres, 1990): Our “natural contract” and our “social contract” each demand the same effort of information integration in order to

develop. We now have global readings of insolation (the amount of energy coming in from the sun); the amount of that energy that is converted by living organisms (through the surrogate measure of carbon fixing); and the percentage that is consumed by people. People have become the obligatory passage points bar none in the (political) ecology of the planet. We take a dominant percentage of incoming solar energy; we control more than 95% of free-flowing water resources; we have since our inception been carrying out a process of sustained extinction of other species that is culminating in a catastrophe of global proportions. We take similar control over each other, disciplining ourselves to temporalities and ideologies that allow us to be governable (Foucault, 1991; Luke, 1999).

How do we gain such empire over the present? Over the past 200 years, massive new waves of information classification and standardization have taken place—international classifications were developed for diseases, work, criminal physiognomy, and so forth. Facts could be split apart, sorted into pigeonholes, and reassembled in new ways. It is a direct outgrowth of this work at the turn of the 21st century that we get the emergence of the database as a central cultural form. Lev Manovich (1999) puts it beautifully:

**As a cultural form, the database represents the world as a list of items and it refuses to order this list. In contrast, a narrative creates a cause-and-effect trajectory of seemingly unordered items (events). Therefore, database and narrative are natural enemies. Competing for the same territory of human culture, each claims an exclusive right to make meaning out of the world. (p. 225)**

Manovich develops the syntagm–paradigm couple, where the syntagm represents a statement that is made and the paradigm represents the set of possible statements. He argues that with the new technology: “Database (the paradigm) is given material existence, while narrative (the syntagm) is de-materialized. Paradigm is privileged, syntagm is downplayed. Paradigm is real, syntagm is virtual” (p. 231). While the observation obtains, its veracity should not be tied to the growth of new information technology (IT). IT in recent times is like medicine in the 19th century—claiming bragging rights for heroic changes which happened by other means: The improvement of life expectancy in medicine then was tied to the unglamorous work of producing safe sanitation systems; the current status of databases completes the movement begun in the unglamorous 19th century of universalizing classification systems.

One can see Manovich's argument becoming true in the development of database technology the 20th century. The first commercially available computer databases were organized hierarchically. If you wanted to get to a particular piece of information, you went to the overarching category and made a series of choices as this category broke down into groups then sub-groups until you got to the specific piece of information that you required. This mode of traveling through a database was called "navigation." The next generation, network databases, followed the same logic, that is, the user had to follow one of a number of predefined pathways in order to get to the data. It was more ordered than a straight narrative archive but it still preimposed a set of narrative structures on the data. The following generation, relational databases, began to break this mold. The underlying database structure is a set of relations or tables, each table having rows and columns. This matrix form allowed a new form of inquiry to be made: Users no longer had to travel the preset pathways, they just had to declare what they wanted to know in a controlled language. Finally, object-oriented databases operate on the principle that you do not need to know either pathways or relationships beforehand. Each data "object" carries its salient history, and pathways and relationships can in principle be reconfigured at will (Khoshafian, 1993). The canonical scientific act for our time (sequencing the genome) resonates with the social and technical turn toward the nonnarrative memory described by Manovich.

To give a name to the current epoch, I call it the epoch of potential memory. To continue Manovich's trope, this is an epoch in which narrative remembering is typically a post hoc reconstruction from an ordered, classified set of facts that have been scattered over multiple physical data collections. The question is not what the state "knows" about a particular individual, but rather what it can know *should the need ever arise*. A good citizen of the modern state is one who can be well counted, along numerous dimensions, on demand. We live in a regime of countability with a particular spirit of quantification. Michel Foucault (1991) pointed out that this is one of the principles of governmentality: A modern state needs to conjure its citizens into such a form that they can be enumerated. The state may then decide what kind of public health measures to take, where to provide schooling, what kind of political representation should be afforded, and so on. Uncountables in the West are our version of the untouchables in India: a caste that can never aspire to social wealth and worth. In order to be fully countable and

thus remembered by the state, a person needs first to fit into well-defined classification systems. At the start of this epoch, the state would typically — where deemed necessary — gain information on its citizens through networks of spies and informers writing narrative reports. Such information gathering continues today but is swamped by the effort to pull people apart along multiple dimensions and reconfigure the information at will.

But that seems to be quite a jump, from the way in which databases work to the operation of the state. The jump is possible because our way of organizing information inside a machine is typically a meditation on and development of the way we organize it in the world. When the first object-oriented language, Simula, was invented, it was perceived as a way of modeling the way things were actually done in the world. The claim today is still that you take a simple English-language description of system requirements and turn the nouns into objects and the verbs into operations and you are up and running. Object-oriented programming, by this claim, is the ultimate transparent language. At the same time, and from the other end, numerous management theorists claim that now that we have object-oriented programming, we can reconfigure the organization so that it matches the natural purity and form of the programming language. We no longer need hierarchical modes of communication; rather, we can organize according to teams with their own sets of interfaces with management, but where management does not need to know how any particular job is carried out by the team. Thus a programming language that operates as part of an organizational infrastructure can have potentially large effects on the nature of the organization through the medium of organization theory. So object orientation is on the one hand a model of the world; on the other hand the world is learning how to model itself according to object orientation. This kind of bootstrapping process is common when one deals with infrastructures. Generally, I would describe it as the programming language and organization theory converging on a particular instantiation of the organization in which object-oriented programming will furnish the natural, transparent language. This convergence is central to information infrastructures. We make an analytical error when we say that there is programming on one side, with its internal history, and organization theory on the other, with its own dynamic. The programming language is very much part of the organizational history and vice versa. James Beniger (1986) made this kind of connection in his work. Following a robust tradition in cybernetics, he noted that in the late 19th century many

things came together to make process control a key factor in management and technology.

Ours is certainly not the first society to hold memory primarily in nonsequential form. Indeed, Claude Lévi-Strauss (1969) demonstrated the nonsequentiality of myth structures (comparing them with the rise of narrative fiction); similarly the memory devices of the Luba (Roberts & Roberts, 1996) and Tibetan *yantras* organize their information space nonsequentially. However, I would argue that it is this turn, begun in the 19th century in offices and in government agencies, that takes us out of the age of the book. JoAnne Yates (1989) traces this transition beautifully in her work on late-19th-century office technology. The earliest correspondence books, she notes, held painstaking transcriptions (or, later, blotted copies) of outgoing letters in chronological sequence. The two great revolutions in office technology, she noted, were the manila folder and the hanging file drawer—these together permitted the rearranging of data into subject files. Later, copying technology (notably the invention of carbon paper) allowed a single piece of information to be stored in multiple places. As this technological work was going on, she notes, there was also a withering of the greetings and salutations in internal correspondence, so that the new genre of the office memorandum was created, which in turn gave rise to the genre of email. At the same time, information that previously had been collected in narrative form (if at all) was now distributed into statistical tables (Chandler, 1977).

We have seen, then, two characteristics of the current memory epoch: greatly increased centrality of the reworking of the past for the operation of the state and greatly increased technical facilities for such reworking with the development of database technology. We are getting to be very good at reconfiguring the past as a tool for exploring and supporting the present. The past that we are colonizing in order to do this work is not “wie es eigentlich gewesen ist.” On the contrary, the canonical archival forms of the present tell the past as it should have been. Comte (1830–1845/1975), I think, sets the tone for this whole period with his assertion that we cannot afford to keep in our own minds (and to pour into the minds of children) what actually happened in the history of science. There is now, he said, too much science out there for this to be feasible. Rather, what we should do is classify the sciences completely and tell stories about each science that show the logical steps that brought us to our current state of knowledge, a move that today we would call “rational reconstruction.” When the new political tradition is created, it

tells the story of a past that should have been, in order for current political conditions to be justified.

Information integration, then, has a lot to do with the power of the state—the ability to collect data from numerous disparate resources, collocate it through the production of (im)mutable mobiles, and then use it to plan the future. In order to achieve this integration, we weave together stories about the past of the earth, the past of the cosmos, and the past of our knowledge out of a tangle of threads. Our reading of the past is generically under the description of the present set of entities and phenomena. The paradoxical, problematic myth of our progressive society is its insistence on background stasis. Past time is the same as present time; past entities the same order of entity, and the present is effectively perfect. The goal is to stop the extinctions, stop climate change, stop up the hole in the ozone layer. Within this frozen present, ecosystems and people should maximize productivity. The only good ecosystem is a productive ecosystem, giving us goods and services just like the Third World does (and it is indeed remarkable how moves to preserve linguistic, ethnic, and cultural diversity express the need to freeze the present within a model of global productivity). The great trick has been to project present entities and processes back into the past, leaving the present as the natural and timeless outcome of a teleological process.

We have a restricted set of stories that can tell about the past. Patrick Tort (1989) demonstrated so brilliantly for classification systems the propagation of genetic classification through many social and natural spheres in the 19th century: A good bureaucratic trick travels well. Similarly, the effectiveness of universal timelines and isotropic time and space have been demonstrated through a set of well-traveled bureaucratic developments, from the mundane file folder organized by class and date to the development of object-oriented databases (themselves, of course, subject to the remorseless ticking of the internal computer clock). Out of these tools of empire we create a past of a very particular sort, one in which there is really but one line into the Mnemonick Deep. I have argued for a deeper consideration of the role of our memory practices as the site where ideology and knowledge fuse. My preference would be for a harlequin's coat (Turnbull, 2000) of a past, where contradictory temporalities and entities could be explored. We need to hold the past open so that we do not hypostasize and freeze the present, and by extension limit our own future. People, planets, and purgatory (Le Goff, 1984) deserve multiple pasts.

Just because the past is over does not mean that there is a truth about “wie es eigentlich gewesen ist.” The work of creating partial objects and conjuring them into a given small set of trajectories is a work in the present of expanding our empire and our knowledge. If we want the future to be other than how it seems to be turning out, we must create a past that is other than it seems to have turned out. Only an open past can unlock the present and free the future. The information tools of empire (i.e., statistics, databases) lend a certain sense of inevitability to all the changes that we witness—we are either enthralled by the spectacle or deadened by the difficulty of imagining change. Seeing our own past as open, so that our own present is not completely determined, is therefore a political act. The line of argument here is akin to the analysis in Furet’s work (1978) that rethinking the French Revolution, or what we choose to define as the revolutionary period (1789–1792; or 1794; 1831; 1848; 1871; 1968), makes a material difference to our confidence in acting in the present, and to our sets of strategies. A new story about the past can be a revolutionary irruption in the present, as Michel de Certeau (1984) so beautifully argues.

As we have seen, at a transitional movement into a new regime of memory practices, new configurations of knowledge/power come into play. These new orderings of the past are generally portrayed post hoc as liberatory by those who benefit from the change (as we saw with Geary and Clanchy). Our new orderings are not more accurate (the past is being reworked now just as much as ever) nor more liberatory than previous regimes. However, there are new opportunities presented, and it is a key task for the social scientist to plumb the political roots of the new information infrastructures we are building. The path to a new society is strewn with optical fiber and pocked with silicon chips.

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## notes

- 1 I use the word *database* widely here to refer to the set of traces (records, Listservs, music, etc.) available and searchable on the Internet. The drive to database the world can be tied back historically to the growth of governmentality (Foucault, 1991).
- 2 See, for example, <http://www.venus.co.uk/gordonpask/>
- 3 According to the Oxford English Dictionary, “*aporia* is a figure whereby the Speaker sheweth that he doubteth, either where to begin for the multitude of matters, or what to do or say in some strange or ambiguous thing.” See the lovely discussion of *aporia* in Agamben (1993).

