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Digital Evidence and Scholarly Practices

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Editorial by Jeffrey Barlow

Introduction:

“Evidence” is a very broad category in human affairs. It can mean everything from traces of pre-hominid skeletal remains to the “smoking gun” beloved of conspiracy theorists. Even in the highly formalized world of academia it means different things to physicists, historians, and sociologists, for example. Here I discuss two issues relating to the digitization of materials and the use of the World Wide Web to disseminate them. The first deals with how we evaluate our own production of digital materials; the second with how we take account of student use of digital evidence in our classes.

The Problems:

For centuries evidence was assumed to be necessarily tangible and capable of being exhibited in some physical form, ideally widely accessible and capable of being reproduced or copied for the evaluation of peers. Juries want to see the evidence, and so do college professors when guiding student research.

The unprecedented transfer of analogue data to the digital realm has had many unforeseen consequences. Photographic evidence, for example, has been very nearly entirely devalued as “photoshopping” has become ever more widespread and easily accomplished even by relatively unsophisticated computer users [1].

For historians—and I write here primarily as an historian—evidence has been the keystone in our intellectual practices. For us, documentary evidence is the sine qua non for truly complex historical arguments. Even eyewitness accounts are now often dismissed as “memory”—of value but also fraught with potential qualifications (subjectivity, cultural biases, conflicting views of others, etc., etc.) which keep it from having the status of documents, the older and more yellowed the better.
Now we face the unprecedented transfer of existing evidence, safely preserved in “real” forms—primarily books—into digital forms, primarily electronic documents, most often displayed in HTML on the World Wide Web. We do not know quite what to do with these. These are not merely, particularly to historians, “academic questions.” They are key to how we prove our claims to knowledge.

**Digital Scholarship and Academic Evaluation:**

Evidence is also key in how we evaluate each other’s performances as professional members of the academy. Again the question of digitization is problematic. For most of us, evaluation for “promotion and tenure” invariably means publication; even in performance-oriented fields like Music, Art, or Theater, “evidence of intellectual activity” often requires publication.

Publication has long been defined as occurring in one form: paper. We sometimes now use the term “hard copy” to show at least a primitive awareness that there are actually other forms of publication, but these are too problematic for us to evaluate, in most cases. This is because publication in paper usually proceeds only after passing a number of gates: these include peer review, selection by university presses, citation by others, inclusion in bibliographies, being reviewed in paper journals, all the labyrinthine paraphernalia and practices of centuries of academic traditions [2].

This practice is slowly changing, driven as is usual in the academic world, by realities beyond our control from the Ivory Tower, particularly by the increasing cost of publication in hard copy format. But practice and preference makes us slow to change our beloved traditional usages. At Pacific University Oregon we have recently been charged, department-by-department, with revising our own standards for promotion and tenure. After evaluating the standards of other departments in our own institution, and those of other institutions, followed by hours of face-to-face and megabytes of email discussions, we came up with the statement reproduced below at Appendix 1.

As this document—still not officially accepted by the University—suggests, my home department is blessedly able to distinguish between forms of publication and principles of evaluation—in part because of my colleagues’ amazing tolerance for my own tiresome ranting over our tenure together. Other institutions, however, stubbornly resist even trying to discuss issues of the quality of digital data in evaluation processes [3].

**Student Use of Digital Materials:**

If we are slowly making progress in adapting our own self-evaluation in academia, there remains one area where we just don’t quite know what to do and have failed to establish best practices: how should our students use digital data as evidence? The problem here is a stubborn one. We want our students to read widely and to cite evidence for their positions in their assigned writing. This is, again, particularly critical for historians because we can only really know the past from evidentiary traces. But how are our students to judge the relative authority of particular bits of
information?

From long practice at the college level we discourage students, if not outright forbid them, from using dictionaries or encyclopedias, which we see as “high school.” But what of Wikipedia? Here we are using Wikipedia not only as the most common source to which students now immediately resort, but also as a scapegoat for every other digital document found on the WWW.

Judging from discussions with students and colleagues, a common practice is to tell the students that they may well begin with a Wikipedia entry, but they should not rely upon it as sole source, nor cite it. This might be described as the liberal or permissive practice. Other instructors prohibit their students from using digital sources at all, though this requires in my experience, continual explanation and draconian enforcement, such as a genteel professorial tantrum while sheltering behind the podium. This is not so much an educational experience for the students, as an “oh whatever” moment, once again being told to follow dimly understood rules which seem totally irrelevant in the real world.

Students tell me that their own response to either the permissive or prohibitive professorial position is that often they follow up on the sources cited in the Wikipedia entry, and then cite those. This is probably indeed somewhat more reliable in that the evidence at least exists independently of Wikipedia, but it really simply puts the issue at one remove—we still often do not know why the second level information was considered reliable or even by whom it was so considered.

The prohibitive position can ultimately be logically consistent only if the instructor disallows all digital sources. This can, of course, be done, often by specifying those sources which can be used, or defining certain categories of resources—those found in our library, or only university press books, etc.—but this position is eroding steadily as librarians much prefer to buy access to bundled digital materials to buying a book which may well sit on shelves unread. One librarians’ rule of thumb is that about 10% of their collection will get 90% of reader traffic, while the other 90% gets 10%. The problem, of course, is identifying the critical 10% before ordering the 90%.

Strict prohibition, then, begins to erode under new collections policies. Some bundled collections will lead only to digital copies of once hard-copy publications, but increasingly the distinction is being lost as digital journals too are bundled, and in some cases, web sites captured to such collections.

It seems to me that neither the permissive nor the prohibitive position with regard to digital evidence is even now fully satisfactory, and given the accelerating digitalization of content, the situation can only deteriorate. What are we to do, for example, with the student who cannily finds on Amazon.com a partially digitized volume, does a search on digitized pages and cites some nugget relative to his or her topic never seeing nor handling the book? What happens if Google succeeds in digitizing everything despite the opposition of half the world’s publishers and
Conclusion:

These two problems really have a common solution: Academics must better understand the nature of digital evidence. At present many of us have, sadly, reversed the classic Chaucerian description of a good teacher to rather read: “…and reluctantly would he learn.”—at least so far as digital materials are concerned.

Having ourselves better understood the nature and rapid development of digital evidence, we must then teach students how to evaluate the relative authority of digital sources and require them to do so. At present, I myself am requiring every student paper to include an annotated bibliography, requiring that they evaluate the relative authority of web pages based upon the five-point scale we have long used at the Berglund Center [6].

Teaching the evaluation of digital materials should really begin in primary school; perhaps including teaching an understanding of plagiarism and intellectual property and the reasons why hacking in the black-hat bad guy sense is not a clever thing, but actually a criminal act. But for the present, at the college level we must begin to create best practices, which can ultimately become standard ones, akin to rules for proper citations and other stylized academic usages.

Endnotes


[2] We continually reinforce this preference by a number of well established emotional arguments, my favorite of which might be called the “Argument from Olfactory Appeal,” usually stated as, “Ah, nothing smells like a book!” I earnestly hope that one day this statement might be known as Booksniffian, derived, of course, from the term “Pecksniffian,” beloved of Dickensians. See: http://en.wiktionary.org/wiki/pecksniffian

[3] See the work of my colleague at The Journal of the Association for History and Computing, Deborah Lines Andersen, Digital Scholarship in the Tenure, Promotion, and Review Process. See, in a more accessible format, her many articles in the JAHC beginning at: http://mcel.pacificu.edu/jahc/indexes/?index=author

[4] The alert reader is aware that, to this point in this piece I have cited Wikipedia or one of its derivative sources three times…yet none of those citations can be attributed to a known author. Anyone could have written any section of those pieces; in fact, we do not even know how many different people contributed, let alone what their authority or expertise might be. How do I justify this? The short answer is that I have a Ph.D. The long answer would be that to get that Ph.D. I had to learn to judge all sorts of evidence in a wide variety of fields, and have done so here. Too, the evidentiary requirements for an editorial such as this one are fortunately lower than those for
peer-reviewed journals.

[5] Jstor is one such collection: http://www.jstor.org/


Appendix One

Here are the draft scholarship standards for Tenure and Promotion as accepted by the History Department at Pacific University Oregon. They have not yet been adopted nor approved by either the College of Arts & Sciences or by the University as a whole, but they reflect our professional judgments as to appropriate standards. The portion dealing directly with digital materials is in a red font below.

Scholarship Standards for Tenure and Promotion
Pacific University Department of History
(DRAFT OF November 2009)

The Department of History recognizes that standards of Teaching and Service should be consistent across the College of Arts & Sciences, and, as such, should reflect policy articulated by the college faculty as a whole. However, in recognition that standards of scholarship, particularly in terms of what forms this may take, vary according to discipline, the Department of History has outlined its scholarship standards below.

These standards are premised on an amalgam of both amount and quality of scholarship. In History, unlike many disciplines, the ultimate form of scholarly production remains the book. As such, publishing a monograph has priority over other forms of scholarly work. Built into this set of standards is the importance of professional peer review and a recognition, from Very Significant to Significant to Less Significant, of the rigor and prestige of peer review attributed to publishers, journals, grants, conferences, and so on. That said, it is the job of the applicant for tenure or promotion to demonstrate the quality of scholarly production in regard to the rigor of peer review. Ideally, this should be done in conjunction of (with) the departmental Chair who can direct the Personnel Committee on the validity of such claims. We recognize that all levels from Very Significant to Less Significant work might be produced and disseminated within a digital environment as opposed to hard copy. Providing that it undergoes the same level of professional peer review as do equivalent hard copy publications, it will be given the equivalent significance in any review process.

It is important to note that the bar for Professor is substantially higher than it is for tenure and promotion to Associate Professor. The former requires a record of sustained high quality publication. Sustained implies clear consistency over time, and high quality refers to the kind of achievements listed below. In the case of tenure and promotion to Associate Professor, strong promise must be shown through sustained activity with some record of publication.

Department of History Tenure and Promotion Standards: Scholarship
**Very Significant**

- Book in field (monograph, survey, or textbook)
- article in top-tier journal (AHR, JAH, etc.)
- large external grant (NEH, ACLS, Fulbright, Guggenheim, etc.)

**Significant**

- article in peer-reviewed journal
- article/chapter in edited collection
- article published in conference proceedings
- small external grant
- presentation of research (conference paper, invited talk, keynote)
- Editor in Chief of Journal
- Edited collection

**Less Significant**

- encyclopedia entry
- book review
- historical writing published in other media (editorials, blogs, web, etc.)
- applying for external grant
- getting internal grant
- article submitted to peer-review journal
- attending conference, serving as chair or commentator
- solicited reader for article and book manuscripts

**Minimum Requirements for Tenure and Promotion to Associate Professor:**

- Any Very Significant

**OR**

- one published peer-reviewed work
- one other Significant while at Pacific
- three Less Significant

**Minimum Requirements for Promotion to Full Professor:**

*Cumulative in career:*

- One Very Significant
Since Tenure:

- five Significant OR one other Very Significant
- three Less Significant

Appendix Two

At the Berglund Center for Internet Studies and the Matsushita Center for Electronic Learning at Pacific University we have long searched for a means to indicate the level of authority of the electronic materials we post. We are well-established centers with well over five million hits per year into our servers. We publish several journals of significance and influence, such as the Journal of the Association for History and Computing (JAHC), Interface on the Internet, and E-AsPac. However, we also publish many projects done by graduate and undergraduate students. Between these two poles we publish conference papers and occasional papers done by members of our audiences. These materials, then, are created for different purposes and to different review standards.

We know that our audience often selects these materials indiscriminately, based more on their immediate research needs than on the reliability or authority of the materials. In an effort to further educate our audiences, and out of our desire to help establish standards and practices for electronic materials, we have decided to begin “stamping” our materials posted from fall of 2004 with seals indicating their Authority Level.

By Authority Level we do not mean to indicate “good” and “bad” but rather authoritative and non-authoritative or those with higher levels of trust and those with lower levels. Many important works have been created by writers who did not undergo peer-review, did not possess a terminal degree in the field, and who wrote badly with scant attention to scholarly niceties. However, such materials should best be judged by other scholars, or by the test of proving useful or provocative over time. They cannot be trusted at the first reading; they do not speak with great authority.

By applying a seal attesting to Authority Level, we are stating that insofar as we can determine, the reader can “trust” the conclusions of the pieces posted with the indicated level of confidence. In short, pieces at lower levels may be excellent, but we can’t determine that they are, and the reader should have a lower initial level of confidence in them.

These levels are explained below, but it should be noted that invariably some materials are in grey areas between categories.
Level 5 materials have to pass a number of tests and represent the highest possible level of trust or authority. They are equivalent to materials published in paper form by scholarly journals or presses. They could be placed in a library and should prove useful for some length of time.

They have the following characteristics, but no piece, of course, will necessarily have all of them:

- Materials certified as Authority Level 5 have been reviewed by scholars in the appropriate field following practices long utilized in scholarly journals and other refereed publications. That is, they have been read closely by one or more established professionals comfortable with the topic area of the piece. The review process was “double-blind.” That is, neither the authors nor the reviewers were aware of each other’s identities.
- In the judgments of these readers, the piece makes a contribution to the topic being discussed; that is, they are not merely a restatement of existing scholarly opinions.
- The materials have both citations and bibliographies sufficient to permit readers to retrace the author’s research steps so as to form their own opinion as to the strength and weaknesses of the pieces when measured against the set of evidence on which they were constructed.
- The author should discuss methodology as well as evidence: how do they know what they know?
- The articles show an awareness of the current state of the topic by referencing or discussing recent scholarship in both important books and articles. The author should probably indicate areas where there are differences of opinion among authorities.
- The author of the piece is known, can be contacted to discuss or defend his or her positions, and themselves have some specialized education, training, or experience relative to their topic.
- The piece is well written and organized and has a minimum of spelling, grammatical or formatting errors, showing the qualities of mind necessary to good research, thought, and writing.
- Such publications would usually include research done in the language(s) of the subject field as appropriate.
- Limitations of Level 5 materials: Despite these strict standards, even the best research and writing has areas of relative weakness, and scholars in the field will often disagree about each others’ positions. The more “cutting edge” a piece, the more likely it is to be controversial. For the average reader, however, these controversies are likely to be unimportant ones.

Materials certified as Level 4 are not different so much in quality as in degree from Level 5 materials. They might have the following characteristics:
The level of authority of the writer may not be the highest possible in the field of study and the process of review may be less thorough.

The pieces have been read by somebody with some expertise in the field and in effect are certified as free from egregious errors of fact or important omissions.

The authors are known, can be contacted, and have some relative level of expertise in the field about which they are writing.

The materials used in the research are obvious if not always strictly cited. A reader should be able, then, to roughly reconstruct the author’s research paths.

The author’s methodology should be at least strongly implied if not obvious.

The pieces should be based on at least some original materials (those written by eyewitnesses or participants with direct knowledge of the events or issues discussed) rather than entirely in secondary materials (those written from analyses of original materials).

There should be a bibliography.

The author should demonstrate some expertise in dealing with scholarly controversies and materials.

Limitations of Level 4 materials: These materials can be used with confidence, but it may well be that there are better materials to be found on these same topics.

Level 3 materials are often the result of research projects done by inexperienced authors, but guided by experienced ones. These might include extensive undergraduate research projects. They have the following characteristics:

- Level 3 materials should be free from errors of fact. If some of their conclusions are controversial ones, these should be held by at least some authorities in the field of study.
- Level 3 materials should depend to a considerable extent upon published and easily available materials so that readers can themselves explore the topic further with some confidence.
- The basis of conclusions drawn in level 3 materials should be clear and rooted in research, not in mere opinion or prejudice.
- Level 3 authors should be known, and can be contacted to discuss their works.
- The works are dated as to time of origin and any updates that occurred.
- Limitations of level 3 materials: Level 3 materials may provide an adequate beginning for serious research, but should not be the sole foundation of such research. They might well provide a good orientation to the topic and suggest additional research paths, but this is their major strength.
Authority Level 2 materials have serious limitations and it is our intention not to publish such materials. For our purposes, however, they might be known by the following characteristics:

- Writing is poorly organized, there are spelling and grammatical errors, all indicators of superficial thinking and research.
- Materials are inadequately cited and there is no useful bibliography so that it is impossible to retrace the author’s steps.
- The nature of the evidence relied upon is not clear.
- The author in no way relies upon any obvious authoritative sources or materials.
- The author is not known or cannot be contacted.
- The materials are not dated.
- Utility of Level 2 materials: It may be that serious scholars or researchers could utilize such materials, but most often as the raw material of their own studies. For example, scholars studying popular culture might find blog entries on current films or music or politics useful but would be unlikely to cite them to support their own positions.

Authority Level 1 materials: Again, we will never post such materials, but for analytical purposes we would define them as having the following characteristics:

- A hypothetical “reasonable reader” would find them indicative of non-logical thought processes.
- Writing would be confusing or ambiguous.
- Organization would be so poor as to leave the reader lost and confused; we do not know why paragraphs are arranged as they are.
- There would be no indication of author and no attempt to establish authority.
- Utility of Level 1 materials: Like Level 2 materials, they might be useful for some scholarly projects, but not to convey information or analysis.

Please note that the standards for Level of Trust for posted pieces vary from those appropriate to electronic sites or clusters per se. For a discussion of the qualities of “good” sites see: http://mcel.pacificu.edu/jahc/features/epeef.html

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4 THOUGHTS ON “DIGITAL EVIDENCE AND SCHOLARLY PRACTICES”

pakar seo  
on February 3, 2014 at 12:16 PM said:

Thank you for the auspicious writeup. It in fact was a amusement account it. Look advanced to more added agreeable from you! However, how could we communicate?

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