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PREFACE

JAI Press published the first annual volume of *Research in Organization Change and Development* in 1987. Since 2009 and for the last 11 volumes, our partner in publishing ROCD, Emerald, has enhanced the quality of this special platform for scholars and practitioners. Together we are continuing the tradition of publishing high quality of work that many of you have come to expect from this annual publication.

Volume twenty-seven of *Research in Organizational Change and Development* continues the tradition of providing insightful and thought-provoking chapters. This volume includes contributions by colleagues from Australia, Canada, France, Ireland, Italy, the United Kingdom, and the United States. The diversity and inclusivity of the ROCD series, since its inception over 30 years ago, continues to flourish.

The broad umbrella theme that AOM 2019 provided “Understanding the Inclusive Organization” framed a broad terrain within which to explore organization development and change. Although none of the chapters in this volume addressed directly the theme, all provide some relevant insights. The philosophical and methodological foundation of organization development and change magnify the distinct emphasis of the field on collaboration and inclusion in guiding our work. Positive organizational scholarship provides an inclusive platform for engagement in emerging challenges that individuals and organizations experience and a more scientific base for the study and practice of genuine, sustainable change. The presence and practice of humility and humble behaviors in which an attitude of inquiry, kinship, extraordinary collaboration, professional excellence, and a focus on values attracts individuals to engage in organization development and change efforts. The socioeconomic approach to organization development and change enhances compatibility between the human system, stakeholders, and stockholders in building up a socially responsible capitalism. The importance of collaborative effort across hierarchies and vertical boundaries, despite emotional and political tensions that undermine middle managers’ role as change agent, highlights the critical role of inclusivity in the change process. Collective attitudes and individual attitudes are linked through top-down or bottom-up processes, or a combination of both, and as such can enhance levels of engagement. Leaders in social enterprise development continuously respond to common paradoxes of engagement via a hybrid of top-down influence and bottom-up participation practices. Last, enhancing a culture of inclusive, agile and thriving teams can help organizations to develop resiliency in environments of continuous change.

These contributions represent a commitment to the future. Many times over the years, we've been asked the question, “Is there still a vibrant scholarly com-
community in organization development?” The answer is a resounding yes, as those of you who have attended professional conferences like the Academy of Management, Organization Design Forum or Organization Development Network will attest. While the field continues to evolve, the need for organizational change has never been more apparent than it is today, amid yet another global economic meltdown, continuing wars, and threats to the sustainability of the planet. It is no surprise to us that scholars in our field are stepping up to help address these challenges.

The field continues to evolve and increase our understanding of the complexities of organizational development and change. While we are smarter about it now than 70 years ago when the field began, we are still far from mastery or efficiency. We have models and principles to follow, and a great deal of research to support what does and does not work. Yet, we are lacking a sure-fire formula for success and it is our belief that due to the inherently human and emotional nature of change in organizational settings that no such formula will ever be found. That said we are improving the state of the art, as the papers in this volume attest. Some of these papers bring new perspectives to classic issues in the field such as facilitating change through groups and examining collective rather than individual attitudes toward change. Others challenge us by offering consolidations of what we know about organizational development and change either by providing an examination of social science philosophies and offering a (new) solid foundation from which to conduct research and practice or by increasing our awareness of how to produce change through approaches that challenge the dominant discourse. From our editorial perspective, one of the most wonderful things about our work on this series is that it always brings surprises, whether in the form of a new way of thinking about old problems or a different way to think about opportunities we did not know existed. The series has been around long enough to substantiate the claim that we have published some true classics in the field of organization development and change. While it’s too early to say whether the papers in Volume 27 contain new classics, there are certainly some significant and worthwhile pieces to read that have the potential to become classics at some time in the future.

Leading off volume twenty-seven is a paper by David Coghlan, Rami Shani, and George Hay that provides an historical perspective on the progression of philosophies of social science as currently practiced in organization development and change by showing how researchers in the field structure their inquiry based on inherent philosophical dimensions. The authors challenge members of the community to reflect on the practice of OD&C as a social science and to consolidate the philosophical and methodological foundation of the field. Collaboration and inclusivity seem to be central elements of philosophy, research, and practice. Kim S. Cameron and Robert E. Quinn, the recipients of last year’s Pasmore and Woodman Award, take us to the relatively new emerging field of positive organizational scholarship and the role that it plays in the scientific base for the study and the practice of “genuine and sustainable change.” The authors review the origins and nature of positive organizational scholarship and present a framework for positive change for individual agents of
change. The chapter offers a new perspective on the importance of focusing on changing oneself rather than changing others as an enabler of extraordinary collaborative positive change. Melissa A. Norcross and Mike R. Manning challenge us to consider how we think about humility in collaborative organization development and change work. A main thrust of their focus is on connecting humility and humble human behaviors to creating a psychologically safety environment within which inclusivity and collaboration can be enhanced in producing learning and change.

Olivier Voyant, Frantz Datry, Amadine Savall, Véronique Zardet, and Marc Bonnet share the essence of the socioeconomic intervention approach that was developed at the ISEOR research center in France. The center led over 1,800 projects with different organizations that utilized the approach and the authors present one of the cases in the chapter. A main thrust of the chapter is the focus on connecting organization development and economic performance. At the core of the argument one can find the notion that the scholarly-practice of OD that integrates the socioeconomic approach can enhance inclusivity and socially responsible capitalism. Jean E. Neumann, Kim Turnbull James, and Russ Vince explore the under-researched tensions that middle managers experience in leading change. The authors advance a comprehensive framework that captures the key elements of the underlying dynamics and processes that influence the degree to which middle managers can shape and navigate change. Leading change from the middle is impacted by the political dynamics of the system, the emotional dynamics of the humans that are engaged, and the collaborative context of social interactions and social structures. Dave Bouckenooghe, Gavin M. Schwarz, Bradley Hastings, and Sandor G. Lukacs de Pereny explore the role that collective attitudes play in enhancing or hindering change initiatives. Drawing on social network theory, the authors advance an alternative perspective that can improve our understanding of how collective attitudes to change develop over time and as such can enable scholars and practitioners to better manage the change process. Laura Galuppo, Mara Gorli, Benjamin N. Alexander, and Giuseppe Scaratti examine how leaders in social enterprise development phase the tensions of common paradoxes of engagement via a hybrid of top-down influence and bottom-up participation practices as they led change and development. Using their observation of an Italian Healthcare Network, the authors advance a conceptual framework and explore various leadership orientations to address the tensions as they led development efforts. Finally, Rachael L. Narel, Therese Yeager, and Peter F. Sorensen, Jr. argue that enhancing a culture of inclusive, agile, and thriving teams can help organization’s resiliency in an environment of continuous change. The authors propose an agile and thriving team framework and suggest that it can be utilized as a development tool for change.

From our editorial perspective, one of the best parts of our work on this series is that our collaborations with the authors always brings new learning, whether in the form of making history accessible and relevant, challenging
assumptions, extending theory in creative ways, or integrating perspectives that heretofore have remained separate. The series has been around long enough to substantiate the claim that we have published some true classics in the field of organization change and development. We have also provided scholar–practitioners across career stage, sector, and geography with a platform to share their work and for colleagues to learn from each other in order to inform future collaborations. Moreover, the ROCD Series has provided reliable sources for contributing to the ongoing development of organization change and development theory, research, and practice. It is our hope, that as you read through the volume, you will consider your own thoughts and practice and possible contributions to the field and contact us to suggest topics or themes for future volumes.

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Debra A. Noumair
Editors
TOWARD A SOCIAL SCIENCE PHILOSOPHY OF ORGANIZATION DEVELOPMENT AND CHANGE

David Coghlan, Abraham B. (Rami) Shani and George W. Hay

ABSTRACT

This chapter informs current research and practice in organization development and change (ODC) with an actionable knowledge of the social science philosophies. It adds value to the scholarship of ODC by charting the progression of philosophies of social science, by showing how researchers in ODC structure their inquiry based on the inherent philosophical dimensions, and by offering useful and actionable knowledge for research and practice. The aim of the chapter is to reflect on the practice of ODC as a social science and to consolidate its social science philosophies so to provide solid philosophical and methodological foundations for the field.

Keywords: Philosophy of social science; philosophy of organization development and change; general empirical method, interiority; methodology; scholar-practitioner

INTRODUCTION

In their exploration of the nature of social science, Delanty and Strydom (2003) outline three conceptions of a philosophy of social science: (1) as derived from the philosophy of science, (2) as an epistemological concern for status of scientific knowledge, and (3) as a reflection on the practice of social science. They describe the philosophy of social science derived from a philosophy of science as a second-order activity, specifying prescriptively how science should be conducted and
mirroring the subjection of social science to the natural sciences. The philosophy of social science as epistemology is concerned with the nature and status of scientific knowledge and with what goes on within social science. The philosophy of social science is also a reflective discourse on the practice of social science and its relation to knowledge and action. In Delanty and Strydom’s view, the three conceptions mark a move away from any intra-disciplinary philosophical debate and toward the applications of social science (i.e., questions of knowing, of practice, and of societal structures and cultural processes that influence social science research). While each of the three conceptions may be found in organization development and change (ODC), a reflection on them in the context of the history of social science has not been attempted, particularly in light of ODC’s dual identity of being “a science of organizational change and an art of changing” (Woodman, 2014) and of comprising implementation theories and change process theories (Porras & Robertson, 1987). Taking up Delanty and Strydom’s third conception of a philosophy of social science, this chapter reflects on the history of the development of the philosophies of social science and their implications for the research and practice of ODC.

This chapter informs current research and practice in ODC with an actionable knowledge of the social science philosophies. The focus is on the epistemic implications of social science philosophy — the design elements of any ODC project that structure its knowledge production through an orientation toward engaging in action. Consistent with Delanty and Strydom’s conception of social science philosophy, this focus positions these design elements in terms of broader questions concerning: the nature and scope of its field of study, the relation of the social scientist to reality, […] the type of statements made regarding reality, and its philosophical assumptions […]. (2003, p. 4)

This chapter traces the linkages between research and practice in ODC and the philosophical assumptions that legitimate their knowledge production. There are three main ways in which this chapter adds value to the scholarship of ODC. First, this chapter charts the progression of philosophies of social science and applies Delanty and Strydom’s synthesis to the field of ODC. Second, this chapter places considerable weight on how researchers in ODC structure their inquiry based on the inherent philosophical dimensions. Third, and finally, this chapter focuses on the practice of research in ODC. It seeks useful and actionable methodological knowledge as a bridge between broader social science philosophical questions and the specific design decisions involved in research and practice.

This third focus is consistent with the background of the authors who are practitioners, researchers, and educators within the field of ODC. We are scholar-practitioners of ODC and are committed to exploring the philosophies of social science in terms of interiority, that is, we are explicit about our thinking and how we are engaging with the questions posed (Coghlan, 2017a; Shani, Tenkasi, & Alexander, 2017; Tenkasi & Hay, 2008). The resulting actionable and useful-based methodological knowledge framework will aid ODC researchers who seek to gain greater knowledge of social science philosophies, who seek to place their research on more defensible knowledge production claims, and who seek to strengthen their philosophical standpoints based on critical self-reflection.
The aim of the chapter is to reflect on the practice of ODC as a social science and to consolidate its social science philosophies (plural deliberate) so to provide solid philosophical and methodological foundations for the field. The first section that follows provides an overview of different philosophies relevant to social science; this section becomes the foundation for the later sections that advance specific social science philosophies relevant to ODC and its scholar-practitioners. The second section advances an argument for social science as a meaning-making endeavor. Particular emphasis is placed on collaborative engagement inquiry (CEI) as an embodiment of that philosophy within ODC. The third section that follows advances an argument for social science as a reflective discourse on practice. Here, particular emphasis is placed on relevance of the structure of human knowing to ODC. The chapter concludes with six propositions for ODC as a practice of social science philosophy.

**MAPPING THE PHILOSOPHICAL TERRAIN**

A map of the philosophies of social science is advantageous for scholar-practitioners of ODC. Although this is true to some extent for all professionals, we assert that ODC scholar-practitioners are latent philosophers given their pursuit of actionable scientific knowledge (Adler, Shani & Styhre, 2004; Shani et al., 2017; Tenkasi & Hay, 2008). Scholar-practitioners’ beliefs about the nature of the world and any knowledge of it — what philosophers call ontology and epistemology — shape how the world is understood and engaged in by them. At the very least, we believe that scholar-practitioners should know these beliefs (Van de Ven, 2007). A philosophical map is a tool for locating where one is on the corresponding terrain, for anticipating where one might want to be on the terrain, and for determining the best course of action to move to a desired destination.

Perhaps we should clarify what we mean by the term, philosophy. Hadot (1995) discusses how the classic definition of philosophy as love of wisdom got lost over the centuries, especially since the birth of natural science. He concludes that while ancient philosophy proposed an art of living, modern philosophy “appears above all as the construction of technical jargon reserved for specialists” (p. 272). He explores how philosophy for the:

ancients, such as Socrates, aimed at helping people live a good life. Philosophy was a mode of existing-in-the-world, which had to be practiced at each instant and the goal of which was to transform the whole of the individual’s life. (p. 265)

As Hadot (p. 274) points out, this also involved “a duty to act in the service of the human community: that is to act in accordance with justice.” He concludes his book, by saying, “Philosophy is a conversion, a transformation of one’s way of being and living and a quest for wisdom” (p. 275). In this chapter, we are adopting the stance of philosophy of ODC as a quest for wisdom through the transformation of organizations, communities, and society.

Philosophy in this mode, therefore, requires a good map to be accessible and functional, and there are a number of good maps available for scholar-practitioners to deploy (see Table 1). Burrell and Morgan (1979) assign
Table 1. Alternative Maps of Social Science Philosophies.

<table>
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<tbody>
<tr>
<td>Dimensions</td>
<td>Nature of science (subjective vs objective)</td>
<td>Definition, ontology, epistemology, knower, language</td>
<td>Ontology, epistemology, methodology, inquiry aim, nature of knowledge, goodness or quality criteria, values, ethics, voice, training, accommodation, hegemony</td>
<td>Voice: Univocal vs multivocal</td>
</tr>
<tr>
<td>Purpose of Map</td>
<td>Assign philosophies into four paradigms which convey “the frame of reference, mode of theorizing and <em>modus operandi</em> of the social theorists who operate within them.” (p. 23)</td>
<td>Inform engaged scholarship</td>
<td>Inform qualitative research</td>
<td>Invitation to cooperative ecological inquiry</td>
</tr>
</tbody>
</table>

- Radical humanist: French existentialism, critical theory, anarchistic individualism
- Radical structuralist: Contemporary mediterranean marxism, conflict theory, Russian social theory
- Interpretive: Phenomenology, phenomenological sociology, hermeneutics
- Functionalist: interactionism & social action theory, integrative theory, social system theory, objectivism
- Behaviorism
- Gestalt sociologism
- Empirical positivism
- Multimethod positivism
- Postmodern interpretivism
- Cooperative ecological inquiry
- Developmental action inquiry
- Voice: Univocal vs multivocal
- Results orientation: Action vs reflection
13 sociological theories into one of four quadrants based on their assumptions regarding the nature of science and the nature of society. Van de Ven (2007) describes four dominant philosophies of science in order to illuminate the assumptions underlying engaged scholarship. Lincoln, Lynham, and Guba (2018) review much of the same philosophical territory as Burrell and Morgan and Van de Ven but with an added call to explicate and legitimate the assumptions underpinning the diverse approaches to qualitative inquiry. Torbert describes seven social science paradigms: behaviorism, gestalt sociologism, empirical positivism, multimethod eclecticism, postmodern interpretivism, cooperative ecological inquiry, and developmental action inquiry (Sherman & Torbert, 2000). We are anchoring our map in the work of Delanty and Strydom (2003) that highlights the dialectical nature of these philosophies.

Studying any map has merit as an educational exercise. Clearly, there is much to be learned about the terrain outlined on the map of the philosophies of social science. Such study identifies the key terms and concepts of the philosophy as well as the social and cultural influences that shapes the originating philosopher(s). As Burrell and Morgan put it, the beliefs within each philosophical segment “stand in their own right and generate their own distinctive analyses of social life” (1979, p. viii). There is also much to be learned from how the maps were constructed by their makers. The nature of what was included and excluded in the map also indicates the beliefs of the map-makers (Bowker & Star, 1999).

Reflecting on any map has merit as an application exercise. The beliefs within a philosophical territory form a system of thinking which contains taken-for-granted assumptions that privilege certain types of knowledge and practice over others. Cognitive science reminds us that these beliefs act as schema that filter what is perceived and remembered in the world (Kahneman, 2011). Scholar-practitioners are not to blame for this default filtering; this is how the human mind works. It is entirely possible that an unexamined belief system may produce blind spots that lead to suboptimal perception, uncritical thinking, and action. The main value for scholar-practitioners from a deep reflection on their social science belief system is to surface the assumptions which are implicit and automatic and to render them explicit and deliberate.

Furthermore, an understanding and explication of one’s belief system aligns with professional values. We believe that scholar-practitioners are at their best when they know who they are and what they stand for. This self-knowledge encompasses many aspects of personal and professional identity, including philosophical belief systems.

**DIALECTICAL MODEL OF SOCIAL SCIENCE PHILOSOPHIES**

Our philosophical standpoint is influenced by the work of Delanty and Strydom (2003) who trace the development of thought regarding social science philosophy over the last 150 plus years. Their volume contains 64 readings from the works of the leading philosophers over those years. The readings are grouped
into six parts, each part representing similar social science philosophies. This is a comprehensive collection of modern philosophical thought, and the reader is encouraged to consult the work for a deeper study of them than space permits in this chapter.

A further distinct value of the Delanty and Strydom’s review of social science philosophies lies in their Introduction to the book. Here, they describe the four epistemic shifts that characterize the development of progressive epochs of social science philosophy. Each of the shifts is revealed to be a dialectical movement from a prior epoch. Although the onset of a new epoch does not mandate the end of an old epoch, the epochs are connected to each other and form a rough chronology of thinking about the nature of social science itself. The last part of the book offers a view into the current directions and challenges for social science philosophy within the twenty-first century.

Our distillation of the dialectical progression of social science philosophy described by Delanty and Strydom is presented in Table 2. Modern social science philosophy begins with the classical empiricism of Comte, Mill, and Hume that features a search for universal theories based on observation and induction. This is followed by the four epistemic shifts, the first of which is called the Logical Turn. Here, the thinking of the Vienna Circle, particularly Popper, comes into play as induction is discredited in favor of deduction. The second epistemic shift is called the linguistic turn. Here, the work of Wittgenstein and Pierce is dominant in the recognition of the variability of meaning that individuals find in words. The third epistemic shift is called the historical—cultural turn, which embeds the variability found in individual meaning within the larger historical and social influences of their lives. The fourth and final epistemic shift is the knowledge (cognitive) turn. Here, the work of Habermas and Bhaskar features as they reposition the continuity that is present in the practices, structures, and processes of cognition and research traditions. Note that one additional turn, the action turn, which is not included in Delanty and Strydom, is included in our discussion given its relevance to ODC.

Although each of these will be described in more detail in subsequent paragraphs, there is one overarching trajectory that is visible in the progression. The understanding of science found within classical empiricism is weakened and ultimately cast aside as the progression moves on. For those ascribing to the philosophies of classical empiricism, science is legitimated by its production of an accurate representation of an external reality. The thinking of the logical turn weakens the understanding of science as producing accurate representations of external reality. For those ascribing to the philosophies of the logical turn, science can only identify those representations that fail to show reality. The strongest beliefs about external reality are held to be “not yet disproven.” With the later epochs, science is no longer the business of producing accurate representations of external reality. For those ascribing to the beliefs within the linguistic, historical—cultural, and knowledge turns, science becomes more a reflection of the people conducting it rather than any external reality. To varying degrees, these epochs move away from a belief in an independent and objective
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Classical Empiricism</th>
<th>Logical Turn</th>
<th>Linguistic Turn</th>
<th>Historical–cultural Turn</th>
<th>Knowledge (Cognitive) Turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>1800s</td>
<td>1900s</td>
<td>Early 1900s</td>
<td>Mid 1900s</td>
<td>Late 1900s</td>
</tr>
<tr>
<td>Representative philosophers</td>
<td>Comte, Mill, Mach, Hume</td>
<td>Popper (Vienna Circle)</td>
<td>Quine, Wittgenstein, Pierce, Morris, Dilthey</td>
<td>Kuhn, Focault, Rorty</td>
<td>Apel, Habermas, Fuller; Bhaskar</td>
</tr>
<tr>
<td>Conceptualization of science</td>
<td>• Science represents an external reality</td>
<td>• Science approximates an external reality</td>
<td>• Science ceases to represent external reality in favor of describing human consciousness</td>
<td>• Science is a historically and culturally shaped artifact and thus relative</td>
<td>• Science as emergent forms of the real and in reflexive relation to the world in which reality is shaped by cognitive practices, structures, and processes</td>
</tr>
<tr>
<td>Representative features</td>
<td>• Real ontology; objective epistemology</td>
<td>• Real ontology, subjective epistemology</td>
<td>• Ideal ontology, subjective epistemology</td>
<td>• Ideal ontology, subjective epistemology</td>
<td>• Ideal ontology, subjective epistemology</td>
</tr>
<tr>
<td></td>
<td>• Observation and induction</td>
<td>• Deduction and experimentation</td>
<td>• Semantic, syntactic and pragmatic analyses of knowledge/science</td>
<td>• Historical, psychological, sociological, and anthropological analyses of knowledge/science</td>
<td>• Continuous but interrupted historical development of cognitive forms carried by research programs, traditions, and scientific communities</td>
</tr>
<tr>
<td></td>
<td>• Generalizable theories</td>
<td>• Not yet disproven generalizable theories</td>
<td>• Individually and socially structured consciousness</td>
<td>• Emancipatory knowledge</td>
<td>• Science as stakeholder in societal and democratic processes</td>
</tr>
<tr>
<td>Dialectical advantage</td>
<td>Verification</td>
<td>Falsification</td>
<td>Meaningfulness</td>
<td>Contextualization</td>
<td>Continuity</td>
</tr>
<tr>
<td>Dialectical limitation</td>
<td>“Theory leadenness of observation”</td>
<td>“Language Games”</td>
<td>Pragmatics suggest forces beyond language</td>
<td>Inherent ambiguity of context</td>
<td>Action</td>
</tr>
</tbody>
</table>

Source: Adapted from Delanty & Strydom (2003).
external reality in favor of the dependent subjective understanding of the world that is within individuals.

Classical empiricism. Consistent with the beliefs of the enlightenment, classical empiricism sought to replace claims based on faith with claims based on evidence. Whereas earlier periods of scholasticism viewed reality through the lens of the Church, classical empiricism used observation and induction to make claims about reality. A phenomenon was observed for its details; the details were then analyzed to develop an overarching theory that could explain them. Classical empiricists subjected theories to verification – the evidence was examined for its congruence with the theory.

Ultimately, classical empiricism sought theories that could be held true across different contexts because they were generalizable. No longer could truth be rationalized on the basis of logic and faith (scholasticism) – it needed to be verified in order to be held to be true. Key assumptions of classical empiricism were that there was an external reality independent of the observer and that any knowledge based on observation was objective.

Logical turn. The logical turn advanced by Popper and others rested on a central flaw in the logic of classical empiricism concerning induction. In order for the principles of induction to hold, the observer has to have no preconception of the phenomenon before undertaking observation. This logical positivists believed was difficult to achieve – they noted the “theory leadenness” of observation. Any observer must have some form of preconception of the phenomenon else they would not observe it in the first place.

Although those who ascribed to the logical turn still held that reality was objective and independent of the observer, they backed away from a strong endorsement of the objectivity of knowledge gained from research. This is captured by the shift from seeking theories that are verified to seeking theories that are falsified. Science in the logical turn seeks to pit theories against alternative theories. Research seeks to establish the theories that do not conform to the evidence and is thus disproven. The theories that remain standing are called “not yet disproven” and held to be viable explanations for the phenomenon under study.

Linguistic turn. The movement away from an independent external reality gains momentum with the linguistic turn. The philosophers who led this movement realized that the language used to describe phenomenon varied amongst individuals. Wittgenstein called these “language games.” Continuing the emphasis on understanding vs explanation that Dilthey argued for in the late 1800s, those who ascribed to the linguistic turn sought to capture the individually and socially structured consciousness that humans experience with a phenomenon. They believed that outside world is what the human perceives it to be (what is called ideal) and that any resulting knowledge is also subjective.

Historical-cultural turn. Following and closely related to the linguistic turn is the historical-cultural turn. Endorsing the subjective nature of the external world and the socially constructed knowledge of it, those who ascribed to the historical-cultural turn expand the scope of factors that influence science to include the historical and culture trends. One result of this movement is that the outcomes of science – that is knowledge – becomes increasingly more context