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### **Unreliable Research: Are Librarians Liable?**

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### **Biographical statement**

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### **Abstract**

This paper examines the history and current cases of research fraud and deception, including the reasons for researcher transgression - reputation and career advancement, the chances of being caught, and the ineffective gatekeeper roles served by publishers and reviewers. It appears that librarians and LIS researchers are unlikely to conduct or publish unreliable research, but problems can arise when librarians distribute unreliable research in their collections. The wisdom of withdrawing all unreliable research from the collection is questioned, however, as some of this research may contain grains of truth that could result in future, reliable research.

This paper is concerned with unreliable research, which might also be called fraudulent, false, spurious, unethical, or many other names that indicate that the research is defective. It addresses two types of research: that done by librarians about aspects of their work, and that done by others, which we as librarians disseminate in our libraries.

## **A. BACKGROUND**

### **Ptolemy**

The phenomenon of unreliable research is certainly not new. The highly respected Greek scientist Claudius Ptolemy who lived in the second century B.C. is now suspected of conducting unreliable research. When astronomers of the 1800s re-examined his data that would predict the positions of the planets, they found that many of the calculations were very wrong – and that Ptolemy had lifted his data from an earlier astronomer. Ptolemy is also accused not only of the ancient crime of plagiarism, but the more modern crime of “creating” results to fit a theory of planetary movement that he was championing.

### **Galileo**

Galileo in the 1600s also conducted research that was highly suspect, despite the fact that he is known as the father of empiricism – basing theories on empirical evidence. Modern scientists have proved that the results he obtained from dropping stones off the Leaning Tower of Pisa to investigate gravity could not have been obtained, not surprising, considering Galileo’s fondness for conducting “thought experiments,” in which the brilliant man liked to imagine an outcome rather than actually performing the experiment. When he was asked about the outcome of an experiment that he had previously reported, and whether he had conducted the experiment himself, Galileo replied “No, and I do not need to, as without any experience I can affirm that it is so, because it cannot be otherwise” (Broad 1982, 27).

### **Newton**

Even Isaac Newton was not above “tweaking” his data to fit his theories. Historian Richard Westfall says that Newton “adjusted” his calculations on the velocity of sound and on the precession of the equinoxes, and altered the correlation of the variable in his theory of gravitation so that it would agree precisely with his theory.” According to Westfall, in his experiments Newton “manipulated the fudge factor with unparalleled skill” (Westfall 1973, 751).

### **Babbage’s Categories**

Being “creative” with scientific results was so common in the 1800s that Charles Babbage, the inventor of the calculating machine that evolved into our modern computers, wrote a book in 1830 about this careless, some would call criminal type of creativity. He catalogued different types of fraudulent research into three areas, which remain relevant almost two hundred years later:

- 1) Trimming – clipping off little bits here and there from those observations which differ most in excess from the mean, and in sticking them on to those which are too small.
- 2) Cooking – an art of various forms, the object of which is to give ordinary observations the appearance and character of those of the highest degree of accuracy. One of its numerous processes is to make multitudes of observations, and out of these to select only those which agree, or nearly agree. We call this now “selective reporting.”
- 3) Forging – The forger is one who, wishing to acquire a reputation for science, records observations which he has never made.” This creation of results out of thin air Babbage considered the most heinous scientific fraud (Babbage 1969).

## **B. WHY DO RESEARCHERS “CHEAT” AND WHAT ARE THE CONSEQUENCES?**

### **Greater Reputation**

In his third category, that of forging,” Babbage touches on one reason why researchers cheat – to obtain a greater reputation. Charles Darwin himself acknowledged that this was the main reason why he was less than fully honest about his research. Darwin based his theory of evolution on the work of several zoologists who had speculated for decades about the phenomenon of natural selection, but he was loathe to acknowledge his intellectual debt, some would say his plagiarized ideas, to others, even when pressed to do so. He said “I wish I could set less value on the bauble fame, either present or posthumous, than I do ...” (Merton 1973, 306).

### **Career Advancement**

Allied with fame and glory – possession of the shiny bauble – is the need for career advancement. Published research is the currency of the careerist, who needs to acquire a richness of publications to climb up the ladder within the research institution, the university, or within the academic library. According to William Broad, “The scientific paper at one time was a vehicle for the transmission of scientific truth and for speculation on the workings of nature, but today its importance has been diminished as it more and more has become a tool of the careerist” (Broad 1982, 56).

The curriculum vitae of many researchers today include thirty or forty pages of listed publications, as those researchers strive for promotions and increasing numbers of grants, both of which are dependent on publication record. The pressure to publish is enormous, perhaps there is too little time to actually “do” the experiment. Who will know if, like Galileo, one just does a quick “thought” experiment, rather than actually taking the time to test all the compounds, or ask all the questions of every person in the sample population of library customers, or analyze all those records of internet searches?

### **Getting Caught**

The propensity for dishonesty amongst researchers appears to be influenced by three factors: the rewards, which in some fields are very high; the perceived chance of being caught; and the personal ethics of the researchers. The chance of being caught is surprisingly low. The literature is replete with stories of researchers who carried on for years, publishing falsified data in

numerous journals. Two “over the top” medical cases in the 1980s are that of John Roland Darsee from the Harvard Medical School who falsified heart research findings for years in over one hundred medical articles (Kochan 1992), and Elias Alsabti, who practiced as a cancer specialist (with forged credentials) at numerous leading U.S. teaching hospitals for almost five years, and published almost fifty papers, most of which were partial or complete plagiarisms of papers published by others (Kohn 1986, 147). Darsee’s research assistants were very fearful of turning him in, as he was a super star at Harvard: even when they did raise doubts about the reliability of their supervisor’s results with new heart drugs, they were not believed. Much of the heart research at Harvard during Darsee’s tenure had to be scrapped, as it was based on his work. Darsee was caught only when a persistent official from the grants department of the U.S. National Institute of Health insisted that Darsee’s numerical calculations regarding drug testing results were incorrect, and an investigation began. Alsabti was fingered several times by authors who were horrified to see their work “republished” by someone else, but when cornered with the evidence of his stolen results or copied prose, Alsabti just resigned quickly and moved on to another hospital in another state. The teaching hospitals and research institutions that Alsabti disappeared from certainly did not want their credibility damaged, so very little publicity about his duplicity was ever released.

### **Responsibility of the Publishers?**

In both the Darsee and Alsabti cases, neither the editors of the refereed journals, nor the reviewers of the articles caught the crimes. The *British Medical Journal* claims that with the great number of medical journals published world-wide – nearly 8000 – that “it is well nigh onto impossible to check whether a paper has been published before” (Broad 1982, 56). And analysis of citation rates shows that the articles in many small research journals of all disciplines, including library science, are rarely cited. Which perhaps means that they are rarely read? So if the publishers are shirking the responsibility for catching fraudulent research, what about the reviewers?

### **Responsibility of the Reviewers?**

It appears that the reviewing system works, but not that well, mainly because reviewers are not suspicious enough. Researchers who review the work of other researchers have faith in their colleagues. Suspicion is considered slightly unseemly and perhaps a trait of someone unfaithful to the subject or not part of the discipline team. After all it is a “peer-review” process, and “peer” is defined as a person of the same rank, ability, or qualities as another, an equal. Scientists generally believe that the only people who falsify, fabricate, or plagiarize research findings are unbalanced and irrational, traits that the scientist would definitely have noticed in a colleague at the last conference they attended. Reviewers need to search more widely for plagiarized results – an activity that most claim they do not have time for and hope that someone else (who?) will do, and to be more skeptical. As Broad says:

“Scientists are not different from other people. In donning the white coat at the laboratory door, they do not step aside from the passions, ambitions, and failings that animate those in other walks of life” (Broad 1982, 19).

## Severity of the Penalty?

The cheating researcher weighs the chances of getting caught, and also the severity of the penalty. How “widespread” will the news of his/her notoriety be? Research on this topic indicates that the news remains quite localized unless the case becomes a “cause celebre”. Journals are loathe to publish letters from authors who are furious that their work has been plagiarized in that journal, and almost as reluctant to publish articles or letters that challenge the veracity of data or conclusions. Such “admissions” that they and their reviewers have stumbled mean only that the journal’s reputation is damaged and subscribers are lost. Only if honor and ethics prevail over economics will a retraction be published. The exception to retraction avoidance occurs with medical journals, where the fear of a lawsuit resulting from patient harm appears to prevail. But even then, a retraction printed in the same journal may never reach the eyes of the person who accessed the first, unreliable article, and therefore the unreliable or misrepresented data live on, cited over and over.

As shown by both the Darsee and Alsabti cases, unethical researchers are also unlikely to be publicly vilified by their institution, their employer. It appears that most medical institutions just want the dishonored researcher to slink quietly away, and most universities shun publicity about the debacle. I would imagine that a university library would do the same if it were determined that one of their librarians conducted and/or published fraudulent research, and dismissal would depend on how the conduct affected the ability of the librarian to do his/her job.

## Replication

The research and publishing arenas also have faith that unreliable research will be caught through replication, but this is largely a false hope. In all disciplines, including library research, there is no glory in repeating research, in going where someone else has gone before. The rewards of large research grants and publication in well-respected journals go to original work, not to steady, careful repeating of a project that confirms the results of work already done. Replication is hampered, as well, by the difficulty of obtaining the original data – they are often lost, misplaced, or inadvertently destroyed when the first researcher moves on to other projects. Replication research also carries with it the implication of challenge to the original researcher, a sense of cynicism about the original results or conclusions. The cause of unveiling unreliable research would be much better served if replication research were viewed as a compliment to the original research whose results were considered so important that the project was worth repeating and checking. But this is usually not the case.

## Electronic Publishing and Fraud

According to Marcel LaFollette writing in the *Journal of the American Society for Information Science* (2000, 1337), the consequences of publishing unreliable research have increased considerably with the development of electronic publishing but our ability to retrieve or retract information has decreased. I quote:

“At one time, a scientific publisher could safely assume that a journal’s readers came from the same narrow professional community as its editors. Journals were not marketed

outside that circle, and rarely sold on newsstands. Isolated in the science [or library science (my addition)] sections of libraries and hidden behind bland covers, they presented a stodgy and uninviting face to nonspecialists. Web-based publication – and the jazzy new graphics developed for interactive presentation of scientific data – have attracted all sorts of new readers to scientific journals. People who have never seen an actual printed copy of the *Journal of the American Medical Association* have now accessed its Web pages. Even those who do not read the technical articles on a journal's Website may read the general summaries, news, and commentaries; others have easier access to journal information through a host of new Web intermediaries that summarize medical and scientific news and provide links to the journals themselves. The speed with which information moves in cyberspace has alerted specialists to the need for accuracy and reliability for the sake of their colleagues and their professional reputation. The spread of information now makes accuracy and reliability essential for all of society.”

### **C. ARE LIBRARIANS LIKELY (OR LIABLE) TO CONDUCT FRAUDULENT RESEARCH?**

No, they are not. According to the only article that could be found on this topic, the transcript of a brainstorming session held in 1996 by the editorial staff of the journal *Library and Information Science Research (LISR)* (Fraud and Misconduct., 1996, 199). The primary reason for our honesty would be that the stakes are too low. The multi-million dollar research grants, high salaries, ultra-prestigious positions, and press recognition that are awarded to medical or other science researchers who publish many articles per year are largely absent from the library and information field. According to these editors, we're honest because the “bauble” spotlight that Charles Darwin coveted is not a reward that would be ours.

It would be folly, however, to assume that librarians and LIS researchers will be forever research saints, so speculation about when we might be liable to conduct unreliable research is prudent. The pressures of careerism, publish or perish, have become much more intense in LIS schools in the past twenty years, and this same pressure is now affecting academic librarians who have faculty status within their universities and for whom advancement depends on published research. But are we likely to be more vigilant about reviewing material for journals now that the pressure to publish has intensified? I think increased scrutiny of our peers will be difficult because the LIS community world-wide is quite small, leading us to think that putting the work of our peers under intense examination is an insult and a waste of time. It is likely that we will follow the lead of other researchers in assuming the absolute honesty of our peers, and presume that only an “unbalanced” researcher would cheat. This was the case in Canada regarding a fraudulent article in a 1990 issue of the *Canadian Journal of Physics*: Canada's small research physics community could not believe that one of their “own” had been dishonest (Montagnes, 1993).

Although no specific fraudulent LIS research could be identified, the *LISR* editors believed that some unreliable research in Babbage's first category – fudging – was likely slipping through the editorial and reviewing process. They felt that librarians were just as vulnerable as other researchers to slightly altering data to make results “cleaner” and conclusions more compelling. Fudging might also result from the tendency of inexperienced researchers to manipulate results

in inappropriate ways in order to obtain the results they want to see. Statistical magic can seem to be a very logical process if one really wants to obtain certain answers from a survey of customers or an analysis of on-line journal use. This fudging of figures is not forgivable, but at least it is due to ineptitude and not malice.

Another source of unreliable research done by librarians could be an investigation that breaks or bends ethical guidelines. For example, research concerned with the rapidly evolving area of internet research – how people search the Web, how they communicate through email, what communication patterns exist on electronic discussion forums (listservs) – involves numerous ethical issues related to privacy. Questions arise such as: What identification markers can we use when we describe the messages and search strategies we are researching? Must we use pseudonyms for everyone? Is it an invasion of privacy to quote a message from a listserv, even when no personal names are used? Will research with no identifying characteristics of the message author nor the message itself be of limited use and unable to be replicated? Typical of a research project that encountered ethical roadblocks was the doctoral research of Eino Sierpe, whose thesis is entitled “Gender and its relationship to perception in computer-mediated communication”(Sierpe 2003). Dr. Sierpe navigated the ethical shoals very well, but his research results were muted by privacy concerns. When he described the messages posted on a listserv, he (of course) did not identify the poster, but he also could not say what the messages were! The ethical issues surrounding this area of research and a report on the topic by the Association of Internet Researchers are described by Jeffrey Young in the *Chronicle of Higher Education* (2001).

An ethical misstep can indeed result in data collection that is tainted and unreliable: the offense may be due to lack of ability and not a deliberate oversight, but we are still liable for censure because of the transgression. Unfortunately, not all LIS schools have required research methods courses. And even some of the required courses concentrate almost solely on teaching librarians to be perceptive consumers of research rather than skilled researchers themselves. As well, exploration of good ethical practice sometimes receives short shrift in research courses, sidelined by the many hours required to explore various methodologies. So if we are to decrease our liability to do unreliable research, a greater emphasis on ethical research practices should appear in our courses, and we must make certain that our discussions of information ethics as it relates to practice, also relates to research.

#### **D. ARE WE LIABLE FOR UNRELIABLE RESEARCH IN OUR LIBRARIES?**

I could find no cases in which librarians had been found guilty or liable for distributing unreliable research in their libraries. But the question of culpability is inextricably entwined with intellectual freedom questions, of course. Do libraries, particularly university libraries, have a responsibility to maintain unreliable research on their shelves, so there is a record of this research, and so that it can be studied? How can we, or should we, mark materials to indicate that they are unreliable?

Librarians can receive little guidance on this issue from the literature – few relevant articles could be located. One by Sidney Berger, “Forgeries and Their Detection in the Rare Book World,” discusses the financial and reputation damage that forged books can cause to

universities and to dealers, and reveals the tricks of those who create and sell expensive spurious documents (Berger 1992). Steven Sowards in “Historical Fabrications in Library Collections”, discusses what he calls “problematic historical writings”, which include books purported to be diaries that are actually pure fiction, and books based on questionable or refuted World War II evidence that are often characterized as Holocaust revisionist materials. After weighing the options, Sowards recommends against labeling or stamping all such problematic material:

“...to begin such labeling is a doubtful undertaking; once begun, it requires us to conclusively weigh the worth of every book in the collection, lest we imply approval of those left without warnings. This is not only a gigantic task, but a controversial one; it asks librarians to come to unequivocal judgments where subject specialists and expert scholars have often been unable to do so” (Sowards 1988, 85).

The issue of “problematic historical writing” has erupted just recently with the book

*Arming America: The Origins of the National Gun Culture*, in which facts are disputed. This book has been pulled from the shelves of many American libraries, making it the fourth most challenged book in the U.S. for 2003, according to the American Library Association (Homan 2003).

Carol Hughes (1998) conducted a survey on the policies and procedures followed by medical libraries when they discover that research in their collections is fraudulent. Fifty-nine percent of libraries had no policies for calling the attention of the library user to retracted information in publications. Those libraries that did, either stamped the article – e.g. “all or a portion of this article has been retracted – contact reference desk for assistance” or tipped in a message about the retraction. With almost all medical journal literature now disseminated electronically, the U.S. National Library of Medicine’s MEDLINE publication of errata and retraction notices, which are linked to the original online article, makes it much easier for readers to become aware of unreliable research (U.S. National Library of Medicine, n.d.). This service also eliminates the need for medical librarians to continue with their previous method of finding retractions – searching through individual journals for retraction notices.

Fraudulent research mounted on websites has become a new nightmare for librarians as self-service internet access in our libraries continues to grow and as we increasingly direct customers to websites when answering reference questions. An article in *Searcher* magazine titled “Better Read That Again: Web Hoaxes and Misinformation” (Piper 2000) details different categories of hoaxes on the internet – including counterfeit sites, parody and spoof sites, malicious sites, and false product sites – but offers no solutions to librarians about how to deal with this misinformation, other than becoming more astute and cynical searchers.

One other area of unreliable research needs to be touched upon, that of libraries containing material that is alleged to be slanderous or libelous. Are we liable for continuing to carry that material after we have been alerted to the alleged libel, even though the material has not been proven in court to be libelous? A recent and ongoing case in Canada (*Warman v. BCLA*, 2004) indicates that repeating an alleged libel in your library books or in audio form may indeed be actionable, although no evidence could be found of a successful libel case against a library in recent years.

## E. CONCLUSIONS

The question of unreliable research must be viewed in the context of our strange twentieth century age in which we expect a kind of fraud and unreliability in everyday life. It is a time of overwhelming amounts of unsubstantiated and erroneous data on the Web that mixes with manipulated political information presented as truth on the television. It is an age of computer images of people and places that look like photographs but that are completely imaginary and digital, an age in which an actual photograph can be changed with free software to show something completely fabricated, an age in which popular “reality” shows like Survivor claim to be real, but are later proven to be completely staged. It appears to me that the concept of “unreliable” may now be slightly hazy for society in general, and perhaps for librarians and LIS researchers as well. But if we remember the research misdemeanors of Ptolemy, Galileo and Newton, perhaps we can take heart when we acknowledge that this area is a difficult one, with no easy answers.

So, are we liable for unreliable research? For errors either malicious or inept in the research projects that we conduct, yes. But we are liable no more than researchers in other disciplines, and that means that our “sentence” will be light, if we are discovered at all! We will likely be sentenced to censure by our peers, but this censure will not likely be widely known.

For the research of others? Not likely, particularly if we make every effort to provide retraction information for the material that has been withdrawn by the publisher. With regard to material not retracted but still unreliable, solid collection management policies and practices that address selection should protect us. The jury is still out, however, regarding alleged libelous/defamatory material, as we may be liable for “repeating” the defamatory words. Although libel laws vary in each country, and sometimes in each state/province, the law regarding libel generally says that as soon as a secondary distributor (bookstore, newspaper) discovers that material is alleged to be libelous, the material must be pulled from distribution. The best we can do is be aware of the laws in our jurisdiction and practice “due diligence”.

For librarians, however, a larger question lurks behind this exploration of unreliable research when we examine it in the context of intellectual freedom philosophies as expressed by Article 19 (n.d.) and FAIFE (Libraries 2004). Should we really make all unreliable research disappear? If we do remove it from our libraries, how can anyone know what the fraudulent research said? Many times, research from the past that was alleged to be untrue, either because it was claimed to be slanderous or fabricated, fudged or fraudulent, turned out to have a grain of truth within it, a grain that grew through further research into solid results. John Stuart Mill in *On Liberty* stated four reasons in support of freedom of expression, the second of which said:

“Though the silenced opinion be an error, it may, and very commonly does, contain a portion of truth, and since the general prevailing opinion on any subject is rarely or never the whole truth, it is only by the collision of adverse opinions that the remainder of the truth has any chance of being supplied” (Mill 1985, 116).

So let us try to do reliable research ourselves, so that we are not liable for censure, and let us provide for our customers the reliable research that they seek, but let us not destroy without

question the unreliable research – it's liable to provide a very interesting story, and perhaps, just perhaps, a grain of truth.

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