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Exploring Deep Subjectivity in Sociology and Organizational Studies

The Contributions of William Catton and Riley Dunlap on Paradigm Change

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When William Catton and Riley Dunlap began publishing their groundbreaking work on paradigms in the late 1970s, sociologists had been grappling with fundamental questions about the discipline for at least two decades. According to Catton and Dunlap, however, significant blind spots still remained, the most important falling in the shadow cast by strong anthropocentrism and a worldview that was decidedly nonecological. This anthropocentric bias also dominated the field of organizational studies until the mid-1990s. Both sociology and organizational studies benefited from scholarly analyses conducted by Catton and Dunlap (and others) that uncovered underlying paradigmatic assumptions and that proposed ecologically grounded alternatives. But both fields still tend to be limited by anthropocentrism and need more research aimed at developing theories and models centered on ecological processes and radical organizing. Revisiting Catton and Dunlap's paradigms framework is suggested as a valuable step for both sociologists and organizational studies scholars interested in addressing major gaps in their fields.

Keywords: *Thomas Kuhn; paradigm; worldview; taken-for-granted assumptions; new ecological paradigm; ecocentrism; sociological theory; greening organizations; reform environmentalism; corporate environmentalism*

The purpose of this article is to highlight the contributions of three important foundational works that exposed a deeply seated anthropocentric bias in social science and that proposed a paradigmatic shift. The works were published three decades ago and were authored by noted sociologists William Catton and Riley Dunlap (Catton & Dunlap, 1978, 1980; Dunlap & Catton, 1979). These studies apply the concept of a paradigm shift developed by science historian Thomas Kuhn (and his numerous collaborators and critics) to the

Author's Note: The author is grateful to Linda C. Forbes and Paul Shrivastava for their helpful comments on earlier versions of this paper. The author holds that any mistakes are his responsibility. Please address correspondence to John M. Jermier, College of Business, University of South Florida, Tampa, Florida 33620-5500; e-mail: JJERMIER@coba.usf.edu.

discipline of sociology. The notion of a paradigm is one of the most complex and controversial in the philosophy of science, and it is not clear that Kuhn intended it to be applied to the social sciences (Kuhn, 1970b, p. viii). His varied ways of defining and discussing the concept, however, including some that explore the realm of *deep subjectivity*,[1] positioned Catton and Dunlap to articulate key metatheoretical assumptions that were limiting sociological theory and research as well as advance an ecocentric perspective that enriched the discipline. I also explain how organizational studies scholars connected with Catton and Dunlap's foundational work (and other research on paradigm shifts) to address the anthropocentric bias in that field and suggest how contemporary organizational studies scholars could use Catton and Dunlap's framework to enrich the field.

Kuhn and the Concept of a Paradigm Shift

In describing the treatment he gave the concept of a paradigm in the first edition of his widely acclaimed book, *The Structure of Scientific Revolutions*, Thomas Kuhn (1970a, p. 234) conceded that it was "badly confused." Despite serious flaws in its early development, subsequent research by critics and by Kuhn himself clarified the concept sufficiently for it to become nearly indispensable to numerous scientific, artistic, religious, and other intellectual communities. For example, one constructive critic (Masterman, 1970) clarified the concept by suggesting that the more-than-twenty different meanings in Kuhn's early work could be reduced to three main clusters, namely, metaparadigms (ways of seeing the world), sociological paradigms (sets of habits adopted by the community), and construct paradigms (exemplars, concrete problems and their solutions, methodological techniques). In the well-known "Postscript" to the second edition of his book, Kuhn (1970b) provided some clarification and elaboration of the concept, referring to it as a "disciplinary matrix" of ordered elements, including symbolic generalizations, metaphysical beliefs, shared values, and technical problem–solutions. Kuhn (1970b) even went so far as to include tacit knowledge, shared neural programming, and other elements of deep subjectivity in his representation of what a paradigm includes.

Although few scientists or students of philosophy feel completely comfortable with the paradigm concept, nearly all recognize that there is more to a scientific consensus than merely unbiased agreement on theory, methods, and data. Kuhn's insights about what lurks behind a scientific consensus have been highly persuasive and the paradigm concept, despite its lack of precision, has represented these forces better than any other. What is especially significant about the paradigm concept is that it points to both visible and less visible forces that channel the work of a discipline's practitioners. It points to forces that strongly influence what phenomena are relevant, what qualifies as an explanation of the phenomena, what problems are worth addressing, and even what constitutes a solution to a problem (cf. Weinberg, 1998). According to Kuhn (1970b), in some cases a paradigm so grips its adherents that it resembles a theological system or other narrow orthodoxy, limiting many aspects of scientific inquiry. The grip is enhanced when a paradigm consists of taken-for-granted beliefs, images, and other implicit forces. A structure that is this imposing brightly illuminates some phenomena but inevitably creates *blind spots*, leaving other phenomena uncharted and unexamined.

Kuhn's (1970b) model of a paradigm shift was developed primarily to explain change in the natural sciences where tight paradigms and normal (nonrevolutionary) science are more typical. In these fields, when a paradigm shift occurs, the new way of seeing results from failure of the existing normal science paradigm to explain anomalies and continue to piece together parts of a scientific puzzle. According to Kuhn (1970b), in a paradigm shift, scales fall from the eyes of members of a scientific community, and a new way of seeing is possible. He likens a paradigm shift to a gestalt switch.[2] The paradigm shift is more profound, however, in that the scientist cannot comfortably switch back and forth between the alternate ways of seeing. Moreover, when a paradigm shift occurs, the standards for evaluating a scientific theory change radically and are incommensurable in successive periods (Weinberg, 1998).

Blind Spots in Sociology's Dominant Paradigms

Most sociologists who use the concept of a paradigm (including Catton and Dunlap) seem to adopt a very broad interpretation of it but still tend to rely on Kuhn as their primary authority. The broader interpretations place emphasis on notions such as taken-for-granted or background assumptions, worldviews, traditions, fundamental images, ways of seeing, lenses, and pictures or narratives of the basic properties of reality (e.g., Dunlap, 2002; Ritzer, 1975). These are similar to the states of deep subjectivity that may be derived from Kuhn (1970b) in that they elaborate modes of reflexivity without reducing the paradigm concept to psychological variables. Broader conceptions of paradigm are probably more relevant to explaining scientific change in the field of sociology where the process may be less well-defined than in the natural sciences and is more likely to be initiated by social and political problems than by narrow scientific puzzles (cf. Perry, 1977).

When Catton and Dunlap began publishing their groundbreaking work on paradigms in the late 1970s, sociologists had been grappling with fundamental questions about the discipline for at least two decades. Yet, according to Catton and Dunlap, significant blind spots remained. Much of the debate from the late 1950s centered on the limitations of what arguably had been the field's dominant paradigm—Structural Functionalism—and what should supplement or replace it to improve sociology's relevance. Some critics thought sociology faced a crisis primarily because it did not pay sufficient attention to broader social and political crises of the day. For example, Gouldner (1970) pointed to the desire of many members of the discipline to emulate the imagined value-neutrality of the natural sciences instead of using reflexive methods to move toward an explicitly moral sociology, one that better addressed the crises of the time. Symbolic Interactionism, Ethnomethodology, Existential Sociology, and other interpretive approaches were advanced as fundamentally different ways of doing sociology, different enough to constitute a paradigm shift. Others thought that the proliferation of Marxist, Neo-Marxist, and other radical conflict approaches had supplanted Structural-Functionalism even more convincingly, generating a new paradigm and a compelling turning point for the discipline.

Kuhn's (1970a) opinion of sociology reflected the view of those who thought the discipline was paradigmatically diverse. He held that sociology was immature because members of the discipline did not share one paradigm (Bryant, 1975). What he did not understand

and what did not register with most in the discipline who saw great variety driven by the order-conflict debate, counter-positivist epistemology, and subjectivist empirical research methods was a unifying force in the form of the Dominant Western Worldview (DWW). The DWW is a set of implicit, taken-for-granted assumptions that produces a shared image of the field's subject matter, that naturalizes unbridled economic growth, unlimited technological development, and strong anthropocentrism (viewing humans as separate from and superior to the rest of nature), and that at least tacitly endorses a profoundly nonecological sociology (Catton & Dunlap, 1980; Dunlap, 2002). Catton and Dunlap drew a distinction between the societal-level DWW and the more specific sociological version of anthropocentrism they identified as the Human Exemptionalism Paradigm (HEP). The latter placed more emphasis on social and cultural factors, but both the DWW and the HEP flowed from an anthropocentric worldview and contained four major, underlying assumptions. By sinking more deeply into the taken-for-granted assumptions held by sociologists and discerning a more fundamental image of the field's subject matter, Catton and Dunlap pointed to a massive blind spot limiting the relevance of the discipline.

Beyond Anthropocentism in Sociology: The New Ecological Paradigm

In itself, this was a substantial contribution to the field, but Catton and Dunlap did more than raise awareness about the grip of the DWW and the HEP on sociology and thereby unsettle disciplinary blinders. They also outlined an alternative paradigm for the discipline—the New Ecological Paradigm (NEP). The NEP specified radically different assumptions about the nature of human beings, social causation, the context of human society, and constraints on human society. According to Catton and Dunlap (1980, p. 35), "[a] shift from the HEP to the NEP is of 'paradigmatic' proportions" because it reflects basic changes in the way the world is seen. Instead of seeing people as fundamentally different from and having dominion over all other creatures on earth, the NEP assumes that humans are one among many interdependent species involved in the global ecosystem. Instead of seeing people as masters of their destiny or human affairs as determined exclusively by social and cultural forces, the NEP assumes that human affairs are also shaped by intricate linkages of cause, effect, and feedback in the web of nature and that human actions have many unintended consequences. Instead of seeing a vast world full of unlimited opportunities for humans and the biophysical environment as largely irrelevant, the NEP assumes that humans are dependent on the biophysical environment for all needs and that the biophysical environment imposes potent restraints on human affairs. Instead of seeing the history of humanity marked by unlimited progress and all technological and social problems as soluble, the NEP assumes that even humans are subordinate to ecological laws and the limits of carrying capacity (see Dunlap, 2002).

The distinction Catton and Dunlap drew between the HEP and the NEP is based in part on early work in environmental philosophy that introduced the concept of anthropocentrism and that provided a critical analysis of the role of the anthropocentric worldview in the modern ecological crisis (e.g., White, 1967).[3] They also based the distinction in part on classic studies of anthropocentrism that contrasted shallow and deep ecology (e.g., Naess,

1973; Sessions, 1974) and on key studies in ecology that depicted the coming age of natural resource scarcity (e.g., Ehrlich & Ehrlich, 1972; Ophuls, 1977). In my view, what is at the core of Catton and Dunlap's contribution is the idea that most sociologists were unknowingly trapped in an intellectual space that neglected biophysical processes but that a special kind of paradigm shift, one that ideally would culminate in an ecocentric transformation or revolution, was discernible across a range of disciplines and was possible for sociology. Ecocentrism has a long history and is a complex concept, but what characterizes all ecocentric perspectives is a picture of reality that presents the world as

> an intrinsically dynamic, interrelated web of relations [with] no absolutely discrete entities and no absolute dividing lines between the living and the nonliving, the animate and the inanimate, or the human and the nonhuman (Eckersley, 1992, p. 49).

Given its commitment to ecocentric principles, the NEP is a radical approach to social and environmental change that necessitates a transformation of consciousness.

It is not clear to me from reading Catton and Dunlap, however, how they think a far-reaching ecocentric transformation might occur. They rely on a broad version of the Kuhnian concept of a paradigm shift so it can be supposed that they see worldviews changing as the result of social and political crises as much as from empirical anomalies or technical normal science issues. Kuhn (1970b, p. x) suggests that in some fields "external conditions may help to transform a mere anomaly into a source of acute crisis." The closest parallel to Kuhn's perspective on this that I can find in Catton and Dunlap's work is Dunlap's (1980) assertion that what loosened the grip of the HEP was the rapid accumulation of evidence showing that the ecological survival of modern societies was in doubt. According to Dunlap (1980), this constituted an undeniable anomaly which HEP adherents grew to appreciate: "such evidence poses a significant 'anomaly' for the human exemptionalism paradigm . . . and this anomaly has led to a decline in adherence to the increasingly obvious exemptionalist orientation of mainstream social science, and the gradual emergence of an alternative paradigm" (p. 8).

But precisely how do social and political crises lead to paradigm change? Is it a cognitive process that involves deliberately examining evidence and drawing conclusions about what is best to believe? Is it a systematic process of posing ever-deeper questions about the assumptions underwriting a worldview (Naess, 1973)? Is it a result of the problems associated with energy crises, natural resource limitations, and global environmental change (Hawken, 1993)? Or, does it result more indirectly from an awakening that accompanies spiritual transformation (Devall & Sessions, 1985), maturation of the self (Roszak, 1992), or apprehending the universal being behind thought (Tolle, 2005)? Perhaps it involves all of these.

Catton and Dunlap (1980) went on to suggest that a true paradigm shift does more than provide a new way of seeing. It also leads to differences in the way members of the discipline practice their craft. It is beyond the scope of this essay to assess the degree to which sociologists in general have changed their approach to the natural environment (for this type of analysis, see Sutton, 2004). Yet, it appears that 30 years after Catton and Dunlap laid the groundwork, many sociologists have overcome fears that the discipline would slide back into a kind of environmental determinism or succumb to reductionist tendencies if biological and

physical variables were incorporated into theories and models of social processes (see Dunlap, 2002). Clearly, significant sociological theory is being developed and note-worthy sociological research is being conducted that take full account of the natural environment. Moreover, as the other contributors in this symposium illustrate, Catton and Dunlap's early work was instrumental in launching the field of environmental sociology, the subdiscipline most attuned to NEP assumptions and one of the American Sociological Association's most intellectually vital sections (Catton, 2008; Dunlap, 2008; Freudenburg, 2008; York, 2008).

Beyond Anthropocentrism in Organizational Studies

Similar to the paradigm discussions that took place in sociology, organizational studies[4] was enriched when scholars began examining the metatheoretical assumptions underwriting the field. This process was catapulted forward with the publication of Burrell and Morgan's (1979) book, *Sociological Paradigms and Organizational Analysis*. In this book, Burrell and Morgan identified the taken-for-granted assumptions behind functionalist sociology and functionalist organization theory and argued that three other unique paradigms (interpretive, radical humanist, and radical structuralist) did not have the limitations of the functionalist approach and held promise for developing essential theory and research. By the time Burrell and Morgan published their book, enough interpretive and critical organizational research had been produced for them to be able to meaningfully illustrate the kinds of contributions that could be made from nonfunctionalist underpinnings. Yet few researchers had thought systematically about the paradigmatic roots of the discipline. A decade and a half later, there had been enough proliferation of nonfunctionalist research to cause Pfeffer (1993) to take account of the costs of not having a tight paradigm in organizational studies and Willmott (1993) to argue for less insularity in paradigm debates and more cross-talk.

At the same time, a few scholars began pointing to a glaring omission in the field of organizational studies and linking the omission with the widely held but little recognized anthropocentric worldview. Similar to the realization fomented in sociology by Catton and Dunlap's foundational work on the DWW, HEP, and NEP, organizational scholars began understanding that their unstated, underlying assumptions about human beings and the rest of nature created a blind spot, one that limited the field's relevance and ability to address a monumental problem—the environmental crisis. What appeared to be extensive diversity in theory and research and what might even qualify as multiparadigmatic diversity was shown to be monoparadigmatic and limited in scope by a powerful bias against nonhuman nature. In one of the earliest and most persuasive statements highlighting the field's blind spot, Shrivastava (1994) stated,

> Nature remains at the margins of the definition of organizational environment. This exclusion prevents OS [organizational studies] from seriously addressing environmentalists' concerns, which center mostly on the status of nature and human–nature relationships. Working under the burden of these distorted assumptions, OS has failed to incorporate environmentalist discourse in its own theoretical logics. To create a more nature-sensitive (if not nature-centered) OS, the values and goals of the field need to be reoriented and the concept of organizational environment reconceptualized. (p. 714)

Much of the early research aimed at bringing the natural environment into organizational studies was driven by the critique of anthropocentrism (developed in philosophy and social science) and was inspired by the promise of ecocentrism and the possibility of harnessing the NEP to transform organizations and organizational studies (e.g., Callenbach, Capra, Goldman, Lutz, & Marburg, 1992; Gladwin, 1993; Pauchant & Fortier, 1990; Purser, Park, & Montuori, 1995; Shrivastava & Hart, 1994; Stead & Stead, 1992; Throop, Starik, & Rands, 1993; see Starik, 1995 for review). Catton and Dunlap's foundational contributions in sociology were often referenced in this work and some scholars built directly on their framework. For example, Gladwin, Kennelly, and Krause (1995) argued that the conventional technocentric paradigm and the idealistic ecocentric paradigm were locked in a state of mutual contempt and negation, rendering them incapable of promoting development or conserving nature. They forged an alternative ("sustaincentric") paradigm that they claimed would transcend the two extremes and synthesize superior insights from both. Egri and Pinfield (1996) built on ecocentrism and the NEP framework in a somewhat different way. In mapping research in the emerging field of organizations and the natural environment, they contrasted the strong anthropocentrism of the dominant social paradigm with the strong ecocentrism of the radical environmentalist paradigm. They then compared both with a reform environmentalist paradigm (which was based on modified anthropocentric values) and argued that a dynamic balancing among the three paradigms would best nurture research consistent with the biophilia hypothesis (i.e., the idea that human connections with the rest of nature must not only be multifaceted—emotional, cognitive, aesthetic, and spiritual—but also material).

In the early 1990s, when Paul Shrivastava and I began discussing the idea of launching *Organization & Environment*, we shared the view that anthropocentrism, the DWW, and the HEP limited organizational studies in the same way these lenses limited sociology decades before. We imagined creating a forum that would serve a diverse intellectual community interested in varied forms of ecosocial research, and that meant feeling as comfortable with ecocentrism, green political thought, and radical ecology as we did with topics more in the mainstream of organizational studies, industrial ecology, and environmental management and policy. As organizational scholars, Paul and I benefited greatly from studying the philosophical and sociological literature that was raising profound questions about humanity and nature (including Catton and Dunlap's work). We realized that *Organization & Environment* could serve as a unique outlet for multiparadigmatic research on nature and social organizing if it was properly situated outside the blind spot of denatured organizational studies.

From the beginning, *Organization & Environment* has been enriched by the contributions of outstanding scholars from philosophy, sociology, and other disciplines that had at least partially made the ecocentric turn. Numerous scholars from the humanities and social sciences have contributed as authors, reviewers, editorial board members, feature editors, and, in the case of environmental sociologists, John Bellamy Foster and Richard York, as coeditors. So far as I know, no other academic journal has benefited from the confluence of environmental philosophers, environmental sociologists, and organizational studies scholars pursuing research on organization, institutions, and nature. The journal's base in ecocentrism was probably apparent from statements in our introduction to the first issue (Foster, Jermier, & Shrivastava, 1997):

> As the 21st century emerges, global environmental changes pose an epochal problem for humanity, a paradigmatic challenge for scholarship. (p. 5)
>
> [a] primary warrant for the development of *O&E* is the need to develop better understanding of the complex linkages between organizations, the societies in which they exist, and the natural environment. (p. 6)
>
> Fundamental issues of social organization need to be addressed, often in radical ways: the nature of current forms of organization (such as corporations) and their effects, the possibility of developing and substituting new organizational forms for those now existing; imagining and engendering new ways of living in nature based on alternative concepts of consumption and consumerism; and examining forms of organization most efficacious for the environmental movement. (p. 8)

At least within the orbit of *Organization & Environment*, nature is not relegated "to the margins of the definition of organizational environment" (Shrivastava, 1994, p. 714), but what progress has been made in developing a more nature-centered organizational studies? By nearly all accounts, it appears that the corner has been turned in the direction of nature-centered organizational research. As one indicator, the Organizations and the Natural Environment Interest Group of the Academy of Management was recently granted Division status, putting it on equal institutional footing with more traditional areas such as organization and management theory and social issues in management.[5] As another indicator, there has been a proliferation of research on organizations and the natural environment (for bibliometric information and assessment, see Bansal & Gao, 2006; Gladwin et al., 1995; Jermier, Forbes, Benn, & Orsato, 2006; Kallio & Nordberg, 2006).

There are other indicators, however, suggesting that we still have a long way to go in greening organizational studies. For example, while he was serving as coeditor of *Organization & Environment*, Mark Starik[6] edited a special feature of the journal on "organizations and the natural environment research." In his introduction, Starik (2006, pp. 435-436) offered his sense of the still embryonic state of the field when he noted that even research that purports to deal directly with the natural environment focuses mostly on organizational and not natural environmental phenomena. He also urged scholars to "challenge paradigms" and "push the envelope," suggesting that the traditional lenses for viewing the field are still firmly positioned (Starik, 2006, p. 438). As another indicator of the still denatured field of organizational studies, Jermier et al. (2006) conducted a quantitative study of academic research articles published in organizational studies journals. They concluded,

> For the period 1990-2004, using either Gladwin et al.'s (1995) search criteria or our more extensive criteria, it is accurate to state both (1) that there has been a sizable expansion of published research on environment-related topics that increased in absolute numbers nearly every year and (2) that the percentage of scholarly research devoted to environment-related topics (relative to total articles listed) increased nearly every year and increased dramatically as a total over the 15 years. While these increases are impressive in some ways, it should be pointed out that the results showed *rapid increases in the absolute numbers* of scholarly articles published on environment-related topics but still *very small percentages of articles* . . . relative to what was listed for all topics (typically ~1%). (Jermier et al., 2006, p. 629)

This means that for every study on an environment-related topic in the organizations, management, and business literature, there are 99 others that do not significantly address environmental issues.[7] Of course not all nature-centered contributions to organizational studies are published in refereed academic journals. There are many books inspired by ecocentrism and the NEP framework that present quality research on organizations and the natural environment (e.g., Hoffman & Ventresca, 2002; Howard-Grenville, 2007; Sharma & Starik, 2002; Stead & Stead, 2004).

In the years ahead, I expect nature-centered organizational studies to grow in number and importance and believe this is an especially good time for organizational studies scholars to look carefully at the Catton and Dunlap NEP framework. The blind spot in organizational studies concerning the natural environment has been identified, and many scholars are conducting useful research that illuminates aspects of the new corporate environmentalism (Jermier et al., 2006).[8] Research on corporate environmentalism is a significant development in organizational studies that partially addresses the calls in the early 1990s to bring the natural environment into the center of the field. But those calls also urged organizational scholars to develop new theories and models not limited by reformist environmentalism assumptions. If nature centered organizational scholarship is limited to studies of eco-efficiency and light green organizational change experiments, it will fail to fulfill the promise of ecocentric transformation that was so central to much of the foundational writing of the past decade. Just as we need more radical experiments in organizational greening, the field of organizational studies needs more theory and research on organizational greening that is underwritten by NEP assumptions.

Notes

1. Subjectivity is a sociological concept that refers to interior states of being experienced by human actors. These states can be shared or individuated and result from relations of power. Deep subjectivity is the realm of the interior in which constituted power and agency, conscious and subconscious forces, and profound experiences of being are intermingled.

2. This is an optical illusion in which an image can be seen in more than one way. Weinberg (1998) provides an example: what seemed to be white rabbits against a black background suddenly appear as black goats against a white background.

3. For an insightful current interpretation, see Minteer and Manning (2005).

4. As Shrivastava (1994) remarked, the field of organizational studies is broad, fragmented, and difficult to delineate. The subject matter deals with behavior of and in organizations. Organizational scholars are usually housed in management departments in business schools, but many major contributions have come from nonbusiness scholars, departments, programs, and networks. Research is primarily interdisciplinary, but several social science disciplines (including sociology and psychology) contribute. The organizational studies literature is published in numerous viable journals including but not limited to *Administrative Science Quarterly*, *Academy of Management Journal*, *Academy of Management Review*, *Organization Studies*, *Organization*, *Organization Science*, *Human Relations*, *Journal of Applied Psychology*, *Journal of Management Studies*, *Leadership Quarterly*, *Journal of Management*, *Strategic Management Journal*, and *Organization & Environment*. It is also published in core social science and other disciplinary journals.

5. In a parallel development, leaders in the Academy of Management established the theme "Green Management Matters" for the 2009 Annual Conference.

6. Starik is an authoritative source on research in this field. His scholarship and editorial experience are extensive, he semiregularly surveys scholars who work in this area of study, and he is actively involved in networks and professional associations devoted to these topics, including the Organizations and the Natural Environment Division of the Academy of Management.

7. A similar pattern of approximately 1% is observed when considering only highly rated organizational studies journals (Jermier et al., 2006).

8. This concept is defined as "*rhetoric* concerning the central role of business in achieving both economic growth and ecological rationality and as a *guide* for management that emphasizes the voluntary, proactive control of environmental impacts in ways that exceed or go beyond environmental laws and regulatory compliance" (Jermier et al., 2006, p. 618).

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