The Past in the Present:
Epistemological challenges raised by computer assisted teaching

The topic is large and time is short, so I begin with a qualifier. The concerns this paper addresses arose while working on a pilot project to integrate text-based computerised databases into my teaching of undergraduate history courses. Some of the problems I will be discussing may apply to other uses of computers in the class room, or to our handling of databases outside the class room, but the context in which my initial concerns arose both orient and limit the scope of this paper.

Essentially this paper attempts to answer the following question. Does it make a difference to a student's apprenticeship in history, if her or his methodological training is based on computerised sources?

My short answer is yes. It can make an enormous difference, because such training can be highly destructive of an historical understanding of the past. This destructive potential is systemic and so it can be understood historically. Indeed it is only through such an understanding that an alternative pedagogical practice is possible at all.

That was my short answer, the rest of this paper constitutes a somewhat longer answer and it is in four parts. A brief reflection on how we think of historical sources leads into a critique of how they are affected by database construction and logic. The problems cited are not new and this justifies a quick detour into the world of art history to explore their earlier handling of a parallel dilemma. In conclusion, I return to databases in history classes to discuss those art lessons which are suggestive of a way forward.

I start with the question of perception, because the gravity of the problem I am discussing depends on how one thinks about sources. The problems I will outline below are extremely serious only if you consider sources to be fundamentally historical. Pragmatic empiricism, the historical theory and method most widely practised in this country, does not accord sources such a status.[1] So for most of my colleagues there really is no problem here. Nor are they alone in thinking this, for most progressive historians in Canada - people who would identify more readily with E.P. Thompson than E.H. Carr - also refuse to recognise the historical nature of their sources. As illustration, I cite the Canadian Families Project, the most ambitious new project in Canadian social history.

At the core of the CFP's research strategy is a mammoth database: a 5% random sample of the 1901 Canadian census. This source was selected because, to quote their web page: "The census is the most powerful source available to scholars for the study of human populations over

1. Robert C.H. Sweeny, "The Staples as the Significant Past: A case study in historical theory and method" in *Canada: Theoretical Discourse /Discours théoriques*. Edited by Terry Goldie, Carmen Lambert & Rowland Lorimer. Montréal: 1994, 327-349.

time."[2] The wording here is as important as it was to me surprising. The census was not selected because of its intrinsic historical character, but because it empowers historians in the present. E.P. Thompson has been stood on his head. Instead of an empathetic reading of the past which highlights human agency at work and thereby empowers forces for social change in the present, a particular source is accorded importance, thereby justifying the allocation of very substantial resources, because it empowers scholars engaged in the "study of human populations over time." I suspect this disembodied language was deliberate, because their core research strategy certainly does not permit an historically-grounded examination of actual families. This choice by the members of the CFP is understandable historically, for their turning away from people in history is, sad to say, consistent with the increasingly a-historical character of bourgeois culture.

What then does it mean to think of sources as being fundamentally historical? Sources are historical in two related ways. First, they are historical creations. They result from the choices people make in a particular time and place and thus contain an historical logic. The specificity of a source is visible in both its form and content, which taken in tandem can be thought of as constituting the historical character of a source. Like the authenticity of a work of art, the authenticity of a source is integrally connected with this historical character. Sources have these various historical attributes whether or not they are ever used by an historian. These attributes are proper to the source itself. They constitute its distinct ontology.

The second way a source can be historical is when it is used by people trying to understand or explain the past. Here sources are the opposite pole in an historical dialogue between present and past. And it is a dialogue. It is not a scholarly monologue, precisely because of the importance of the source's distinct ontology. E.P. Thompson called it "the determinate properties of the evidence."[3] To learn to listen so that one can hear sources from the past is the most important skill students can learn in their apprenticeship in history. With this skill, we can begin to think historically. Furthermore, it is essential to the construction of a scientific discourse of proof in history, for when we listen to a source we are recognising its epistemological autonomy. This autonomy is essential for a fruitful dialogue, because the it is historical logic of a source that tells us if, where and when its evidence may enter into our discourse of proof.

If you have followed me through this all too dense synopsis, then you are already aware of the first problem in using databases to teach history. The unity between form and content is rent asunder. This non-respect of the historical character of a source operates at several different levels. The most obvious is that a source whose form, in my fields most frequently a manuscript on parchment, now appears as a digitised image on a screen, complete with standardised font. As we shall see, this gain in "readability" comes at a not insignificant cost. The unity within the text is also destroyed. Sources that were once a continuous flow of text are now divided up into potentially hundreds of separate fields. These new divisions count. They impose a completely new order and structure on the source that was not there in the original. Understandably, for students using the database it is these sundered parts which have meaning. They perceive the source not

2 . Canadian Families Project. http:\\www.uvic.ca\cfp

3. E.P. Thompson. *The Poverty of Theory and Other Essays*. New York: 1976.

only to be made up of these distinct fields, but that any understanding of the source is a product of our ability to manipulate this disembodied data. A document no longer speaks to us, instead we query disparate parts.

As this suggests, the fundamental transformation in form strongly affects our ability to understand the content. The overwhelming majority of historical sources have an internally coherent narrative structure. They have a beginning, a middle and an end. This order is an essential part of the source; it bears witness to the social roles and relationships of the people involved. To take an example from my own work, signing a notarial deed in 19th century Montréal meant, among many other things, that you sat still in the plush office of a notary to hear him read out a complex legal text in which the most prominent human characteristic was the notary's pride of place. From the opening lines to his flowery signature, the presence and social function of this hired professional over-shadow those of the parties. I know of no historical database that even bothers to reproduce these "formulaic" elements, understandably, because the user is not and cannot be required to respect them. Modifications of this type are potentially important, because in many cases the meanings of specific elements of a source are intrinsically linked to their order in the text. If you change the order you change the meaning. From a largely linear narrative structure, databases fundamentally transform sources into texts with as many points of entry as there are fields or potential combinations of fields and character strings. The socially ordered and historically significant structure internal to the source is replaced by an external, user defined, inevitably partial and completely novel hierarchy of meaning.

The problems raised by computerised databases are not, however, limited to this non-respect of the authenticity and character of historical sources. The historical specificity of a source, its very limits and nature, can undergo a qualitative transformation when source criticism is replaced by serial construction. These new series, be they large - like the CFP's or small, need have no historical logic bearing witness to the past. Frequently, they simply project current debates replete with a-historical concepts back in time. When this happens, the source's ontologically distinct basis in the past is denied and so the source can no longer enjoy any epistemological autonomy in the present. Thus the past is effectively denied a voice. We are left with learned dialogues of the deaf, consisting solely of competing scholarly monologues in the present.

In short, databases are not and cannot be the same as the historical source we so often think they are. A computerised database of a census, city directory, tax roll, or non-routinely generated source is qualitatively different from the original source. Furthermore, extended exposure to these databases can result in students developing perceptual habits - ways of seeing and ways of thinking - which are positively a-historical.

To appreciate the significance of the epistemological challenges posed by databases in the class room, we must consider them historically. The plasticity and malleability of databases incarnate values that were either completely foreign or systematically repressed throughout almost all of human history. Thus, the political dimensions here are very important and they suggest where we might best look for guidance. Questions of creativity and value concern more

the arts than they do the system administrators of the social sciences. Since at least the 19th century, artists have been struggling with the problems of authenticity, character, and specificity.

In 1936, with Walter Benjamin's "The Work of Art in the Age of Mechanical Reproduction," the grounds of the debate in the art world shifted significantly.[4] Benjamin argued that the authenticity, character and meaning of art had been qualitatively transformed by the advent of photography and film-making. Striking at the core concept of the authenticity of a work of art, mechanically reproducible art challenged our understanding of the relationship between form and content, in a manner which undermined the ritual cult status long associated with art. Therefore, for Benjamin, these newer forms were not only democratic, but potentially liberating. In retrospect, one can easily characterise Benjamin's dream as naïve. For, although it would survive his death in 1940, at least in the future member countries of NATO, it would not long survive the victory over fascism. But to do so would be to mistake our present cultural cynicism for something more than a just another symptom of petty bourgeois alienation and, more importantly, it would blind us to a valuable insight. By linking technology, creativity, value, form and content to the problem of socio-economic structures and an alternate political project, Benjamin redefined the terms of the debate. So in the late 1970's when Susan Sontag and John Berger returned to these problems, with admittedly a clearer recognition of the relationship between camera and capitalism, they could base their solution firmly on historical understanding.[5]

John Berger, with his life long interest in art, history, perception and memory, offered the most acute observations. In assessing the possibility of an alternative photographic practice, one which challenged hegemonic culture, the key, for Berger, was the relationship between a photograph and its context. Abstracting an image from its context transformed its meaning and facilitated commodification. He argued that to put a photograph into its proper context meant maximising the possible points of connection between viewer and image, but this was only really possible when the photograph could be seen as being part of continuous, living whole. Multi-faceted memory and the relationship between image and object were both central, but insufficient, for one could not and should not rely simply upon historical reconstruction. Once taken, a photograph cannot be put back. The essential relationship is between a living present in dialogue with its past. So meaning and understanding are intimately associated with a historically grounded political and social action in the present.

Thus, there is hope. The qualitative transformation of the relationship between form and content does not necessarily mean that understanding is impossible. While obviously important in history, the authenticity and character of a source may not be essential for historical understanding. Measures both practical and political are however necessary. Critically examining with students the contrasting historical logic of a source and its database is an obvious starting point. Students will be much more likely to be able to develop historical understanding, if they are

4. Walter Benjamin. *Illuminations.* Edited and with an introduction by Hannah Arendt. New York: 1969, p.217-251.
5 . Susan Sontag. *On Photography*. New York, 1977. John Berger. *About Looking.* New York, 1980.

familiar with the nature of a source, its transformation through computerisation and the historiographical assumptions underlying the construction of the database.

Design and implementation of databases for the class room must also be guided by a conscious effort to minimise their potentially damaging impact. Respecting the historical logic of a source clearly implies that interfaces should where ever possible evoke the original source and that all default values should correspond to those of the source. For example, it may well be that a census is more "accessible" or "user friendly" when organised alphabetically, however, it is the student who should be required to change the order by invoking a nominal index. The understandable tendency to make the students' tasks "easier," by adding-on all the bells and whistles of contemporary programming, must be rigorously rejected. Not because sophisticated interfaces and complex programming are of little use, quite the contrary. They can be significant aids in research; but to the extent to which they hide from the student's view qualitative changes to the source they are counter-productive in the class room. Students do not need to become programmers, but they do need to develop an understanding of how the various steps in their research modify the database, thereby further distancing themselves from the original source. A student using a variety of small, discrete, but historically related, databases develops contextual awareness through her or his drawing connections between these distinct representations of the past. Large data sets, generated by random sampling or those whose analysis is dependent upon abstract statistical techniques and automated linkage programmes, have exactly the opposite effect and are, therefore, quite simply inappropriate. The aim, after all, is not only to allow students to see diversity in the past, but to help them understand these differences historically, as integral parts of a dialectic of agency and constraint.

This is why the political dimensions raised earlier are of crucial importance. Computers are a technology of advanced capitalist society. Relational databases and the machines they run on reflect both the achievements and the failures characteristic of this type of society. The liberating potential of these technologies is consistent with the transformative vistas of bourgeois individualism, just as their all too evident limitations reflect the existing structures of advanced capitalist political economy. Computers are in history. So we should not be surprised, that an uncritical use of these technologies destroys historical understanding. After all, the cultural component of capitalism's creative consumption of commodities is the destruction of socially and culturally rooted meanings by denying any significance to time and place. To insist, therefore, on the importance of the socially particular, the temporally specific and the spatially unique is an integral part of the struggle for a qualitatively better society. Nor is this a defensive struggle. The cultural values of plasticity and malleability, so characteristic of databases, have been repressed throughout almost all of human history precisely because of their corrosive effect on structure. These are inherently creative and so potentially revolutionary values. Used within a living present in dialogue with its past, they may allow us to share once again in Walter Benjamin's dream in the not so distant future.

Robert C.H. Sweeny
History Department
Memorial University of Newfoundland