On the Importance of Inaccurate Bibliographic Citations

To the Editor—Recently, McLellan et al. reported finding a very high incidence of errors among references cited in four widely read anesthesia journals. We have no disagreements with the facts presented in the article, nor with Biebuyck's editorial comments, we are concerned that the article might be misinterpreted by the casual reader. This stems from the very broad definition of "error" used by the authors. In actual fact, the overwhelming number of errors were described as either spelling or typographical mistakes in either the article title or in the list of authors' names.

As active biomedical researchers, we are constantly searching for published articles. We agree that deleting an author's name from a citation (or misspelling it) might be offensive or that a mistake in the title can be confusing. We also realize the problems of "self-perpetuated" (but never read) citations that have a life of their own. However, this latter case is not a "citation error" but a failure of the authors to read or carefully study the cited articles—something that may be more of an ethical issue than a publishing one. We personally believe the primary purpose of a bibliographic reference is to permit the reader to find the original article and that the only serious "error" that is important to most readers is one that makes it impossible to locate the primary source.

Because of our interest in this subject, we attempted to estimate the number of unretreivable references in Anesthesiology. We selected Volumes 72 and 73 from 1990. The references sections from the first 50 articles from each volume were photocopied. Only Clinical or Laboratory Investigations were included, i.e., we did not use Case Reports, Editorials, etc. Using a random number list, we selected one citation from each references section. This new list of citations was then given to two part-time college students working in our department who attempted to find and photocopy the cited references. These individuals were not told the purpose of the search, and were not familiar with the content of any of the articles. They were, however, familiar with the organization of materials in the Health Sciences Library and had substantial experience in retrieving materials. If an article could not be found, assistance was sought from a librarian, if needed, an interlibrary loan was requested.

A total of 98 articles were requested (in two of the original articles, the random number used was larger than the number of citations in the reference list). Of these, only a single article could not be found, that being an abstract from 1986. This effort yielded a successful retrieval rate of 98.98%.

We did not attempt to check all aspects of the citation (spelling, etc.) as was done by McLellan et al., and hence, we made no attempt to confirm their work. We also do not wish to argue with the concept that accuracy in the citation is important. However, if one believes that retrievability is the crucial factor for any reference, it would appear that Anesthesiology and its authors are doing an excellent job. If this can be confirmed in other publications, it suggests that the overall incidence of "serious" errors in anesthetic journals may be very low.

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References
2. Biebuyck JF: Concerning the ethics and accuracy of scientific citations. Anesthesiology 77:1-2, 1992

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In Reply—Todd and Warner focus on "retrievability" being the crucial factor for any cited reference. I certainly emphasized this as one of the essential and important purposes of scientific citation. However, the main message of my editorial was to exhort faculty mentors to instill the important principles of scientific conduct and integrity into young investigators in both clinical and laboratory research. A most important such principle is that authors should personally consult and read the original referenced materials prior to citation. In other words, citation errors are often the "give-away" that the original paper was not read. Such a "lack of discipline" might then also influence an "investigator's approach to research protocols, data management, and laboratory practices in general."1

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Reference

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