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Strobe and the standardisation of scientific practice

Louise Potvin, PhD

The IJPH editorial board has decided to support the Strobe initiative whose recommendations make a lot of sense for reporting the results of epidemiological observation studies. Indeed at face value the 21 items that constitute Strobe recommendations can be seen as just a systematic presentation of quality criteria that all reviewers apply to manuscripts submitted for publication. A priori, there is nothing wrong with making those criteria explicit and widely disseminated. So let's all strobe happily!

Independently of their contents, initiatives like Strobe should be critically examined for their implication on scientific practice. Since the controversial but highly influential work of the anthropologist of science Bruno Latour [1], it is of public knowledge that scientific activity, what we do daily in our labs and offices, is much messier and less straightforward than what is reported in scientific papers. Science in the making, according to Latour, is full of trials and errors, false avenues and arbitrary decisions. What gets reported at the end of this process to constitute scientific fact is often a smoothened account that masks this laborious and often rocky process. Calling for a greater standardisation of scientific reports, Strobe is likely to have a profound impact on our entire practice as scientists.

The first question to ask concerns the identity of those attempting to rule our practice. Strobe is the result of a taskforce involving senior editors of scientific journals in the field of prevention and epidemiology and scientists who have made a career at synthesising others' work in meta-analysis. These are people of authority! They can decide whether or not our work will be published in the case of the former and whether it will be integrated in the creation of more general "scientific facts" in the case of the latter. In the current organisation of science and academia those are invaluable material and symbolic outcomes contributing not only to career advancement but also to peer recognition. So what is the interest of the people who edict those criteria? More uniformity in our field leading to being better able to judge what is in and what is out! Quite reasonably, our compliance with Strobe recommendations is very likely to facilitate their work. Editors will have a set of objective, well disseminated and agreed upon criteria on which founding their decisions: ready made answers to serve to discontent and vocal authors. Meta analysts for their part will be more easily able to fill out cells in their grids: strobed papers will all contain the information needed to produce valid synthetic indices.

There are however dangers with strobing our practice, with complying with the requirements of an authoritative body in the daily conduct of research. First, reporting guidelines were originally designed for the results from randomised controlled trials, a highly rigid method primarily efficient for the empirical testing of narrow causal hypotheses. Cohort, case-control and cross-sectional studies are exploratory endeavours mostly used to search for new associations and to identify risk factors. Their conduct is much more open to arbitrary decisions and amendments of previous strategies than RCT. It is highly possible that rigid applications of the principles underlying observational studies will lead to losses in the "discovery" potential of those methods and in the richness in the possibilities they open up for future investigations.

A second danger of accepting that scientific activity can be explicitly ruled by a panel of self appointed experts, no matter how recognised they are in their fields, is that it represents a breach in the capacity for scientific creativity.

The sociology of the scientific community is characterised by the inferiority of authoritative arguments over logic or arguments derived from robust empirical observations [2]. Indeed the history of science is replete with discoveries that questioned "established facts", which like the theory of ether were later proved to be untenable. One would counter argue that Strobe is ultimately about methods and not the substantive content of scientific facts. But, from an epistemological perspective this is a false dichotomy. Scientific methods, like any scientific theory only represents the best representation we collectively hold at any given time of the object of our investigation for the latter and of the manner to construct those representations for the former. Accepting an authoritative argument is essentially counterproductive for the scientific community.

So what to make out of Strobe? This Journal (like many others) will encourage authors to check their manuscripts against Strobe criteria. Reviewers will be told not to use Strobe criteria to judge papers' quality. Finally, editors will make their final decisions weighting reviewers' comments with their own knowledge of our field and a variable factoring in of Strobe items. Papers will be more uniformed and easily synthesizable, making our field and its representation through its published material ultimately more boring, until some day, some iconoclastic young researchers (senior and established researchers have too much to loose to do so!) will write the paper that will lead to the "unstrobing" of our field.

Louise Potvin

References

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2. *Campbell, D. T.* The experimenting society. In: E. S. Overman (ed.), Methodology and epistemology for social sciences. Selected papers. (290–314). Chicago: University of Chicago Press.

Address for correspondence

Louise Potvin, PhD
Médicine sociale et préventive
Université de Montréal
C.P. 6128, Succ. Centre-ville
Montréal, QC H3C 3J7
Canada