

Deciding what's fit to print

The title of the editorial in the December 23, 1990 issue of the *Columbus Dispatch* was enough to raise the hackles of any scientific journal editor. It read, "Much published research valueless," and to make matters worse, the author was a science writer from my own institution, The Ohio State University.

The author, Earle Holland, cited a study commissioned by *Science*, the well-respected scientific journal, to find out how often papers were cited by other scientists. Citation is believed to be a good measure of the value of a scientific publication, the implication being that the more a paper is cited, the more scientists are using its information to develop their own work.

The findings were interesting. Fifty-five per cent of papers published in the first half of the previous decade were never cited. Most papers that were cited were cited only once. The conclusion of the investigation, which combined the results of this study with those of an earlier one, was that four out of five scientific papers published are cited only once.

Another related observation by Holland was the proliferation of scientific journals; their number grew from 70,000 to more than 100,000 over the last 20 years. This growth is related in the article to the need for academic types to publish in order to be promoted. A thick promotion dossier looks better than a thin one, and when it's reviewed by university peers who are not scientists, a large number of publications can't hurt. There also is some safety in publishing in an obscure, but formidably titled journal, in that few outside the field can relate to its stature or quality.

Having served on the promotion and tenure committees at two major research universities, I can appreciate Holland's point of view. We see a lot of paper. In fact, my children, who are 4 and 6 years old, color on expended promotion documents I bring home, and there are already enough to provide the same service to the next generation.

I have an alternative, less-jaded viewpoint, having worked in scientific journalism for 20 years. I believe in

the system, and in the many people who spend countless hours trying to instill value in the printed word.

Still, it is difficult to assign value. In the arts, for example, what appeals to Jesse Helms might not appeal to Madonna. What passes for art often looks like it was just passed by the artist! In the sciences, it's easy to question the value of enzyme studies in obscure single-cell organisms, or similar basic work. All of us have questioned the relevance of manuscripts in *Pediatric Dentistry* at one time or another.

Science is built largely upon previous work. Each step is a building block upon which new discoveries are based. It is too simplistic, however, to view this process as you would the discrete development of a geometric theorem. Often, the scientific paper is the stimulus that starts another scientist thinking on a new tangent. In other cases, a published work can reveal a problem or obstacle whose existence eluded another researcher. In both cases, the publication might not be cited.

Another perspective that may explain the lack of citation and the growth of journals is the exponential growth of knowledge over the last 20 years. Animal species continue to be discovered, chemicals are created in the laboratory, and instrumentation to measure phenomena is refined. Today's wristwatches have more artificial intelligence than Univac[®], the first computer. Electron microscopy has overtaken light microscopy in investigation, and today, you don't talk genetics unless you talk in terms of molecular genetics. We only need to look at our own field of dental materials to see the lost and forgotten materials and their related research strewn by the wayside, never again to be cited. The growth in scientific journals has paralleled the growth of science, and the lack of citation may have more to do with the turnover of science than with its value.

Still another positive perspective on the value of scientific literature is that of censorship. The selection process is a form of censorship, in that someone else is choosing your reading. Available space in publications, adherence to strict scientific methodology, and cliqu-

ishness in scientific circles all affect what's fit to print. The proliferation of journals and their contents can be likened to competitors in the free enterprise system, with the consumer benefiting from the availability of a wider range of products. The analogy also fits with respect to the lack of citation, as useless information is discarded for that which is valuable.

Pediatric Dentistry and journals like it have an added dilemma in that scientific relevance doesn't necessarily mean clinical relevance. Perhaps our greatest challenge is to provide a product that satisfies both masters. The addition of the scientific letter and short communication

to our journal's offerings is an attempt to do just that. We've tried to reduce the volume of material to leave just the essentials. We also can publish a wider variety of offerings to meet our readership's diverse interests.

The debate on scientific value undoubtedly will continue, but it is unlikely that we will see a solution. Electronic media will provide even more space to be filled and audiences to be reached.

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Pediatric Dentistry, The Journal of the American Academy of Pediatric Dentistry promotes the practice, education and research specifically related to the specialty of pediatric dentistry.

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Pediatric Dentistry (ISSN 0164-1263) is published bimonthly in February, April, June, August, October, and December. Second class postage paid at Chicago, Illinois and additional mailing offices. **Publications Department:** American Academy of Pediatric Dentistry, 211 E. Chicago Ave., Suite 1036, Chicago, IL 60611-2616. **Return postage guaranteed.**

Subscription Information: Contact American Academy of Pediatric Dentistry, Publications Dept., 211 E. Chicago Ave., Suite 1036, Chicago, IL 60611-2616. Subscription rates:

NONMEMBERS — individual subscription - \$65; institutional - \$80 (add \$20 per volume for delivery outside USA); single copies - \$17 (add \$4 per issue for delivery outside USA). **MEMBERS** receive *Pediatric Dentistry* as a benefit of membership and can order back issues at \$45 per volume and \$14 per single issue. Checks and money orders in US dollars payable to American Academy of Pediatric Dentistry. Cancellations are not accepted.

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Changes for the better

If you read the *Instructions for Contributors*, you'll notice some changes. Two new categories of contributions have been added to the journal, joining the classic scientific study and the case report. The short communication is designed to portray brief scientific observations, clinical cases, or techniques, without extensive review of the literature or lengthy presentation of data. The letter is meant to be a short conveyance of an observation, an unusual finding, or a discovery.

From the reader's perspective, these changes mean more information in each issue of *Pediatric Dentistry*. Both of these new formats will provide focused presentations palatable to the busy reader, with more detail than an abstract, and without the need to wade through lengthy text to find the meat of the article. For those readers interested in more information, pertinent references and authors' addresses will be included.

These new formats also provide us the luxury of rapid publication, since minor revision and editing can be done by our staff. A traditional manuscript may take as long as a year to go from our mailbox to yours with revision and review; we hope that the short communication and letters will shorten the delay in transferring information to you.

Prospective authors should find the new formats equally desirable, with easier preparation, rapid review, and quick publication as obvious benefits. Both formats will be indexed in our annual summary. Short communications will receive the same impartial review as full length manuscripts. Letters will receive editorial scrutiny for suitability for publication.

Without these new formats, we would be forced to return important contributions to the pediatric dental literature to authors because of lack of available space. Many submissions have messages which are either new or otherwise important, but are accompanied by lengthy reviews of the literature which are duplicative of similar reviews in *Pediatric Dentistry* or other journals. Some authors also erroneously felt that exhaustive manipulation of data enhances the likelihood of publication. The new formats give us the opportunity to present the information that would be in these submissions without significant revision by us or the authors in a very readable form.

Let us know what you think.

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