

Lack of Volition and Lack of Knowledge: Obstacles to Correction of Errors in Science

If peer review really functioned as it is supposed to, it would be much more difficult to publish serious errors in the scientific literature than it would be to correct such errors after they are published. Peer review experts would detect errors before they are published, and if errors happened to escape pre-publication peer review detection because of lack of knowledge (on the part of the experts), editors of scientific publications would rectify this situation by publishing corrections once other scholars detected the errors. That is the basis of the often quoted phrase "Science is self-correcting."

Paradoxically, in many cases it seems that it is much more difficult to publish corrections of error than it is to publish the errors in the first place. Clamorous cases such as those involving Darsee, Bruening, Baltimore, etc., indicate not only that many serious errors escape pre-publication detection by peer review experts, but also that attempts to correct errors face serious obstacles. (Altman and Hernon, 1997, pp. 11, 22, 40-42, 153-154) Such obstacles might be viewed in terms of lack of volition, or lack of knowledge, or both, on the part of editors of scientific/scholarly journals, peer review experts, and/or academic authorities.

Truth is often elusive, and the subject matter on the so-called frontiers of knowledge can be so specialized, complicated, and technical that even the most prestigious experts might not have enough knowledge or comprehension to be able to distinguish between specific truth and error. Federico Di Trocchio (1997), in his book *Il Genio Incompreso: Uomini e Idee che la Scienza non ha Capito*, discusses many cases of lack of comprehension/knowledge.

At the same time, sometimes it is difficult to determine whether the resistance and obstacles to the correction of error are the result of lack of volition or lack of knowledge.

In the Baltimore controversy, the Appeals Board of the Department of Health and Human Services (HHS) stated that the scientific article in question was "rife" with errors, including errors that "despite all these years and layers of review, have never previously been pointed out or corrected." (*Science*, 1996, p. 1864) The lack of volition to correct errors in the Baltimore case, and in several other cases involving scientific authorities and organizations, is well documented by Lang (1998). But in the Baltimore case it might also be that experts at Tufts and Massachusetts Institute of Technology (MIT), who carried out specific investigations, did not have the knowledge necessary to detect all those errors. In any case, the lack of volition to correct scientific error seems to be the most serious obstacle. Such lack of volition can involve toleration of falsification, cover up, and intellectual suppression. Scholars can not really be blamed if they do not possess enough knowledge to detect and correct all the errors that have been published in their specialized fields of study. But how can they justify deliberate attempts to prevent specific corrections of errors when they know that such errors have been published?

Three case studies will be described briefly to illustrate the extent of lack of volition that can take place.

1. Lincoln Laboratory at MIT, the United States Government's Antimissile Defense System, and Prof. Theodore Postol.

* Florence, Italy.

This case has been reported in considerable detail by William Broad (2003), in the article "M.I.T Studies Accusations of Lies and Cover-Up of Flaws in Antimissile System." The case revolves around a 1998 study conducted, in large part, by scholars at the Lincoln Laboratory of MIT.

Prof. Theodore Postol, an expert on advanced weapons (and a tenured professor at MIT), claimed that the report was seriously in error, and he requested the MIT President to make a formal investigation. After much delay, Prof. Edward Crawley, an MIT expert on aeronautics, was assigned to investigate. According to Broad, Crawley stated that he could not detect any "technical" errors in the 1998 report. But Crawley's conclusions were in rather wide disagreement with findings of the U.S. government's General Accounting Office. Postol noted these discrepancies, and continued his battle to have the errors corrected.

Based on Broad's account, lack of volition is indicated by the long delays on the part of MIT officials to investigate the matter. If it turns out that there are technical errors in the 1998 report, then Crawley's statement that he found no such errors might indicate that Crawley, despite his high position at MIT, lacked the expertise and knowledge necessary to detect the errors.

2. Yale University, *Yale Scientific Magazine*, HIV-AIDS Research, and Prof. Serge Lang.

A full documentation for this case is in Serge Lang's unpublished study, *The Yale Scientific File* (2002).

In recent years, Lang (a Mathematics professor at Yale) has published articles on HIV-AIDS research in *Yale Scientific*, including "HIV-AIDS: Have We Been Misled?" (Lang, 1994), and "The Case of HIV: We Have Been Misled" (Lang, 1999). For both of these articles, the student editors of the journal published editorial comments about the importance of Lang's ideas on the subject.

Then, in the Fall, 2001, issue, David Weinreb (2001) published the article "Imagining the Future of Science," which included a subtitle "Fighting AIDS in the 21st Century." Not only did this article ignore Lang's recent articles, but also concentrated on the drug d4T, a drug marketed by Bristol-Myers Squibb, and for which Yale has been receiving about 40 million dollars a year in royalty payments as a result of sales of the drug.

Lang submitted a rebuttal, pointing out basic defects in the official HIV-AIDS hypotheses, and emphasizing that d4T has serious side effects (even lethal in some cases). The editor of *Yale Scientific*, Margaret Ebert, refused to publish Lang's rebuttal, and reason for refusal is that the journal's current policy is to publish only material written by students. However, at the same time that she was refusing to publish Lang's rebuttal for this specific reason, the journal's informative and promotional material states that the material in the journal is written by both students and professors: "The articles themselves, written by undergraduates, graduate students, and faculty, are engrossing, timely, and well researched."

Both Weinreb and Ebert were students in this case. The absurd reason given for refusal to publish is a clear indication of lack of volition to allow the correction of error. This seems to be a disgraceful and unflattering situation for students entering a career in a field that touts the phrase "Science is self-correcting."

3. American Psychology Association (APA), *Contemporary Psychology*, and James F. Welles.

This case is discussed in the article by James Welles (2002), "An error uncorrected: A case study of intellectual corruption," in the online journal *Ethics in Science and Environmental Politics*.

The error in this case does not seem to be serious from the standpoint of the subject matter itself.

In a book review (published in *Contemporary Psychology*), Prof. Thomas Blank wrote that one of Welles's ideas had been published before. Welles denied this, and tried to elicit and publish a correction of Blank's assertion. When Blank did not reply, Welles sought help from the APA (the scholarly professional society that controls the journal *Contemporary Psychology*).

The description by Welles indicates an evident lack of volition to correct error: "... no one would correct the erroneous allegation.... I then turned to the APA in hopes of ... effecting a correction, but all my attempts were rebuffed I have never known a case in which so many well-educated people have distinguished between right and wrong and deliberately chosen to be wrong." For Welles, this experience "shatters the myth that ...science is ipso facto a self-correcting institution." If Welles gives an accurate account, the lack of volition to correct error in this case would include a toleration of falsification on the part of academic authorities. A variety of other cases of toleration of falsification on the part of academic/scientific authorities are discussed in the book *Silencing Scientists and Scholars in Other Fields* (Moran 1998, pp. 63-74).

Conclusion

It is obvious that many corrections of errors are, in fact, published in scientific journals over a period of time. If science is self-correcting, there should not be any lack of volition, on the part of scientists, to correct errors. In any case, it seems possible that scholars who attempt to correct errors might find some allies in the future among some academic librarians. Recently, T. Scott Plutchak (2002), Director of the Library of Health Sciences at University of Alabama, and also editor of *Journal of the Medical Library Association*, has written, "Maintaining the accuracy of the historical record is fundamental to the success and advancement of science." (p. 162) By contrast, just a few years ago, Ellen Altman wrote that "many librarians take no responsibility for the accuracy/correctness of any of the information in their collections." (Altman and Hernon, 1997, p. 113) Initiatives and proactive, creative assistance from academic librarians might help scholars overcome some of the obstacles created by lack of volition, on the part of academic/scientific authorities, to correct errors.

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