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Durkheim's Imperative: The Role of Humanities Faculty in the Information Technologies Revolution

ABSTRACT

The arrival of powerful information technologies in the traditional humanistic disciplines has done far more than simply add to the tools available for research and instruction. Those who have embraced these technologies have also experienced a significant disruption of their traditional roles within the academy, producing confusion and disorientation as well as excitement and innovation. Some of the reasons for this confusion are discussed, and one example of two "restabilized" roles for humanities faculty—the work of the Advanced Information Technologies Group at the University of Illinois—is described. The conclusion explores some of the advantages of this new kind of division of intellectual labor.

INTRODUCTION

Almost ten years ago, approaching a full year's sabbatical and fashionably open-minded to the promise of new information technologies, I bought my first computer. I thought that it would help me to finish the book that I was writing and possibly impose some order on my life as well. The book is still unfinished, and my life has been chaos ever since.

But this is not another of those tiresome assessments of whether or not these technologies really do increase human efficiency—inquiries

that almost always seem to me to be posed in a manner that guarantees one extreme conclusion or the other. Rather, I'll here be concerned with the effects of advanced information technologies on the traditional role of scholars and teachers in the humanities and also with the way these technologies have altered the conception of that role held by the scholars and teachers themselves. These are questions I've thought about frequently in the last decade, as I retired my beloved Montblanc fountain pen, learned to word-process, discovered hypertext, built a hypermedia lab, traveled with and for Apple to endless trade shows and conferences, signed nondisclosures, wrote internal and external proposals, obtained grants, went broke, was orphaned by vendors, built another lab, evangelized faculty, antagonized administrators, logged-in, e-mailed, searched, retrieved, linked, Gophered, WAISed, PHed, FTPed—and generally had the time of my life.

Not surprisingly, I've tried to think of these questions within the context of my own role as a scholar and a teacher—specifically, as an historian of social theory. Occasionally, for example, I've thought of Plato's famous definition of justice, in the *Republic*, as "the performance of one's proper function" or "minding one's own business," wondering simultaneously if the scripting of HyperCard stacks is, in fact, the proper function of an historian of social theory. In more practical and materialist moods, I've thought that Adam Smith's observation, in *The Wealth of Nations*—i.e., that "the greatest improvements in the productive powers of labour, and the greatest part of the skill, dexterity, and judgement with which it is anywhere directed, or applied, seem to have been the effects of the division of labour"—might easily be construed as a utilitarian injunction to leave this nonsense to the Office of Computing Services or Instructional Resources (whatever the obvious and alarming consequences of such resignation might be). This economic argument, of course, is extended by post-Darwinian arguments into a law of nature—e.g., the apparent correlation between the functional specialization of the parts of an organism and the extent of that organism's evolutionary development would make specialists—and Stoics—of us all.

But I'm primarily a Durkheim scholar, and whether or not the division of labor is equivalent to justice, contributes to economic utility, or reflects a law of nature, the really important question for him was post-Kantian and ethical: Should we yield to it or resist it? Is it our duty to become thorough, complete, self-sufficient human beings? Or are we to be but parts of a whole, organs of an organism? Those familiar with Durkheim will recall that this way of posing the question was both rhetorical and disingenuous: For his 1893 dissertation on the Division of Labor in Society was dedicated to the proposition that,

at least in academic life, the "thorough, complete, self-sufficient human being" was more often a "morally worthless dilettante." The categorical imperative of the modern conscience was *"Make yourself usefully fulfill a determinate function"* (Durkheim 1933, 43). And Durkheim's brilliant contributions to the history and philosophy of education were all, at least indirectly, attempts to reform French secondary education precisely to produce fewer "Renaissance men" and more specialized "organs of an organism" (Durkheim 1961, 1977).

The rhetoric about interdisciplinary research and instruction notwithstanding, I think we can all agree that Durkheim's vision of a highly specialized division of intellectual labor has largely been realized in American higher education. And while such specialization is frequently justified on utilitarian grounds—e.g., to contribute anything new to any discipline, one must master enormous bodies of information, do so in relatively short periods of time, etc.—I think we can agree with Durkheim that there is an ethical dimension as well. The scholar who has not found her niche or domain within the larger discipline is not just an unlikely candidate for promotion and tenure. She is apt to be looked upon as a moral failure as well, a shallow "dilettante" who has not measured up to the standard of Durkheim's imperative.

However subconscious, I believe that it is this moral dimension of the division of intellectual labor that leads many of us to feel discomfort as we survey the detritus of our traditional roles, the havoc provoked by our attraction to and embracement of these powerful technologies. Our complaints, of course, are always couched in the more mundane language of economic utility—e.g., the time wrested from our research, articles and books still unfinished, promotion and tenure delayed or denied, etc. But there is also an inarticulate sense, surely in other minds but also in our own, that we have betrayed our academic calling, digressed, wandered from the straight and sure path to scholarly achievement and distinction. In fact, I remember quite clearly the point at which I first became acutely conscious of this kind of role confusion. My wife—who has an undergraduate degree in English literature and graduate degrees in art history and library science—was driving me to the airport on the way to my first EDUCOM meeting where, supported by Apple Computer, I was to demonstrate some hypertext materials for teaching the history of social theory. "My husband," she smiled wickedly as she dropped me off, "the computer salesman."

But such confusion is hardly limited to those occasions on which the commercial world intrudes on the academic. It is at least equally prevalent within the university itself, which suddenly appears as a traditional, conservative institution resistant to new technologies and

the organizational changes they require. Important segments of the university community find themselves technologically obsolescent, as they simultaneously and determinedly seek out those activities at which they are least competent. The pain of watching a Nietzsche scholar installing VRAM or upgrading an operating system is surpassed only by that of attending courses on HyperCard taught by hackers and computer-jockeys at our computing services office. A respected member of our own English faculty recently invited ridicule by pointing a mouse at the screen of a Quadra 840av, clicking at it, and wondering aloud why nothing was happening. Nearby, a seventeen-year-old undergraduate shook his head and smiled knowingly: "There is so much," he sighed, not without a certain condescending sympathy, "that they don't understand." Indeed, our condition is not unlike that of Freud's prosthetic god, capable of great things, but not entirely comfortable with the tools that make this possible.

For the faculty member in the humanities, therefore, the embracement of advanced information technologies has sometimes seemed equivalent to a fall from grace. The purpose of this paper, however, is to suggest that there may be some form of redemption, and that it lies in doing those things that we have traditionally done quite well—albeit in a slightly different manner. Like Durkheim's categorical imperative, it encourages a sharp division of intellectual labor, in which the faculty remain the teachers and scholars and nonacademics the service and resource providers. But if we thus look slightly less silly to our colleagues, it offers no escape from our responsibility to confront the implications of advanced information technologies for these more traditional activities. Finally, I think this kind of redemption is available in some form on virtually every major campus in the country, although here it has understandably taken advantage of some of the special resources that exist at the University of Illinois.

THE ADVANCED INFORMATION TECHNOLOGIES GROUP

These resources include the superb University Library, the Graduate School of Library and Information Science, the National Center for Supercomputing Applications (NCSA), one of the most thoroughly networked campuses in the country, and a number of faculty in the humanities and social sciences looking for ways to use advanced information technologies to advance their research and their teaching. With the encouragement of Larry Smarr, director of the NCSA, these faculty members eventually produced a proposal titled "Collaboratorium," based on the notion of collaboration between three different

groups of people. The first group comprises the Software Development Group at the NCSA—i.e., the scientists and engineers responsible for the development of tools like NCSA Telnet, Collage, and, most recently, Mosaic. The second group comprises faculty in the humanities and social sciences with what we (for lack of a better term) called "Technologically Enabled Projects" (TEPs)—i.e., research projects that depend upon high-performance computing to seek better answers to questions that scholars in the humanities and social sciences have frequently asked in the past. For example: What can historical census data tell us about the pre-Civil War southern household? Has the American electorate become better informed and more independent since the Jacksonian era? What was the nature and extent of the influence of German social science on the French philosopher and sociologist Emile Durkheim? How do we explain the crowd behavior that periodically results in mass suffocation and death at rock concerts and football games? And the third—more "technologically focused"—group comprises faculty, again in the social sciences and humanities, whose research is focused on the way the tools built by the first group are used by faculty like those in the second group. For example: What kinds of norms about communication, cooperation, and competition among scholars and scientists result from the increased use of collaborative information technologies in the intellectual community? How does the discussion of information and the decision-making process in "work teams" change with the introduction of electronic group support systems into the workplace? Is education really enhanced by using advanced computer technologies like hypertext, hypermedia, and interactive multimedia? If so, how and why? And if not, why not?

It hardly takes a rocket scientist to realize that each of these groups stands to benefit enormously from the presence of, and ongoing collaboration with, each of the other two. It was this assumption, in any case, which led the University's Advanced Information Technologies (AIT) Group, its small but interesting laboratory, and a series of research projects in the humanities and social sciences to allow us to embrace these powerful new tools without violating Durkheim's imperative (Figure 1). But the best way to indicate this is simply to describe three of the more interesting and exciting projects that the AIT Group has supported.

INTERMEDIA, HYPERTEXT, AND COGNITIVE FLEXIBILITY THEORY

The first concerns what is surely the most "hyped" (and perhaps least empirically studied) information technology in higher education

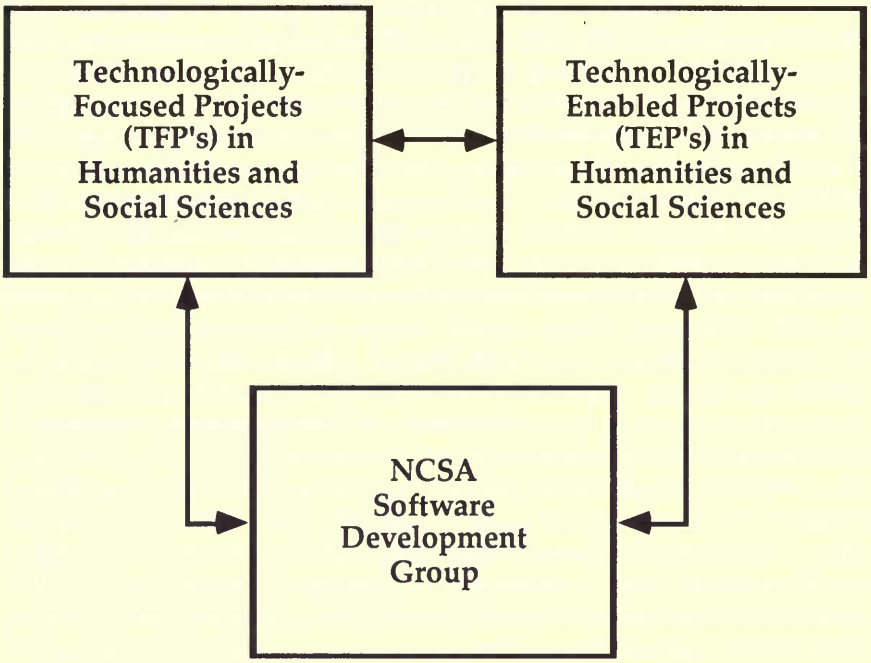

Figure 1. The AIT Lab's research and development groups

today—i.e., hypertext or hypermedia. I confess to some enthusiasm for this technology myself, so much so that, in the late 1980s, I built a hypermedia laboratory to support this kind of instruction—thus imposing on my colleagues the pain of watching a Durkheim scholar installing VRAM and upgrading operating systems (Jones 1988).

My interest in hypertext derived initially from the frustrations encountered teaching the history of social theory to large numbers of first- and second-year undergraduates. These students are, with relatively few exceptions, what I call "interpretive essentialists"—i.e., they are convinced that there is something that every classic text in social theory is Really About, and that this essential meaning can be discovered if they can only break its "hidden code." They are equally convinced that we, as faculty members, possess or at least have access to these codes—a dangerously flattering notion that indulges our self-image as academic "priests" whose prestige derives from the power to dispense the intellectual sacraments. And finally, they think that education is largely a matter of passively receiving these sacraments in the traditional, ritual environment of the lecture hall.

My goal as a teacher, in sharp contrast, is to persuade them that meaning depends upon context, and that there are thus as many possible meanings of the text as there are contexts within which it might be placed. Machiavelli's discussion of the role of fortune in human affairs, for example, might be placed within the larger context of the Renaissance treatment of the classical Greco-Roman conception of the goddess Fortuna, thus illustrating the way that Machiavelli plays on conventional themes while advancing rather unconventional arguments. But it might equally be related to the political conflicts of early sixteenth-century Florence, the Renaissance genre of advice-books for princes, the theme of "moral adaptability" so pervasive in late twentieth-century politics, and so on. We can thus imagine Machiavelli as engaged in a variety of conversations, with both his contemporaries and our own, each of them yielding a different perspective in the history of social and political thought. Hypertext, it seems to me, is a technology for generating precisely these kinds of "imaginary conversations," and thus for undermining our students' tendencies toward interpretive essentialism (Rorty 1984, Jones 1990).

Using hypertext in this way, of course, is to engage in what I've called a "technologically enabling" project, and any views I might have about its success or failure are largely speculative. Fortunately, however, I have a "technologically focused" colleague—Rand Spiro of the Department of Educational Psychology—who is focused on precisely this technology. In his study of advanced knowledge acquisition, Spiro makes a sharp distinction between what he calls "well-structured" knowledge domains and their "ill-structured" counterparts. In the former, the goal of education is typically just to expose the student and establish a general orientation to the field; and here it is appropriate to compartmentalize knowledge, to present clear examples while avoiding pertinent but confusing exceptions, and to employ reproductive memory criteria in assessment. But in ill-structured domains—and surely few domains are more ill-structured than intellectual history—the goal of learning is "cognitive flexibility"—i.e., the capacity to apply multiple, interrelated concepts that involve context-dependent variations to new, diverse, and largely unexpected circumstances; and here, Spiro insists, we must avoid deliberate oversimplification, making a special effort to demonstrate complexity, irony, exception, and contradiction (Jones and Spiro 1992).

Spiro's empirical research suggests that hypertext may be an excellent tool for encouraging the development of cognitive flexibility in ill-structured—but not well-structured—knowledge domains; and it also has some obvious implications for the way programmers like those in the Software Development Group at the NCSA should design tools like Mosaic. Hypertext systems, for example, should encourage the

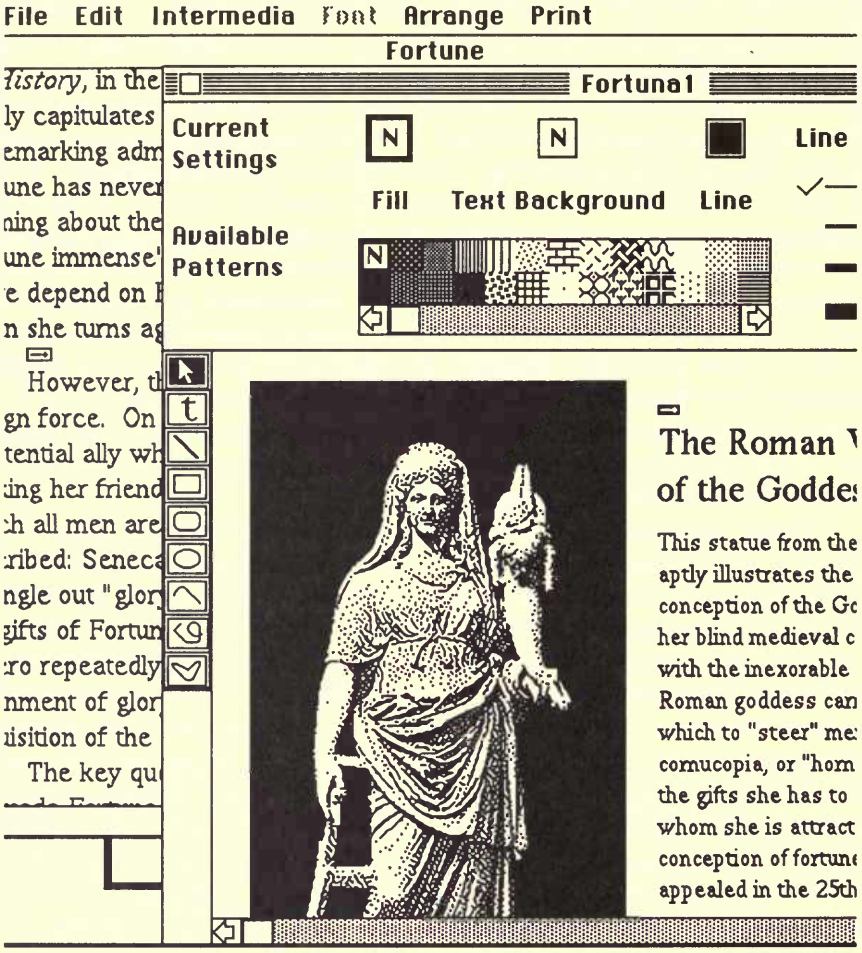

Figure 2. Intermedia, hypertext, and cognitive flexibility theory

learner to see the same text in as many useful contexts as possible. They should also invert the hierarchical authority of the text, allowing the learner to focus on previously peripheral elements, making them central. Systems should include options that permit a re-editing of the text base to successively present to the learner a range of concept applications, as well as information about the nature of the different tailorings of that concept to its contexts, and so on (Figure 2).

IMAGING TECHNOLOGIES AND UGARITIC TEXTS

A second example of this kind of triangular division of intellectual labor comes from Biblical archaeology. In 1928, a Syrian farmer accidentally uncovered some ancient tombs on the Mediterranean coast opposite the northeastern tip of Cyprus. This led to the excavation of the main city at nearby Ras Shamra, which yielded one of the most sensational archaeological finds of the twentieth century—the political and religious texts of the archives of the ancient kingdom of Ugarit. The French excavators uncovered numerous cuneiform tablets, which were written thirteen to fifteen centuries before Christ, in a hitherto unknown alphabetic script. Once that alphabet was deciphered, it was clear that the language of Ugarit belonged, with Hebrew and Aramaic, to the family of Northwest Semitic languages, and also that these tablets constitute the single most important archaeological contribution—far more important than the Dead Sea Scrolls—to our understanding of ancient Canaanite and Israelite religion, society, and culture (Seow 1993, 785-86).

But the obstacles to the accurate interpretation of these texts parallel those facing interpretation of the scrolls. They are in Paris and Syria, they are deteriorating (albeit not quite so rapidly as the scrolls), and like all cuneiform tablets, they are occasionally extremely difficult to read. Transcriptions of the texts combined with facsimile drawings appeared in 1963 and 1976, but neither included photographs of sufficient quality to allow scholars to independently corroborate one reading of the tablets by contrast with another. Scholars have typically chosen one edition of the texts or the other, or moved back and forth between the two editions, depending on which transcriptions and photographs have best supported their own interpretations. The result has been an extraordinary degree of speculative license in Ugaritic studies, flooding the literature with useless reconstructions, restorations, interpretations, and reinterpretations (Pitard 1987, 1992a, 1992b).

But again, the example of the Dead Sea Scrolls affords some grounds for optimism. As director of the West Semitic Research Project at the University of Southern California, Bruce Zuckerman has recently achieved international recognition for his work with multispectral photographs of the scrolls, extremely high-resolution digital scanning of the photographs, and the analysis of the digital images in applications like Adobe Photoshop and Painter X2. Working with Zuckerman, my colleague Wayne Pitard is presently following his example, photographing the Ugaritic tablets in the Louvre this May, scanning the photographs at extremely high resolution, and analyzing the results on a Mac PowerPC 8100 by altering the conditions under which the digital image is viewed. As the project continues, Pitard intends to

"publish" the texts electronically, with accompanying explanatory material, quite literally teaching the rest of us how to reinterpret the Old Testament in the light of these Ugaritic materials. Finally, both

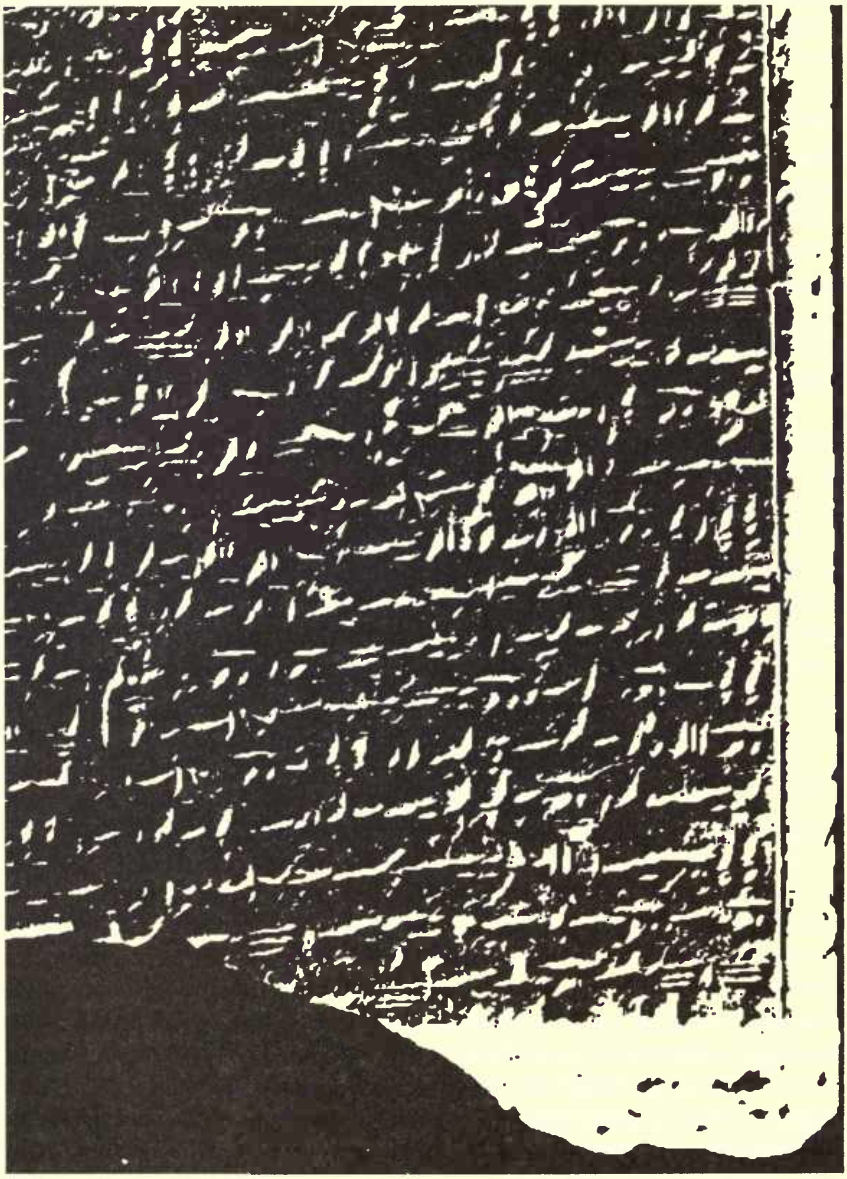

Figure 3. Imaging technologies and the Ugaritic texts

Zuckerman and Pitard have already provided anecdotal evidence suggesting ways in which the availability of this kind of evidence, in this kind of environment, might alter the forms of communication and the status hierarchy of an otherwise extremely conservative community of scholars; and this is precisely the kind of thing that sociologists and ethnographers—like my colleague Leigh Star—have recently made the subject of their own, social scientific investigations.

PHILIP KOLB'S PROUST RESEARCH

My third example concerns the greatest figure in twentieth-century French literature—Marcel Proust (1871-1922). We are all aware, of course, that Proust was the author of a single great work—*A la recherche du temps perdu* (7 vols., 1913-27), translated into English as *The Remembrance of Things Past* (1982)—that he was asthmatic, neurotic, and reclusive, spent most of his time in bed, had the walls of his room lined with cork to shut out light and sound, and there took notes and wrote the series of volumes that by 1920 had brought him the Prix Goncourt and international fame. But he was also a brilliant correspondent, and especially during his later years—exploiting his servant and a French postal system that delivered several times each day—wrote as many as twenty letters in a single sitting, to all kinds of people (not just the aristocracy); and he wrote seven days each week. The resulting correspondence provides access, not simply to the greatest literary mind of his generation, but to the more general literary culture of early twentieth-century France.

In 1935, Philip Kolb, a Harvard graduate student looking for a subject for his thesis, received a grant to study at the Sorbonne and work in the Bibliothèque nationale. Kolb decided to write his thesis on Proust, and after he received his Ph.D. in 1938, he returned to Paris almost every year to speak with those who had known Proust, to find and copy pieces of correspondence, to collect information about those mentioned either in *A la recherche du temps perdu* or in the letters themselves, and so on. By the time Kolb died—as professor emeritus of French and a fellow of the Center for Advanced Study at the University of Illinois—he had edited twenty-one volumes of Proust's correspondence (the last completed in the last year of his life) and become, in the phrase of François Crouzet, *l'archéologue de Proust* (Proust 1983, 1989, 1992).

The materials gathered by Kolb during almost sixty years of careful, detailed, inexhaustible scholarship, reside in his unpretentious office in the University Library. Several months ago, with Doug Kibbee and Emile Talbot of the French Department and Joe Hardin from NCSA's

Software Development Group, I received my first guided tour of the Kolb archive from Virginie Green, a graduate student who was Kolb's research assistant. It's difficult to describe the overwhelming impression made by materials of such enormous depth and complexity—especially for a Durkheim scholar, for whom parallel materials are surely beyond our reach. For Kolb had a problem—i.e., almost none of Proust's letters were dated. The solution to this problem was to date the letters through corroborative, external evidence, including every scrap of information about Proust that Kolb could find, but extending to additional information about Proust's correspondents and those mentioned in both the novels and the correspondence. As a consequence, Kolb ultimately forged an enormously subtle web of interrelations among the pieces, creating a huge network representing Proust's social and intellectual milieu.

As each new name appeared in *A la recherche* or the correspondence, for example, Kolb opened a new file—which he then constantly updated—containing information about this individual or family, leaving a single slip of paper briefly identifying the person(s), noting the place(s) where the name appeared, and providing "arrows" to the files containing additional, more detailed information. Similar slips of paper record the specific year, day, and even the time of particular events—including the sending or receiving of letters—providing a more linear, chronological path through the archive; and these, too, "point" to the lengthier documents to which they refer. The Kolb materials, in short, are a giant hypertext, screaming to be digitized. In fact, Kolb himself had begun to use a microcomputer before his death, and both his wife and his daughter assure me that this is a project of which he would have approved. So the AIT Lab has begun committing the Proust materials to machine-readable form, and, as with the Ugaritic texts, we hope to learn much more, not just about Proust, but also about the way in which networked information systems and digital libraries alter the nature of scholarly research, communication, and collaboration.

CONCLUSION

In conclusion, I would like to repeat my conviction that this is the kind of thing that we, as humanities faculty, should be doing. This—not installing VRAM or upgrading operating systems—is Plato's "minding your own business," or Durkheim's "determinate function." We should keep our concentration firmly on the content of our research and our teaching. As we attempt to answer the questions these raise, we will inevitably be led to the adoption of new tools and techniques, and we will need to understand them. But any really deep understanding

of these tools and techniques has already become another area of specialized scholarship. What we need, in short, is a reasonable and integrated division of intellectual labor between tool developers, their users in the humanities, and social scientists and humanists studying the use of these tools, in which each group communicates effectively with the other two. Unfortunately, this will require a kind of interdisciplinary collaboration for which the traditional university is ill-prepared, but it will be worth the work necessary to establish it.

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