Why we need theory in the organization sciences

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Summary   To make the case that theory is a necessary part of research in the organization sciences, I develop three lines of argument. In the first, drawing upon Staw and Sutton's (1995, "What theory is not" *Administrative Science Quarterly*, *40*, 371–384) classic piece, I outline the boundaries of theory and, using a recently published empirical article as an example, demonstrate how research based on literature references and line-and-box diagrams instead of explanatory theory can make only a limited contribution to the literature. I next discuss more generally the pitfalls of conducting research without first developing theory, citing the example of malaria. In the final section of the article, I defend the role of theory-review articles, such as those published in the *Academy of Management Review*, and illustrate (again by reference to an example) how such articles are critical to advancing organizational research. Copyright © 2016 John Wiley & Sons, Ltd.

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Huffman and Dowdell (2015) define theory as "a systematic, interrelated set of concepts that explain a body of data" (p. 21). In this point–counterpoint article, I argue that research in the organization sciences cannot advance without being based in the first instance on an "interrelated set of concepts" used in turn to explain the nature of phenomena and the relationships between them. To make this case, I will proceed in three sections. In the first, based on Sutton and Staw's (1995) classic article, "What theory is not," I outline the boundaries of theory and use an example to illustrate the consequences of insufficiently developed theory. In the next section, I discuss in more detail what the world would be like in the absence of theory, making the point that credible research cannot proceed without reference to theory. In the final section, I discuss the contribution of theory articles in the organization sciences with particular reference to the *Academy of Management Review* and argue that theory articles are critical to the advancement of scholarly knowledge in our field.

What Theory Is, and What It Is Not

It has been 20 years since Sutton and Staw (1995) outlined the boundaries of what constitutes theory in the organization sciences. In effect, Sutton and Staw provide an obverse definition of theory by outlining a set of five characteristics of "What theory is not."

1. *Theory is not a set of literature references*. Sutton and Staw (1995) point out in particular that while references to past literature can be used to set the background to a theoretical position, they cannot be used like a "a smoke screen to hide the absence of theory" (p. 373). In this regard, literature may be used to develop theory—a chain of logically linked propositions leading to a conclusion—but do not substitute for theory.
2. *Theory is not a set of data*. Sutton and Staw (1995, p.373) point out that, "Empirical evidence plays an important role in confirming, revising, or discrediting existing theory and in guiding the development of new theory" but, like references to the literature (in effect, other people's data), they do not substitute for theory.

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3. *Theory is not a list of variables and/or constructs*. In this regard, Sutton and Staw (1995, pp. 374–375) note that, "simply listing a set of antecedents does not make a theoretical argument." They note further that, "The key issue is *why* a particular set of variables are (sic) expected to be strong predictors" (emphasis added). Thus, it is not variables *per se* that constitute theory, but the relationships between them, together with justification for the relationships.

4. *Theory is not a figure or diagram*. The point here is that theory is more than just a set of variables and relationships. In this regard, while Sutton and Staw (1995, p. 376) acknowledge that figures and diagrams ("boxes and arrows") can be useful adjuncts to explaining theory, they note that a figure does not substitute for "logical explanations" as to why particular variables should be connected.

5. *Theory is not a set of hypotheses/predictions*. The point here is similar to the last one. This is that hypotheses/predictions are essentially descriptive tools used to clarify expected outcome of research. As such, "Hypotheses are concise statements about *what* is expected to occur, not *why* it is expected to occur" (Sutton & Staw, 1995, p. 377, emphasis added).

Illustrations of articles that meet the Sutton and Staw (1995) criteria for "What theory is not" are not difficult to locate, especially in the SIOP flagship *Journal of Applied Psychology*. An example can be found in a recent article by Simon, Hurst, Kelley, and Judge (2015), titled, "Understanding cycles of abuse: A multimotive approach." While this is a fine piece of research, designed "to formulate and (to) test hypotheses about how employees' emotional and behavioral responses may ameliorate or worsen supervisors' abuse" (p. 1798), and ostensibly theoretically based, closer examination reveals that it is actually an example of theory presented as a diagram that incorporates a set of hypotheses developed by reference to past literature. Thus, despite reference to "understanding" and "multimotive theory" (Smart Richman & Leary, 2009), hypothesis development is based almost entirely on literature references; the authors in fact make little attempt to explain why the effects they predict should hold. In order to accomplish this, they would have needed to delve into the underlying mechanisms of behavioral motivation based on emotional cues (e.g., Bradley, 2000). Thus, while Simon and her co-authors conclude that their results "can be used to arm supervisors and subordinates with the knowledge to understand when and why destructive relational patterns are beginning to occur" (p. 1907), it is not clear at all from their findings as to "why destructive relational patterns … occur." The "when and how" (role of emotions as determinants of behavior) are addressed in their findings, but not the "why."

So what does an article that meets Sutton and Staw's (1995) test look like? In this instance, an example may be found in the sole article published in the *Academy of Management Review* that Simon et al. (2015) cite. It is the theory piece by Bolino (1999), where the author set out to explain a conundrum of organizational citizenship behavior (OCB): whether OCBs are motivated by genuine altruism or whether they merely represent attempts to manufacture favorable impressions. While Bolino does cite a considerable list of past literature, he does so only as a means to provide background to explanatory theory. As Bolino notes, his is "an approach that seeks to improve our understanding of the intentionality of citizenship behaviors by examining how impression management concerns interplay with motives of citizenship behaviors identified in past research" (p. 83). In particular, Bolino addressed, "why impression management motives are likely to reduce the impact citizenship behaviors have on organization/work group effectiveness" (p. 90). Based on this approach, the author developed and presented a model of OCB motives using a figure and accompanying propositions grounded in logical argumentation based on the extant literature, rather than relying merely on an assemblage of past literature.

The difference between the two articles is subtle, but important. Simon et al. (2015) developed a representation of the antecedents to abusive versus citizenship behavior by reference to past literature, while Bolino (1999) used the extant literature as a basis on which to develop explanatory theory. In the end, Simon and her colleagues reported that they found some incongruous results: "Contrary to our predictions, changes in abusive supervision positively predicted changes in supervisor-directed citizenship behavior, whereas changes in supervisor-directed citizenship behavior did not predict changes in abusive supervision" (p. 1805). They go on to develop *post hoc* theory to try to explain this finding; but this result would not have been "contrary" in the first instance had they made an attempt

at the outset to explain in depth why abusive supervision should affect behavior. In the end, I am not sure we learn much from the Simon et al. results except insofar as the rather obvious conclusion that abusive supervision has some sort of an effect on behavior. We are really none the wiser as to what is actually going on. In this instance, possibly an example of a more fruitful approach may be found in the article by Michalak, Ashkanasy, and Kiffin-Petersen (in press), in which the authors employ Lazarus and Folkman's (1984) theory of stress appraisal and coping to develop a model of how employees cope with organizational mistreatment.

In summary, theory must first and foremost be explanatory. As Sutton and Staw (1995) so succinctly point out, theory does not comprise entirely of descriptive accounts and line-and-box diagrams, as can be found so frequently in our literature (cf. Simon et al., 2015). As I have argued in the foregoing paragraphs, descriptive models leave us short of the mark in terms of explanations of behavior and can easily lead to incongruous findings. In the following section, I take this line a step further and investigate in more detail what happens in the absence of theory

What If We Had No Theory?

According to Cucina, Hayes, Walmsley, and Martin (2014), theory is not a pre-requisite for scientific advancement. Based on their reading of the work of English philosopher Bacon (*ca*. 1214–1994), they present a seven-step model of the scientific research process (Cucina et al., p. 357), illustrated (with a little modification) in Figure 1, and starting on the upper left side of the figure.
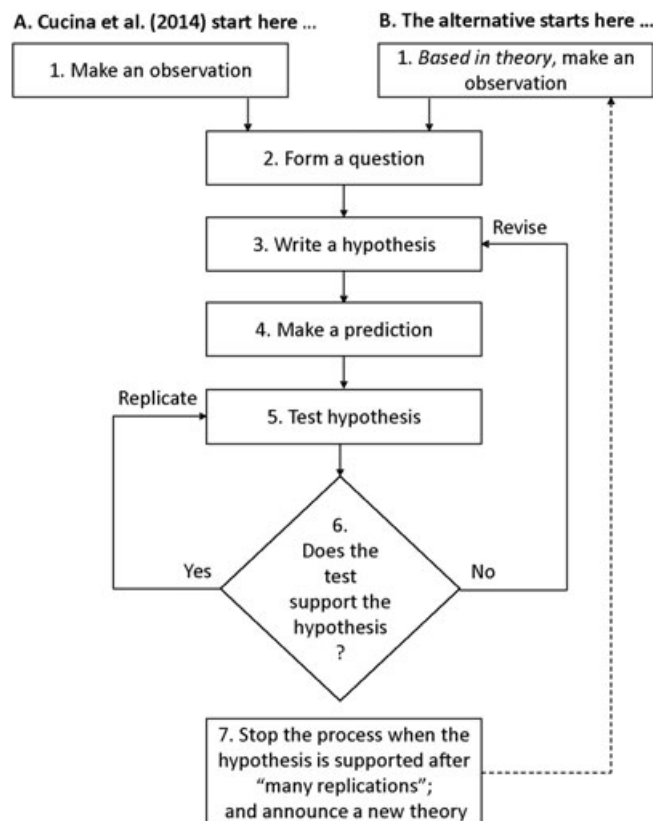

Figure 1. Alternative models of the research process

The problem with this model is that it neglects the fact that, from a scientists' perspective, theories are what enable us to make observations in the first place and then and to conduct experiments to test their veracity. In this regard, the Cucina et al. (2014) model of the scientific process embodies at least one critical error. If Step 1 is no more than "Make an observation," then we run the risk of engaging in "transductive" (particular➜particular) logic. The problem with this logic is that Step 7 might never converge as more and more "exceptions to the rule" become apparent. Ancient astronomers made this mistake and were forced to develop increasingly complex explanations for the movement of stars until Copernicus was able to provide a theory of planetary movement (Kuhn, 1957).

Instead of this approach, I present an alternative starting point on the upper right side of Figure 1, where the process begins: "*Based in theory*, make an observation." Although only a seemingly minor change, this addition in fact changes everything. To gain an insight on this issue, we need to consider some key terms in the philosophy of science and in particular the meaning of terms such as "ontology" (the nature of things), "epistemology" (how we might study ontology), and the difference between "inductive" (particular➜general) and "deductive" (general➜particular) epistemologies. Inductive epistemology lies at the heart of qualitative research, where the aim is to *build* theory. Deductive epistemology lies at the heart of quantitative research, where the aim is to *test* theory. So-called validated theory emerges as a consequence of alternating induction and deduction.

When transductive epistemology is applied, however, the logical fallacy *cum hoc ergo procter hoc* (which occurs when the observation of two events co-occurring leads to a fallacious conclusion that the events must be related) comes to the fore. A good example of this fallacy at work can be found by reference to the history of the mosquito-borne disease malaria. Although we know today that this disease is caused by the parasite *Plasmodium* and spreads though infected female *Anopheles* mosquitoes, this was not what was thought prior to 1809. This is the year Charles Louis Alphonse Laveran discovered that malaria was the result of infection by the *Plasmodium* parasite. Sir Ronald Ross subsequently (1894) discovered the *Anopheles* mosquito connection.[1] For centuries prior to the 1890s, malaria was thought to be caused by exposure to marsh gas emitted in tropical wetland areas.[2] This in turn was based on the simple observation that marsh gas and malaria co-occurred. As scientists studying malaria found more and more exceptions, however, the marsh gas theory became more and more convoluted and esoteric (for a brief history of malaria, see Packard, 2011).

The point of the foregoing analysis (and also of the Copernicus case described earlier) is that theory-free science in itself constitutes a logical fallacy. Science without theory is, well, simply unscientific. With regard to practice, while it is a cliché to quote Lewin's (1951, p. 169) aphorism that "There is nothing so practical as a good theory," this is nonetheless true, so long as the theory concerned is derived from evidence-based research. In short, theory is not only necessary for scientific advancement (as well as practical applications of science) but also indispensable. Without theory, we would live in an unscientific world, where logical fallacy would challenge human survival.

Finally, there is the question of what becomes of the theory that appears at the end of the Cucina et al. (2014) research process. As Peggy Lee once sang, "Is that all there is?" (Lieber & Stoller, 1959). In the model set forth by Cucina and his colleagues, theory appears as the end of the process. This is in contrast to the alternative research process model on the right of the figure, where theory constitutes input (the dashed line) to the next cycle of research.

Why Do We Need Theory Articles

Cucina et al. (2014) were especially critical of articles published in the *Academy of Management Review* (*AMR*), which they argue "focuses entirely on theory development, eschewing 'evidenced based' manuscripts." Later (p. 363), they imply that articles published in *AMR* (and other management and applied psychology journals that publish theory pieces such as the *Journal of Applied Psychology*, the *Journal of Management*, and the *Journal of Organizational Behavior*)

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[1]Both Laveran and Ross were awarded Nobel Prizes for their discoveries.
[2]The word "malaria" is derived from the Medieval Italian, *mala aria*, which means "bad air."

are no more than "theory-based filigrees of speculations." This is compared to "empirically and methodologically sound replicable research" (as if these are mutually exclusive genre). In fact, the aim of *AMR* is to publish "carefully crafted conceptual articles that challenge conventional wisdom concerning all aspects of organizations and their role in society." The key phrase here is "challenge conventional wisdom." As Alvesson and Sandberg (2011) put it, *AMR* articles are designed to provide carefully constructed, *evidence-based* arguments that offer potential solutions to clearly articulated problems in our literature. These are not "filigrees." Instead, they serve to challenge scholars and to energize them to conduct research to test the theories that are advanced. No wonder we scholars tend to cite *AMR* articles so frequently: These are the articles that make up the engine that drives our research!

To illustrate further, let us return to the *AMR* article by Bolino (1999) that I referred to earlier. This piece has (at the time of writing) been cited no less than 287 times, many of which report empirical studies. For the purpose of the current essay, I focus on the recent article by Long, Baer, Colquitt, Outlaw, and Dhensa-Kahlon (2014), where the authors tested the idea that "employees form supportive relationships with peers for impression management purposes" (p. 463). Notably, Long and his colleagues state that their work "builds and tests theory about the impression management implications of employee relationships with peers" (p. 464). They go on to add that "we build our theory around the concept of *supportive relationships*." In effect, beginning with Bolino's (1999) theory of OCB as a form of impression management and citing a further five *AMR* articles, the authors explain impression management in the context of relationship development using Grant and Gino's (2010) theory of prosocial motivation and then go on to test their model in two multi-source data field studies. The key point here is that the study was founded in a solid base of theory (including Bolino, 1999) and subsequently resulted in a novel extension to theories surrounding the nature of relationship building in organizations. Indeed, it is difficult to see how the authors could have discovered their findings without first developing rigorous theory to underpin their empirical studies.

Conclusion

In this point–counterpoint article, I have attempted to make the case that that theory is an indispensable part of the research process in the organization sciences. To develop this argument, I first referred to Sutton and Staw's (1995) description of "What theory is not," and, citing an article by Simon et al. (2015) as an example, I demonstrated the limitations of all-too-common research in the management and OB that substitutes literature references and line-and-box diagrams for explanatory theory. In particular, such research is prone to *ad hoc* explanations of unexpected findings and reporting of findings that have little theoretical or practical substance. Next, by citing as an example the discovery of the causes of malaria, I discussed how research based on inadequate explanatory theory can lead to logical fallacies. In particular, I sought to contrast theory-led research and the research process model advocated by Cucina et al. (2014), arguing that theory is developed in an iterative process of induction and deduction. By contrast, theory-poor research can easily lead to transductive research and the fallacy of *cum hoc ergo procter hoc* (i.e., drawing a conclusion from co-occurring events). In the final section of the article, I defend the role of articles, published in journals such as the *Academy of Management Review*, the *Journal of Management*, and the *Journal of Organizational Behavior*, that do not involve direct data collection. Such articles are subject to rigorous review and are not the "filigrees" that many critics claim they are. Indeed, it is clear that such literature plays a central role in making organizational research credible and practically applicable.

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