Short ‘Reflective’ Think-Piece

The Blind Men and the Elephant: A Metaphor to Illuminate the Role of Researchers and Reviewers in Social Science

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Abstract
There has recently been a tremendous growth in systematic literature review methods in social science, which may create confusion as to the role of researchers and reviewers. I argue that the tale of the Blind men and the elephants is a metaphor that illuminates the elusive nature of reality and the work of both primary researchers and various types of reviewers. The value of the metaphor is illustrated with a case drawn from the field of policy and program evaluation. Despite its limitations, this metaphor may lead social scientists to reflect upon the rigor of their literature review practices.

Keywords: evidence movement; literature review; systematic review; scoping study; systematic map; research synthesis; epistemology.

The Rise of Systematic Reviews
Not so long ago, there were few methodological standards and guidelines for social scientists who undertook literature reviews. Things have recently begun to change, however, under the impulse of what has been termed the ‘evidence movement’ (Hansen & Rieper 2009; Oakley 2002) and, more generally, under the surge of interest for knowledge use and transfer (see e.g., MacGregor 2011). Various review and synthesis approaches—for instance, systematic reviews, scoping studies, rapid evidence assessments, meta-analysis, realist review, meta-synthesis and qualitative evidence synthesis—are now available (Arksey & O'Malley 2005; Ganann et al. 2010; Hannes & Harden 2011; Lorenc et al. 2012; Pawson et al 2005; Petticrew & Roberts 2006; Sandelowski & Barroso 2007). Despite their differences, these approaches all share the same purpose, namely reviewing primary studies using rigorous, transparent, and reproducible methods (Daigneault, Jacob & Ouimet 2012). As literature review practices are now increasingly codified and various approaches proliferate, confusion among users and consumers may result, hence the need for better classificatory schemes (Gough et al. 2012; Grant & Booth 2009). In particular, it is sometimes difficult to distinguish between the purpose and tasks related to various types of literature reviews.
The purpose of this essay is not to develop another typology but, rather, to propose a metaphor, namely the *Blind men and the elephant*, to illuminate the purpose of both primary research and literature reviews. Whereas some might argue that metaphors should be confined to the realm of humanities, metaphorical thinking is in fact an integral part of doing good science and communicating it effectively (Brown 2003; Loffler-Laurian 1994).

**The Metaphor**

The *Blind men and the elephant* is a tale that comes in many versions (see Figure 1). Here is one of them:

According to Indian folklore, there were once six blind men who had heard of the animal called the elephant but did not know what one was like. To satisfy their curiosity, they decided one day to use their sense of touch to determine the creature’s appearance. Matters became confusing, however, when each man touched a different part of the elephant and became convinced that he alone understood its true nature. “The elephant is very like a snake!” proclaimed the man who had touched its trunk. The fellow who had touched its side, however, declared the elephant to be “nothing but a wall,” whereas the man who touched the creature’s tusk claimed that the elephant was “like a spear,” and so on. It is no wonder, then, that the six men could not agree on the true appearance of the elephant (Saxe, 1936). (Bosson et al 2000: 631)

**Figure 1: The Blind Men and the Elephant**

*Source:* Himmelfarb et al 2002: 1526 (artist: G. Renee Guzlas). All rights reserved ©. Reproduced by permission of J. Himmelfarb, P. Stenvinkel, T.A. Ikizler and R. M. Hakim.
Illuminating the Work of Primary Researchers

I argue that this metaphor is interesting to illuminate the work of both primary researchers—those who have conducted the studies—and reviewers—those who conduct a literature review of these studies (on this distinction, see Sandelowski & Barroso 2007). On one hand, it accurately represents the work of primary researchers interested by a same object who, collectively, conduct studies on different parts of it (e.g., the ‘trunk’, the ‘tusk’). For instance, participatory evaluation has been the object of interdisciplinary studies with different purposes: highlighting the challenges posed by its practice (Coupal & Simoneau 1998), theorizing and operationalizing the concept (Daigneault & Jacob 2009; 2013; Daigneault, Jacob & Tremblay 2012), understanding its history (Brisolara 1998), criticizing it (Gregory 2000), or studying its impact on other constructs of interests, such as evaluation use (Cousins 2003; Greene 1988; more below). While there are some overlaps, these various studies address different research problems and, when they do, they use various perspectives (e.g., two blind men analyze the tail of the elephants by using different senses, touch and olfaction). Moreover, the metaphor describes the constructed and uncertain nature of knowledge that we, social scientists, produce with our limited methods (see King et al 1994; Sandelowski & Barroso 2007). This point is not meant to be a criticism but could nevertheless be perceived as such to the extent that one espouses a naïve positivist position according to which ‘there is a single, uniform reality that researchers attempt to measure in a precise, objective, and neutral manner’ (Rubin & Rubin 2011: 22). In effect, the account of each blind man is an empirically-informed construction that only tells part of the story. Every metaphor is an imperfect reflection of reality, to be sure. In this case, researchers have a reflective capacity that distinguishes them from the blind men in the tale.

Illuminating the Work of Reviewers

Literature reviews play a fundamental role in social science. Indeed, it is the ultimate tool that is available to us, social scientists, to take stock of what has been done on a given topic. There is a parallel to draw between the work of reviewers and the reader (or narrator) in the tale of the blind men and the elephant. On one hand, the reader has no direct knowledge of the elephant: everything he or she knows depends upon what the blind men have said about it, which again, is constructed. On the other, the reader has the ‘luxury’ of a vantage point that none of the blind men have. As a result, he or she can attempt to sort out, assess and integrate their accounts.

Yet, reviewers differ in how they conduct their work, depending on whether they use systematic methods or not. Those who conduct ‘traditional’ or ‘conventional’ literature reviews are neither comprehensive in their search for references nor systematic in their treatment of them:

> Literature reviews, even those written by experts, can be made to tell any story one wants them to, and failure by literature reviewers to apply scientific principles to the process of reviewing the evidence, just as one would to primary research, can lead to biased conclusions, and to harm and wasted resources. Yet, traditional literature reviews frequently summarize highly unrepresentative samples of studies in an unsystematic and uncritical fashion… (Petticrew & Roberts 2006: 5)

In terms of the metaphor, this means that conventional reviewers would paint an incomplete and even distorted picture of the elephant. For one thing, their search would not be comprehensive and thus neglect some of the blind men’s accounts. For another, their integration of the blind men’s accounts they are aware is likely to be based on implicit and ‘haphazard’ criteria. Conventional reviewers could erroneously conclude, for instance, that the elephant is hard like a wall.
Systematic reviewers who use rigorous, transparent and reproducible methods to review the literature would proceed differently to learn about the elephant. First, they would carefully develop a review question related to some aspect of the elephant. Second, they would develop a search strategy and inclusion criteria (e.g., the account must be based on a particular sense such as olfaction). Third, they would carry a comprehensive search to identify all accounts that appear relevant. Fourth, they would proceed to an in-depth examination of accounts to screen them according to the inclusion criteria. Fifth, the quality of each individual account would be assessed. Sixth, they would synthesize the accounts, either qualitatively or quantitatively. Seventh, the results of the review would be disseminated (the steps of the review process were adapted from Petticrew & Roberts 2006). Whereas these steps represent how systematic reviews ought to be carried in theory, the practices of reviewers rarely perfectly conform to this model. Furthermore, the highly codified nature of systematic reviews, especially in their Cochrane or Campbell variants (see Hansen & Rieper 2009), also carry various limitations. One limitation is the risk for reviewers to be so removed from the elephant that it threatens construct validity. In other words, systematic reviewers believe that they study the elephant but, in reality, they study an abstracted and impoverished version of the elephant. These limitations should not be overstated, however.

The steps above characterize a ‘full’ systematic review process, but there are other options in the ‘systematic review family’. For instance, rapid reviews ‘aim to be rigorous and explicit in method and thus systematic but make concessions to the breadth and depth of the process by limiting particular aspects of the review process’ (Butler et al. 2005, as cited in Grant & Booth 2009: 100). Because the informational needs of decision makers often cannot wait to be satisfied, examples of rapid reviews abound in the literature (e.g., Daigneault, Jacob & Tereraho 2012). Other types of reviews, such as scoping studies or reviews (Arksey & O’Malley 2005; Levac et al. 2010), make no concessions to the breadth and depth of the process but skip individual quality assessment and replace the synthesis of study findings by a systematic analysis of the characteristics of studies. In terms of our metaphor, scoping study means that once identified and screened, the blind men accounts would be charted and compared in terms of what they say, what sense (i.e., ‘method’) they have used to apprehend the elephant, who they are and where they come from, among other things. Scoping reviewers are often more interested in the blind men and what they have to say about the elephant than the elephant itself, to understand the scientific production of a field and/or as a first step towards a full review.

A Brief Illustration from the Field of Policy and Program Evaluation

For many years, participatory evaluation has been advocated as a way to improve the impact of evaluation not only in terms of learning, attitudinal changes and skills development among participants, but also on the decision making process (e.g., Cousins 2003). As a result, many empirical studies have been conducted on this topic, especially qualitative case studies (Cousins & Chouinard 2012). Yet, while quantitative studies have a distinctive contribution to make to the field, there was no attempt directed at synthesizing quantitative evidence on this important topic. The brief case presented here consists in a scoping review or systematic map of quantitative studies that have examined the relationship between stakeholder participation in evaluation and the use of the latter by practitioners and decision makers (Daigneault, Jacob & Ouimet 2012; Daigneault, in preparation).

Like all primary researchers — irrespective of their field of study or discipline, those who have studied the impact of participation on evaluation use have been limited in their individual capacity to apprehend (i.e., they are ‘blind’) the relationship between these constructs (i.e., ‘the elephant’). The researchers have studied different facets of the constructs at hand (i.e., they focused on different ‘parts’ of the elephant), for instance evaluator-stakeholder interactions or stakeholder control of the process for the independent variable, or instrumental use of findings for the dependent variable. Likewise, they have relied on various methods (i.e., ‘senses’ in the metaphor) such as t-tests, bivariate regression and structural equation modelling to study the
association between participation and evaluation use. While the findings of all these studies shed some light on the object studied, they are also inescapably partial. Reviewers have therefore a role to play in terms of collecting, selecting, organizing, assessing and synthesizing the findings produced by these scholars. In the present case, systematic review methods were used to identify, select and analyze studies on participation and evaluation use (i.e., the blind men’s accounts of the elephant). Although no quality assessment or synthesis of findings was undertaken, the resulting systematic map of the literature was very informative as to the parts of the elephant that have received attention from the blind men and the senses that they have used to apprehend it. Reviewers, who are much like the reader in the blind men tale, are therefore in an ideal position to suggest directions for future research (e.g., researchers should study this neglected part of the elephant) and to lay the table for future synthesis endeavours.

**The Limitations of a Metaphor**

I argued that the tale of the *Blind men and the elephant* is a metaphor that illuminates well the work of primary researchers and of those who review their production. Caution is in order, however, as metaphors are powerful tools that ‘really’ — read empirically demonstrated — influence how we think and could as a result mislead us (Ball 2011). The metaphor I have proposed also has its limitations, because it suggests that primary researchers are ‘fallible beings’ whereas reviewers are ‘omniscient’. Nothing is farther from the truth as reviewers have no direct experience of the elephant (unless they also have conducted primary research on the topic); they must rely on primary researchers to apprehend the elephant. Thus, reviewers, whether of the conventional or systematic varieties, are subject to the same limitations as primary researchers: we are all ‘blind’, in a way. The value-added of literature reviews to understanding reality (i.e., the elephant) does not derive from the fact that reviewers have a better vision than primary researchers, but rather from their ‘meta’ or ‘second-order’ perspective on scientific work (see Stanley 2012). Another difficulty is that the body of work reviewed, like the elephant in the metaphor, is not static, thereby creating additional challenges for reviewers.

Despite this limitation, the *Blind men and the elephant* is a useful tool that allows social scientists to reflect on their own review practices. Are we more like the conventional or systematic reviewers? Again, legitimate criticisms have been voiced against systematic reviews (see e.g., Hammersley 2001; 2008) and even their proponents acknowledge that, in some cases, conventional reviews are preferable (Petticrew & Roberts 2006). Yet, I believe that we, social scientists, should collectively adopt more systematic methods when we review the literature of their respective field. We may be blind to the ‘true’ nature of reality but we should aware of and assess our review practices. Despite the elusive nature of reality as reported in scientific studies, sound methods may allow us to take a glimpse at it.

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