

TO THE EDITOR:

The work of the present rests firmly on the labors of the past. Today's research studies and treatment trials are virtually always evolutionary developments of scientific, clinical, and theoretic forebears. Prior investigations inspire new questions or offer profitable insights upon which new explorations are built. In all of our undertakings, we owe our future to our past, and that past is written in our journals, in our professional texts, and in our conference proceedings.

It follows, therefore, that the first stage of experimental design or clinical innovation is a careful examination of what has gone before. Sometimes the immediate purpose is to discover if others have previously asked a question like ours, and to learn what answer they may have found; sometimes we are searching for a solution to a measurement problem; sometimes we are seeking reassurance that our problem has not already been successfully resolved or, conversely, that the earlier efforts were either deficient or in error. The literature review, in short, is a first –and crucial—step in the forward progress of our undertaking.

When we report our work to the professional public we are obliged to offer an explanation of why we have done what we've done, to explain how our approach to the problem is either improved or novel, and to explain why it all matters. That's mostly done in a carefully-structured section of the journal article or conference report titled "Rationale," whose skeleton is our literature review.

Modern digital technology makes literature searches very much easier and more convenient than they were just a few years ago. Tedious hours of library work, often supplemented by postcard requests for reprints, and location of obscure journals or conference reports have condensed into keystrokes at a desktop computer. In so many ways, today's data bases and digital portals have made the job of reading the past very much easier and infinitely more convenient. But the digital age has also introduced a problem: all too often the wells from which we draw are far too shallow. For obvious reasons databases and, especially, digital repositories are focused on the last several decades and all too often include little, if anything, of a long and rich antecedent history. Yet the more distant past is often quite relevant and not uncommonly offers insights, perspectives, and sometimes methods that are useful to a current undertaking. We need to know about the achievements –and failures—of the past in order to more validly work in our present and generate our future. And the readers of our reports –journal articles, textbooks, conference presentations—need to be informed of the relevant parts of that history in order better to evaluate the new information that we put before them.

It is incumbent on us, then, to mine the literature more deeply into the past than our digital resources may conveniently allow. Admittedly, a search of the earlier history is likely to be more difficult, but it is essential and its results should, in summary form, be part of our communication to our colleagues. Increasingly, it seems, we are not doing a good job in this regard. There is perhaps a reason other than convenience. Academic reward systems do not encourage citation of old literature. Editors feel the pressure to encourage authors to load their manuscripts with recent citations. This improves the impact factor of the journal. Furthermore, young authors prefer to cite their contemporaries because it leads to reciprocation and better chances for positive reviews. Authors have figured out that reviewers are often chosen from their reference list. Thus, the author reasons, the more I cite the person I want to review my work, the better my chances appear to be for a positive review, assuming I understand the cited work and put it in a good light.

The approach can lead to an unfavorable outcome, however, if the review is conducted by a seasoned scientist who has a perspective of the past. This reviewer may ask for the first publication on a given topic, or at the very least a chronological order of citations that honors the original work. The purpose of a senior author on a paper is to create a balance between the foregone and the more recent discoveries.

There is an ancillary issue to which we also need to pay better attention. Today, the default medium of scientific and intellectual communication is English, but this is a relatively recent development. Other languages—especially German and French, and sometimes Russian—are common media in which much of the important ideas, experiments, and methodology of earlier times were reported. We delude and disadvantage ourselves if we believe that literature reviews restricted to English-language materials are thorough, or even adequate.

We call upon our colleagues to undertake—and report—a more historically-adequate review of the intellectual terrain on which they are working, and we emphasize—and our journals should recognize—that today's antecedents are expressed in many languages. Careful consideration of our historical roots, for reasons practical, philosophical, and educational, is an obligation of authors and investigators, and should be a criterion for inclusion in our journals.

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