

DETERMINANTS AND DEVELOPMENT OF SCHOOLS IN ORGANIZATION THEORY

WILLIAM MCKINLEY

Southern Illinois University at Carbondale

MARK A. MONE

University of Wisconsin at Milwaukee

GYEWAN MOON

Kyungpook National University

This article focuses on "schooling" in organization theory: the process through which new schools of thought become established as distinct, legitimate theoretical frameworks. We argue that evolving schools of thought must display a combination of novelty, continuity, and scope to achieve school status. We describe these attributes and discuss their role in promoting the detection and assimilation of a school's intellectual products, as well as the creation of a stream of empirical research. We derive eight testable propositions from our theoretical model and discuss implications for future research.

Even a brief review of contemporary organization theory suggests that the discipline is composed of multiple, largely incommensurable theoretical frameworks or schools of thought. In a seminal work Burrell and Morgan (1979) described a taxonomy of sociological theories that influenced much discussion of organization theory frameworks. Subsequently, Astley and Van de Ven (1983) identified a number of schools, including population ecology, contingency theory, and systems theory, classifying them in terms of their degree of environmental determinism and the level of analysis to which they refer. Donaldson's (1995) later description of several distinct "paradigms" within organization theory demonstrates considerable overlap with the schools described by Astley and Van de Ven (1983). A large body of literature (e.g., Gioia & Pitre, 1990; Jackson & Carter, 1991; McKinley & Mone, 1998; Scherer, 1998; Schultz & Hatch, 1996) also calls attention to multiple, conflicting perspectives in organization studies, emphasizing

the lack of an agreed-upon reference framework by which logical or normative inconsistencies between the perspectives could be reconciled (McKinley, 1995; Scherer & Dowling, 1995).

Partially as a result of these divergent perspectives, organization theorists appear to be focusing greater attention on the way we "do business"—specifically, the processes that are used in generating organizational knowledge. Astley and Zammuto (1992), for example, have characterized the production of organizational knowledge as a "language game," while Mone and McKinley (1993) have suggested that that production is dominated by a "uniqueness value," and Locke and Golden-Biddle (1997) have analyzed the rhetorical devices that organizational scholars use to construct "opportunities for contribution" in their writing.

Sensemaking about theory construction is also becoming common, as witnessed by a recent *Administrative Science Quarterly* forum on what theory is (or is not; see DiMaggio, 1995; Sutton & Staw, 1995; Weick, 1995a). The determinants and desirability of paradigm evolution in organization theory have also been actively debated in several outlets (e.g., Cannella & Paetzold, 1994; Pfeffer, 1993; Van Maanen, 1995). Finally, the journal review process in organization studies is being subjected to increasing empirical scrutiny (e.g., Beyer, Chanove, & Fox, 1995;

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Jauch & Wall, 1989), with important implications for the business of scholarly publishing.

The increased attention to knowledge generation in organization theory does not mean, however, that we have well-developed knowledge of how the extant multischool structure arose. The purpose of this article is to partially rectify that knowledge gap by focusing on the processes by which new schools of thought become established as legitimate frameworks in organization theory. In this article we define a school of thought as an integrated theoretical framework that provides a distinct viewpoint on organizations and that is associated with an active stream of empirical research. This definition is roughly consistent with the definitions of "research schools" used in the history of science literature (Olesko, 1993; Servos, 1993) and with Mullins' (1973) description of theoretical schools in sociology. Our definition of school of thought also parallels Mintzberg's (1990) use of the term in his analysis of the closely related field of strategic management. Commonly acknowledged schools of thought in organization theory include transaction cost theory, population ecology, neoinstitutional theory, resource dependence theory, structural contingency theory, and agency theory (Donaldson, 1995).

In contrast to Kuhn's (1970) broader emphasis on paradigmatic revolutions, our concern is the dynamics of school evolution in a discipline that is in a preparadigm stage (Zammuto & Connolly, 1984). Kuhn (1970) devoted some attention to the features of preparadigm disciplines, but his main emphasis was on the process that unfolds after scientific fields have received their first paradigm. This series of events begins with the hegemony of a unified paradigm ("normal science"), followed eventually by a period of crisis in which empirical anomalies accumulate, and then a Gestaltlike shift to a new unified paradigm. Organization theory, by contrast, probably has never had a unified paradigm and shows evidence of movement toward more diversity rather than less (Bartunek, Bobko, & Venkatraman, 1993; Pfeffer, 1993). Therefore, the intraschool dynamics that we concentrate on are an atypical phase in Kuhn's (1970) model but appear to be the norm for organization theory, at least in the present and the near future.

The perspective we develop here is important for several reasons. First, schools of thought are one of the most salient features of contemporary

organization theory, providing the basic intellectual structure within which ongoing theoretical and empirical work take place. Thus, it is critical to understand how this structure developed, beginning with the process by which individual schools evolve into recognition and legitimacy. Second, the perspective we discuss may provide clues to the future of organization theory, illuminating such issues as whether the current trend toward fragmentation and incommensurability (McKinley & Mone, 1998; Scherer, 1998; Scherer & Dowling, 1995) will continue, and whether the oft-lamented recycling of old ideas in new terminological garb is here to stay. Third, and perhaps of highest priority, this article represents an attempt to consolidate some of the ideas in current literature into a coherent theoretical framework for the sociology of organization science. It is evident, of course, that such a framework cannot be fully specified, or even properly launched, in a single conceptual article. However, this article is intended to lay the groundwork for a series of studies in the sociology of organization science, including future empirical research on the schooling phenomenon.

Schools under the rubric of organization theory draw largely from sociology, economics, and psychology. Given the preparadigmatic nature of many of those foundational disciplines, it is clear that any discussion of school development within organization theory is subject to the larger development processes of those disciplines, as discussed in the broader sociology of science literature (e.g., Davis, 1971; Kuhn, 1970; Merton, 1968). Indeed, we acknowledge the parallels between organization theory and the larger fields from which its schools have evolved.

However, the paradigm development problems that we identify are distinct and arguably more severe in organization theory. We submit that the difficulties facing organization theory are more complex because of the integration of larger fields that vary in their own levels of development and agreement on issues such as constructs, operational definitions, causality, methodology, and falsification. As such, organization theories are distinct both in their substantive, integrative nature and their potentially unique developmental processes; therefore, they warrant a focus separate from the broader disciplines from which they were derived.

TWO CORE ASSUMPTIONS

In this section we delineate two assumptions about the field of organization theory today that are preliminary to the specification of our schooling model. The first assumption is that *empirical validity is only one of several determinants of the attractiveness of current organization theory schools of thought*. This assumption rests strongly on Weick's (1995b) distinction between plausibility and accuracy and on his suggestion that, in sensemaking, plausibility trumps accuracy because of the role plausibility plays as a platform for action. Weick (1995b) intended this argument to apply to the "real world" of everyday sensemaking, and particularly to the cognitive universes of managers, but we believe the principle also characterizes sensemaking by organization theorists. Plausible schools of thought in organization theory are those that are coherent and believable, and they have the important attribute of energizing the action that organization theorists are primarily concerned with: the conduct of research and its reporting in published journal articles. Although empirical validity may be the goal of such action, it is not a necessary precondition for engaging in the action. Thus, we believe that empirical validity tends to recede into the background as a determinant of where organization theorists place their scholarly allegiances.

Evidence for the secondary role of empirical validity in allocating scholarly allegiance to schools of thought comes from the literature devoted to understanding and evaluating organization theory. For example, Bacharach (1989) has argued that many of the constructs used by organization theorists have low construct validity, yet it is clear that this has not prevented their use in the everyday discourse of key organization theory schools of thought (e.g., Young, 1988). Furthermore, Mone and McKinley (1993) have pointed out that organization studies today have a low incidence of replication. This condition, among others, makes it hard to evaluate the "truth" of a particular theory or to judge conclusively which of several competing hypotheses describes reality better.

Additionally, Davis (1971) has maintained that the truth value of a theory is less important in determining its impact than how "interesting" it is. Interesting theories are those that deny the

taken-for-granted assumptions of their scholarly audiences. Critics such as Astley (1985) have even denied the possibility that organization theory can ever capture objective truth, because all empirical knowledge about organizations is socially constructed through the lens of pre-existing theoretical frameworks. This view implies that the purpose of organization theory is not to discover truth but to generate theoretical language that can be used to give meaning to social constructions and to impel organizational action (Astley & Zammuto, 1992).

Finally, rather dramatic substantiation of the independence between a school of thought's popularity and its validity was provided by Miner's (1984) study of thirty-two organization science theories. Miner found little evidence of a correlation between organizational scholars' ratings of the importance of a theory and the theory's estimated validity. This is consistent with the positions taken by Davis (1971) and Astley (1985), and it casts further doubt on the notion that empirical accuracy plays the dominant role in determining the allegiance of organization theorists to particular schools.

Our second assumption is that organization theorists *are experiencing increasing information overload*. Information overload has been defined as occurring when the time demands for processing information exceed the supply of time available (Schick, Gordon, & Haka, 1990). Due, in part, to the theoretical diversity that currently characterizes organization theory, the growth in the number of research outlets and publications, and a growing number of schools of thought, we believe that the information-processing demands on individual organization theory scholars are increasing.

Although schools of thought can act as categorization schemes, increasing the efficiency of information processing, their variety encourages research on a wide array of constructs and variables and reduces standardization of definitions and measures (Mone & McKinley, 1993). This increases the information-processing demands on scholars seeking to communicate or understand research findings. Since resources appear increasingly constrained in contemporary academic institutions, it is doubtful that the supply of time available to organization theorists is expanding in proportion to the information-processing demands imposed by their discipline. Time limitations also prevent scholars

from exploring related fields and disciplines—clearly an important part of scholarly inquiry and development. The result of these dynamics, at least for those who seek to remain abreast of the literature, is information overload.

Additional evidence of information overload in organization theory comes from several sources. For instance, Jermier recently remarked that “the organizational social science literature has become oppressive—burdensome in sheer quantity, onerous in expense, overwhelming to catholic readers” (1992: 210). Field makes a similar observation, pointing out that “the number of papers published [is] overwhelming anyone’s ability to read or even keep track of them all” (1993: 323). Mowday (1993), discussing his experiences as Editor of the *Academy of Management Journal*, reported that 1,401 new manuscripts were submitted to the journal during his 3-year tenure. He described the huge information-processing demands represented by this manuscript flow, for both himself and the reviewers.

The information-processing burden posed by the journal publishing enterprise is compounded by the high rejection rates in organization studies journals, which mean that many manuscripts must be revised several times before appearing in print (Pfeffer, 1993). Recent trends also suggest that the information-processing demands on reviewers and consumers of organization studies research will continue to expand. In 1993 the *Academy of Management Journal* published 50 percent more issues and articles than in 1991, and new manuscript submissions and the demand for reviewers have both remained strong (Tsui, 1998). Thus, unless individual scholars have been able to increase available time for reviewing, reading, and writing, information overload seems a safe conclusion.

Our two assumptions establish a context for the development of a theory of “schooling”: the process by which new schools of thought become established in the discipline of organization theory. It is a combination of novelty and continuity, we suggest, that serves to get an evolving school’s intellectual products (published articles and books) noticed, while simultaneously investing those products with meaning by linking them to theoretical frameworks already familiar to the audience of organizational scholars. Concurrently, broad scope en-

hances opportunities for empirical research by widening the array of empirical phenomena that can be nested within the content domain of the school’s constructs. These dynamics contribute to the successful establishment of a new school as a recognizable intellectual entity. Although we do not claim that novelty, continuity, and scope are the only independent variables that influence establishment and legitimation of schools, we believe that they are among the most critical drivers of that process.

THE SCHOOLING OF ORGANIZATION THEORY

Novelty and Continuity

The theoretical context established above suggests that one of the first problems a developing school of thought must surmount is gaining the attention of organization theory scholars. In order to obtain legitimacy and followers, a school must get scholars to read and encode its intellectual products. This is a significant problem in a discipline characterized by information overload and a wide variety of competing theoretical perspectives.

However, we argue that the problem is attenuated if the school displays sufficient levels of both novelty and continuity. In this article we define novelty as the property of being new, unique, or different, particularly relative to theoretical frameworks that have been central to a discipline in the past. Continuity, however, is a property of affinity: it means a linkage with intellectual frameworks that are already familiar to a scholar. In discussing schools of thought in organization theory, we note that the continuity exhibited by an evolving school may be with intellectual schemas inside the discipline or those outside it (e.g., Darwinian biology).

Our central thesis concerning novelty and continuity is that although there exists tension between them, adequate levels of each are necessary for school development. This suggests that the challenge for emerging schools of thought is to balance the two by first maintaining enough novelty to warrant interest to fuel scholarship. At the same time, evolving schools cannot stray too far from existing conceptions of, for example, how the world of organizations works, how research questions are approached, or how controversies are resolved. As such, the

development and successful establishment of a school require dynamic tension and interplay between novelty and continuity. Tipping the balance too far to either side can result in rejection or dismissal as an oddity if novelty thresholds are exceeded or, conversely, can result in an assessment of a school as "old hat" if continuity dominates too much. With the following material we develop both sides of this argument.

Human information-processing theory (Kiesler & Sproull, 1982; Nisbett & Ross, 1980; Taylor & Crocker, 1980) suggests that information will be noticed and remembered if it is salient, but also capable of integration into pre-existing cognitive schemas. If information is not salient and discrepant, it will tend to be ignored, especially when individuals are operating under information overload. Particularly under the conditions of information overload described above, it is especially important to link with scholars' existing research, if for no other reason than to get on the "to be read" pile. However, if discrepant information cannot be linked to some established cognitive framework, it will be difficult for an individual to recall the information and attach meaning to it (Taylor & Crocker, 1980).

Applying these basic cognitive principles to the field of organization theory, we argue that developing schools of thought in the field must, paradoxically, offer potential consumers a blend of the novel and the continuous. The theoretical perspective of a budding school must be novel enough to get the school noticed and to capture the attention of overloaded scholars. At the same time, the evolving school must establish a link with existing intellectual frameworks that are familiar to a critical mass of organizational scholars. If the new school of thought fails to accomplish the latter, its meaning will be difficult to interpret, and it will be in danger of being dismissed as a passing fad. Expressed somewhat differently, continuity enfolds novelty with meaning, establishing a context within which the novel claims of an evolving school can be understood. The result is effective detection and assimilation of the school's intellectual products by scholars who are observers and possible disciples of the school.

The role of the novelty-continuity combination can be illustrated with examples of some of the early intellectual output of schools of thought that are vying for legitimacy and domain in the

organization theory arena today. One of the most aggressive (see, for example, Carroll, 1988) of these schools is the population ecology perspective. As articulated in the foundational work of Hannan and Freeman (1977), population ecologists based their claim to intellectual territory on the novelty of their framework. The ecological approach was explicitly presented as an alternative to the dominant adaptation perspective, and selection—especially the selection of highly inertial organizations—was offered as a novel explanation for organizational change (Hannan & Freeman, 1977, 1984). These ideas were new for much of the field of organization theory, particularly the part influenced by the strategic choice approach (Child, 1972), and they violated taken-for-granted assumptions that change and innovation contribute to high organizational performance.

At the same time, proponents of the ecological perspective have been careful to emphasize the continuity of the school with pre-existing theoretical schemas. For example, Hannan and Freeman (1977) stressed the link between their ideas and Hawley's earlier work (1950, 1968) on human ecology. Likewise, although Hawley's ecology models were familiar primarily to sociologists, the population ecology school also benefited from the continuity it exhibited with Darwinian principles in population biology.

The idea of Darwinian selection was probably known, at least in general terms, to many organization theory scholars who had never heard of Hawley. This linkage arguably helped organization theorists attach meaning to novel ideas, such as organizational change through selection, and provided the evolving population ecology school an aura of legitimacy it might not have had otherwise. The growth of population ecology research (see Baum's 1996 review), for example, would probably not have been possible without the mix of novelty and continuity that allowed the school to present a salient, meaningful theoretical schema to a core group of disciples in its early days.

The population ecology illustration demonstrates also that what is novel in one field may not be seen that way in another. Rather, it is the application of the idea or theory to organizations that is novel.

Another example of the blending of novelty and continuity in a developing organization theory school of thought is provided by neoinstitu-

tional theory. In introducing neoinstitutional theory to organization studies, Meyer and Rowan (1977) contrasted the concept of institutional "myths" with the then-dominant idea that organizational structure is a product of technical and efficiency constraints. In many organizations, they argued, formal structure is decoupled from everyday activities. Thus, its role is not coordination of work at the technical core so much as enhancement of legitimacy through a display of conformity with institutionalized, taken-for-granted management practices.

Furthermore, according to Meyer and Rowan (1977), structures that reflect and incorporate institutional myths may actually interfere with efficiency, which suggests that efficiency is not always the dominant decision criterion that contingency theory and strategic choice models suggest it to be. These ideas were novel in the late 1970s, and served to get neoinstitutional theory noticed, but they were also made meaningful for organization theorists by multiple continuity linkages with established work in organization theory. Meyer and Rowan (1977) linked their decoupling concept to well-known literature on loose coupling (March & Cohen, 1976; Weick, 1976), and they anchored their claim about institutionalized structures with a reference to Weberian concepts of legitimacy. This blend of novelty and continuity facilitated "seeing" the new perspective as a distinct and understandable framework.

The mixture of novelty and continuity is also well illustrated in the introductory chapter of Powell and DiMaggio's (1991) edited book on neoinstitutional theory. In the opening lines of the chapter, DiMaggio and Powell explicitly evoke both novelty and continuity: "*Institutional theory presents a paradox. Institutional analysis is as old as Emile Durkheim's exhortation to 'study social facts as things,' yet sufficiently novel to be preceded by new in much of the contemporary literature*" (1991: 1).

Later in the chapter, DiMaggio and Powell discuss, at length, the cognitive turn in sociological theory (1991: 26-27). At this point the novelty represented by neoinstitutional theory is made more comprehensible by enfolding it in continuity with larger shifts in social theory that will likely, given their comprehensiveness, resonate with many organizational scholars. Neoinstitutional theory, thus, is invested with additional meaning, salvaging it from the possibility of

being interpreted as an intellectual anomaly, and placing it more squarely in the organization theory "game." Consistent with the discussion presented above, we offer the following proposition:

Proposition 1: The more that both novelty and continuity are displayed by a developing organization theory school of thought, the more likely detection and assimilation of the school's intellectual products by organizational scholars will be.

Low Levels of Novelty

Our emphasis on the importance of both novelty and continuity makes it incumbent upon us to consider what happens when a school-information displays low levels of novelty or continuity. We first consider likely consequences when the level of novelty is low and then turn our attention to the effects of low continuity.

Human information-processing theorists maintain that low levels of novelty in information reduce the information's salience, thus decreasing the chances that it will be detected by information processors (Kiesler & Sproull, 1982). Analogously, we predict that low novelty in an evolving theoretical framework will make it less visible to organizational scholars, even if the framework has continuity with theoretical schemas already entrenched in those scholars' cognitions.

A possible example of this "salience gap" in organization theory is neostructural contingency theory, or the SARFIT model (Donaldson, 1995). Donaldson's (1995) attempt to establish structural contingency theory as the central paradigm in organization theory is arguably vulnerable to labeling as non-novel, because it seems to deal with the "same old" structural relationships and the "same old" contingency logic. Unfortunately, this lack of perceived novelty may keep neostructural contingency theory off the cognitive radar screens of many organization theorists, reducing opportunities for enactment as a definable school of thought. Parenthetically, we note that the SARFIT model may be suffering, as of this writing, from its own relative infancy in the field of organization theory. We emphasize that our argument says nothing about the empirical validity of Donaldson's

(1995) framework and does not constitute a judgment on the potential contribution of this framework to our knowledge about organizations. Our model is concerned primarily with the social construction of schools of thought in organization theory—not the empirical accuracy of those schools. The preceding discussion suggests the following proposition:

Proposition 2: The less novel a developing school is, the less visible the school's intellectual products will be to organizational scholars, and the less likely the assimilation of those intellectual products will be.

Note that Proposition 2 is not just the reverse of Proposition 1, for Proposition 2 asserts that low levels of novelty *alone* are enough to interfere with the process that eventuates in the enactment of a distinct school of thought.

Low Levels of Continuity

The opposite problem occurs when a developing school lacks continuity with intellectual schemas that provide a context within which the school's intellectual products can be interpreted. In that case, even if the intellectual production is novel, it will face barriers to assimilation by enough organization theorists to make schooling possible. An illustration of this situation is arguably provided by postmodern perspectives on organizations (see Hassard & Parker, 1993, and Kilduff & Mehra, 1997, for descriptions of postmodernism in organizational analysis).

Postmodernism, a field new to most organization scholars, is generally acknowledged to be a novel approach to organizations and organizational theorizing (Hassard, 1993). However, many of its claims—that there is no absolute truth, that localism dominates over generalism, and that scientific theory constitutes a "totalizing metanarrative"—stretch the limits of continuity for Western (and particularly American) organization theorists. Kilduff and Mehra's (1997) article, which inventories these claims, can be read as an attempt to bolster the weak continuity linkages that may be preventing wider assimilation of postmodernism into mainstream organization theory. After stating that postmodernism has been poorly understood or even "dismissed" by organizational scholars, Kilduff and Mehra

set themselves the task of challenging "the conventional wisdom that postmodernism is incompatible with research about the world, . . . [and] presenting the case for the relevance of postmodernism for organizational research" (1997: 454).

Whether this attempt to establish continuity with mainstream organization theory will bear fruit remains to be seen, but it represents an interesting initiative nonetheless. Based on this argument, we propose:

Proposition 3: The less continuity displayed by a developing school, the more difficult the school's intellectual products will be to interpret, and the less likely the assimilation of those intellectual products will be.

We do not state a proposition about what will happen to incipient schools characterized by low novelty and low continuity, because we believe such a proposition could not be tested. Low levels of novelty and continuity would turn an evolving school into a "ghost," simultaneously undetectable and uninterpretable. In fact, it is doubtful that an incipient school lacking both novelty and continuity could even be said to warrant the label *school-in-formation*.

Scope

The third attribute that we argue is essential for the development of schools of thought in organization theory is scope. As with novelty and continuity, we conceptualize scope here as a characteristic of a developing school and that school's intellectual products. We adopt Bacharach's definition of scope: "the range of phenomena encompassed by the theory" (1989: 509).

As stressed by Astley and Zammuto (1992), scope is correlated with ambiguity, which can be defined as "the property of words or sentences of admitting more than one interpretation" (Levine, 1985; cited in Weick, 1995b: 92). Ironically, particularly for those concerned with sharpening the precision of empirical research (e.g., McKinley & Mone, 1998), broad, ambiguous constructs can be argued to expand opportunities for research. As such, more explanatory power may be imputed toward an incipient school, potentially increasing its detection and assimilation.

This perspective is consistent with Weick's (1995b); he suggests that ambiguity provides an

opportunity for sensemaking by opening up an array of possible interpretations that require assessment by organizational participants and, by extension, organizational scholars. Based on this foundation, we advance the claim that broad scope in a developing school's intellectual products will directly stimulate detection and assimilation. This suggests the following proposition:

Proposition 4: The greater the scope of a developing school and its intellectual products, the greater the detection and assimilation of those products will be.

It can also be argued that scope and associated ambiguity fuel scholarly empirical activity. This is confirmed by Astley and Zammuto, who state that "linguistic ambiguity increases the potential number of empirical tests conducted on a theory, [while reducing] the chance that those tests can amount to a refutation of the theory" (1992: 446). Thus, we advance the claim that broad scope in a developing school's intellectual products will also be a stimulus for empirical research.

This argument entails a revision in traditional interpretations of the role of ambiguity in organizational research. Whereas scholars traditionally have viewed ambiguity as something to be avoided (St. Clair & Quinn, 1997), in recent treatments of the subject (e.g., Astley & Zammuto, 1992; Weick, 1995b) researchers leave ambiguity open to a different assessment. For example, a major part of the effect forecast in Proposition 5 below rests on the assumption that broad, ambiguous constructs will encourage multiple operationalizations and measures of the phenomena captured by the constructs (Astley & Zammuto, 1992).

These multiple operationalizations expand the array of empirical cases that can be used as testing grounds for a theory and as deployment sites for its key concepts. For example, a broad construct, such as efficiency (Williamson, 1981), facilitates the extension of transaction cost theory to both profit and not-for-profit organizations, especially because Williamson (1981) does not restrict efficiency to a financial definition. Again, this widens opportunities for a diverse array of empirical research projects nested within the theoretical framework of a developing school. Our argument can be summarized with the following proposition:

Proposition 5: The greater the scope of a developing school and its intellectual products, the greater the likelihood that a coherent stream of school-based empirical research will be established.

It also follows that the more visible a school's intellectual products and the wider their assimilation, the more likely that adherents will engage in empirical examinations of them. This is akin to Kuhn's (1970) model of normal science, in that puzzles are identified that attract a critical mass of scholars pursuing similar lines of inquiry. The distinction between organization theory and Kuhn's view of normal science rests, however, on fundamental differences in paradigm development. In paradigmatic research scholars typically concur readily upon what questions remain unresolved and how to undertake empirical investigations. Witness, for example, how in the physical sciences researchers coalesced around the "discovery" of cold fusion in April of 1989 (*Business Week*, 1989). At that time literally thousands of physicists and chemists attempted (unsuccessfully) to replicate the original cold fusion trial.

However, in a preparadigm field, such as organization theory, there are starkly different levels of agreement as to what questions should be examined and how to examine them. Despite these differences in paradigm development, a greater awareness and assimilation of scholarly products will lead to more chances of empirical inquiry. And, despite differences in agreement about which questions should be examined and how they should be examined, more controversy and provocation will likely be provided by high levels of detection and assimilation of a school's intellectual products. This suggests the following proposition:

Proposition 6: The greater the detection and assimilation of a school's intellectual products, the greater the likelihood that a coherent stream of school-based empirical research will be established.

Finally, we argue that the detection and assimilation of a developing school's intellectual products by organizational scholars contain the seeds of an enactment process that is essential for the intellectual articulation of the school.

Those who are initially exposed to the output of the school, and view its ideas as meaningful, form a conduit for discussing the ideas and communicating them to other scholars. Some of those scholars, in turn, read the founding contributions of the school's mothers and fathers, talk to still more scholars (including doctoral students), and engage in further theoretical and empirical research. As such work is published, wider readership, discussion, and legitimation occur. Eventually, if reading, discussion, and interaction continue, the developing intellectual structure comes to attain the formal status of a school—to achieve, in our terms, *schooling*. This process is consistent with Astley's (1985) idea that administrative science is a socially constructed product enacted and maintained by scholars who downplay their own part in the construction process, believing that theoretical frameworks are merely representations of an external organizational reality.

Combining the effects postulated in Propositions 1 through 4, we suggest that novelty, continuity, and scope in an evolving school facilitate noticing and encoding of the school's intellectual output by overloaded scholars. In turn, the latter process sets into motion self-fulfilling and self-reinforcing sociocognitive dynamics that increase the probability that the school will be reified (Berger & Luckmann, 1967) as a distinct intellectual entity. The presence of novelty, continuity, or scope alone is not enough to guarantee the unfolding of this causal sequence, but adequate levels of novelty, continuity, and scope make the sequence much more probable than it would be were any of them absent. This argument can be summarized in a seventh proposition:

Proposition 7: Detection and assimilation of a developing school's intellectual products by organizational scholars encourage a dissemination and legitimation process that increases the likelihood of schooling.

We also hypothesize a relationship between the growth of school-based empirical research and the *legitimation* of the school as a distinct intellectual entity. Conducting empirical research within the theoretical boundaries of a school legitimizes the school's existence, thereby increasing the chances that it will be

viewed as a serious contender for intellectual market share. We believe that this effect rests less on the production of validated theory than on the activity of theory testing itself: to build on Weick's (1995b) work, organization theorists engage in retrospective sensemaking about a school's existence partly on the basis of whether it has an associated stream of research. The attainment of empirically validated knowledge is less important; in Weick's words, "accuracy is nice, but not necessary" (1995b: 56).

Although not all bodies of empirical research represent schools of thought (e.g., consider early work on organizational decline scattered across various disciplines), we believe that empirical research is a necessary adjunct to the detection and assimilation processes described above. Thus, cumulative growth of empirical research increases the chances that a body of intellectual output will come to be seen as a legitimate school of thought. We state this formally:

Proposition 8: The development of empirical research based on an evolving school's theories triggers a legitimation process that is critical for schooling.

Combining the effects predicted in Propositions 5 and 8, we maintain that broad scope in an evolving school's theories and constructs has an indirect positive effect on schooling, mediated by the growth of school-based empirical research. Although broad constructs reduce the likelihood of generating falsifiable measures (Bacharach, 1989) and of empirically disconfirming theories (Astley & Zammuto, 1992; McKinley & Mone, 1998), they also enhance the variety of possible empirical projects. At the risk of sounding cynical, we believe the creation of a viable school of thought is more likely when empirical research does not result in conclusive empirical testing, and broad scope is helpful here. Conclusive testing, even of the confirmatory variety, would imply a reduction of emphasis on the research stream that had generated the tests and that, in turn, would be a threat to activity-based constructions of a school's existence and legitimacy. To paraphrase Weick (1995b), how can we know it's a school unless we keep seeing its research?

DISCUSSION AND CONCLUSION

In this article we have proposed a model to explain the process through which schools of thought evolve and become institutionalized in the field of organization theory. We present a summary of the proposed relations in Figure 1. Although there are surely many influences on the schooling process not included in our theoretical model, we believe that three key attributes—novelty, continuity, and scope—represent some of the more important independent variables. In the following sections we describe implications for organization theory and suggest possibilities for future research.

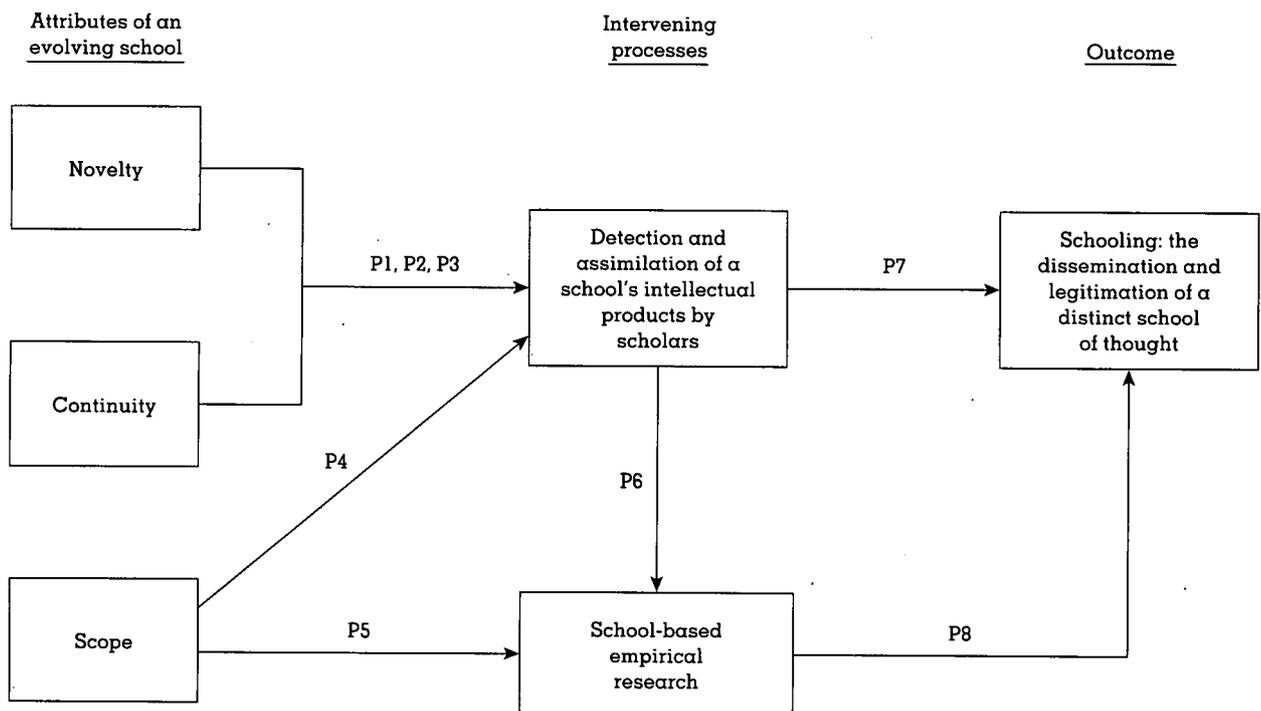
Implications for Organization Theory

In our argument we have implied that organization theory evolves differently from other scientific fields. Although there are some parallels with other areas of scientific inquiry, we think that organization theory operates uniquely, with potential for both positive and negative consequences. Kuhn's (1970) model of normal science specifies that fields develop around core puzzles

or questions that spawn much scientific inquiry. In normal science scholars are attracted by the challenge of solving puzzles, and competition for puzzle solving drives paradigm development. Within advanced paradigms there is agreement concerning concepts, definitions, approaches toward falsification, and, ultimately, the scientific worth of particular areas of inquiry. Advanced paradigms rarely fizzle out through natural evolution but are, instead, usually jolted by an empirical finding that overturns and sometimes replaces an existing paradigm.

In contrast, our perspective suggests how a dynamic tension must exist between novelty and continuity in evolving organization theory schools—and the school must also be of sufficient scope—for school-based empirical research to be established. In organization theory schools can fade away, seemingly independent of empirical validity, especially if they appear to hold little of novel value for scholars. And profound revolutions are not typical; rather, schools gradually become more articulated. Finally, within schools there is not the same level of

FIGURE 1
The Schooling of Organization Theory



agreement concerning causal relations, appropriate methods, and empirical falsification as is typical of advanced-paradigm disciplines. In aggregate, we think these differences spell out different consequences for organization theory from what is usual in the normal science model.

On the positive side, novelty and diversity spark creative approaches that are probably necessary for the creation of new knowledge. This is of fundamental importance, because organizations are in a continuous process of transformation. High levels of novelty also keep interest high, which serves to attract new scholars to the field and keep current ones involved with interesting issues. The downside of high levels of novelty, and the resulting negative impact on the field, is that the search for novelty can suppress interest in replication (Mone & McKinley, 1993). Replication is important because it is the only way that scientific inquiry can progress. Without repeated operationalizations differing in terms of methodologies, samples, and contexts, neither internal nor external validation can be achieved (Popper, 1968). Hence, the boundary conditions and generalizability of a theory and the broader school of thought in which it resides will remain questionable. At a higher level, then, organization theory risks limited evolution toward paradigm status, because novelty may function as an obstacle to paradigm development (McKinley & Mone, 1998).

A second consideration from our argument concerns the level of scientific inquiry in specific organization theory schools, especially the forces for conservatism. Many commentators (e.g., Daft & Lewin, 1990; Martin, 1992) have criticized the conservatism of organization theory today, and it seems unlikely that this conservatism will entirely disappear. Some continuity with past theoretical traditions and normal science models—either inside organization theory or in other disciplines—seems to be the only way that organization theorists can attach meaning to novel concepts and findings. Unless consumers of research can relate novel material to cognitive frameworks they are familiar with, it is not likely that the new information will be effectively coded or retrieved (Kiesler & Sproull, 1982). Consequently, our field may be locked into repetitive cycles of bottling new wine in old bottles, simply because this novelty/continuity package is required for human information processing and recall.

Conversely, the presence of broadly defined constructs at the core of current organization theory schools of thought can be expected to foster a continuing production of innovation. Constructs such as population, niche, efficiency, transaction, power, resource, institution, competition, legitimacy, and the like are so broad and abstract that they are rife with ambiguity, and this ambiguity means that the constructs are subject to multiple interpretations (Weick, 1995b). The multiple interpretations allow school founders and promoters to link a continuing series of novel empirical phenomena to the content domain of a given construct, dazzling overloaded scholars with the innovative variety of issues and relationships being explained.

Unless the feedback effect of empirical research narrows construct boundaries, this "innovation show" can potentially continue indefinitely. This does not bode well for efforts to make organization theory constructs more falsifiable (Bacharach, 1989), or to resolve incommensurability among organization theory schools of thought through empirical testing (McKinley & Mone, 1998). But it does suggest that the production of innovation will continue to balance any conservative tendencies identified by commentators and that organization theory runs little risk of becoming a boring place to hang one's scholarly hat.

A precautionary thought is that although broad scope can potentially encourage the detection, assimilation, and schooling of intellectual products, the ambiguity connected with broad scope also can have detrimental long-term consequences. Preparadigmatic fields are associated with diffusion of diversity and widely dispersed efforts across manifold issues. Ironically, as processes unfold that reinforce this diverse behavior, incommensurability of definitions and empirical operationalizations can limit a school of thought (cf. Mone & McKinley, 1993). Ultimately, if scope is unchecked, there is likely to be no agreement on concepts, definitions, and other ingredients necessary to advance empirical research.

Consider the differences in advances in the field of organizational culture versus the organizational behavior specialty of, say, goal setting. In the latter area a well-known research "exemplar" (Frost & Stablein, 1992) is the series of experiments that resolved a controversy over participation in goal setting (Latham, Erez, &

Locke, 1988). In Latham et al.'s (1988) work, the self-proclaimed antagonists designed crucial experiments, akin to Platt's strong inference tests, that allowed the determination and resolution of previously irreconcilable issues. While the dispute under consideration concerned the effects of participation on goal setting, it was evident that there were also high levels of agreement on definitions, research methodology, and comparison of findings across other work in the goal-setting field. In contrast, given the ambiguity associated with definitions and operationalizations of organizational culture, we doubt if such reconciliations are likely in the foreseeable future.

We have confined our article to attributes of theories or schools of thought. This focus is consistent with the identification of paradigmatic characteristics that induce or deflect the development of new or existing schools. Yet, independent of the identified attributes, we would be remiss if we did not acknowledge the role of environmental and contextual factors that may also influence a school's development.

For example, as Barley, Meyer, and Gash (1988) demonstrated, definitions of organizational culture reported in the popular press preceded by several years the academic writings on this topic. A similar theme has surfaced in other management theory development research, such that not only organizational change but societal, political, and economic considerations are posited as determinants of what is acceptable or desirable for publication. Consider, for instance, the influence of the 1960s and 1970s Vietnam War on Staw's work on commitment escalation (e.g., Staw, 1976, 1981), or how difficulties facing the U.S. automobile industry in the early 1970s provided a context favorable to a body of research on organizational decline and downsizing.

These forces, collectively, seem to influence what can be called "managerial receptiveness" to new schools and theories. Although managerial receptiveness is separate from the attributes of a particular school or theory, we suggest that it does contain significant moderating potential for the development of a school. As such, managerial receptiveness can help determine which theories emerge and the extent of their diffusion.

Implications for Future Theory and Research

Future theorizing may be advanced by considering feedback or second-order effects among our proposed relationships. For example, in addition to affecting its detection, assimilation, and the growth of empirical research, we suspect that the scope of constructs and theories embedded within the intellectual framework of a developing school may also influence the school's ability to generate continuity and novelty. Broadly defined constructs are open ended and flexible and, therefore, can be stretched to encapsulate ideas from neighboring, better-established schools of thought. This strengthens the continuity dimension, creating intellectual linkages that can bolster the meaningfulness of the developing school. Likewise, a broadly articulated construct without clear boundaries easily can be extended to cover new empirical cases and to frame diverse "real-world" phenomena within the parameters of the construct. This permits a continuous process of novelty production. In a field characterized by information overload, such as organization theory, this latter process is essential for maintaining the salience of an evolving school's intellectual products.

In future theory researchers might also explore a feedback loop from empirical research to the scope of a field's intellectual products. A core argument could be that in the process of conducting empirical research projects, scholars operationalize (loosely) loosely defined constructs, collect and analyze data, and obtain results. The empirical product is typically a set of statistical findings that have sensemaking implications for the constructs that produced the findings. In other words, empirical researchers often begin to interpret the constructs in terms of their measures, deriving the meaning of a construct as much from its measure as from the original definition. The outcome of this retrospective sensemaking can be a narrowing of the domain covered by the construct.

As noted at the outset, an important mission in this article was to set the theoretical stage for a program of empirical research in the sociology of organization science. In brief, one of the first tasks of such a program would be to develop operationalizations of the constructs of novelty, continuity, and scope and to create databases that could yield measures of those constructs.

Founding statements (e.g., Hannan & Freeman, 1977; Meyer & Rowan, 1977; Williamson, 1981) of active organization theory schools of thought could be content analyzed by multiple coders, using sets of items designed to tap the degree of novelty, continuity, and scope exhibited by each of these intellectual products.

Current assessments of the schools of thought that grew out of these founding statements could then be conducted to see whether the novelty, continuity, and scope of the founding statements bear any relationship to the degree of institutionalization and credibility of the schools today. Such empirical tests would allow an opportunity to separate out actual levels of novelty, continuity, and scope from rhetorical assertions of current school disciples. Measures of the dependent variables (e.g., institutionalization and credibility) could be obtained from surveys of organization theory scholars, and those instruments might also generate indicators of the intervening detection, assimilation, and research promotion dynamics postulated in Figure 1. The overall goal would be to evaluate the validity of the propositions presented in this article, but the research program might have to proceed through a stage of qualitative comparison of individual cases (schools) before a multivariate, quantitative database could be compiled and analyzed using statistical methods.

Beyond the retrospective testing of the propositions specified above, the schooling model could be examined prospectively. Specifically, researchers could assess the novelty, continuity, and scope of intellectual frameworks or statements that appear to be evolving toward school status. Based on those inspections, the researchers could make predictions about the frameworks' chances of achieving full schooling. We have not attempted such predictions in this article, but the potential for them is certainly implicit in our theory. The evolution of the intellectual frameworks in question could then be tracked and compared with the predictions, as an alternative method of testing schooling theory. A model to anchor the empirical component of such research is contained in articles by Barley (1990), Leonard-Barton (1990), Pettigrew (1990), and Van de Ven and Poole (1990), in which the authors describe different varieties of longitudinal field research for studying organizational change. Eventually, sociologists of organization science might refine their predictive skills

enough to permit fairly accurate forecasts of which budding intellectual frameworks or schools-in-formation will evolve into completely reified and legitimized schools of thought.

In conclusion, we hope that this article has clarified the process through which new schools of thought in organization theory develop toward legitimation and institutionalization. We believe that understanding this process is important, because it helps explain the current multischool structure of the discipline. Whether the future of organization theory is characterized by further intellectual differentiation or by an intellectual consolidation wave, the present multischool structure is certain to have a critical influence on the outcome, and, therefore, on our ability to decipher the functioning of organizations.

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William McKinley is an associate professor of management in the College of Business and Administration, Southern Illinois University at Carbondale. He received his Ph.D. in organizational sociology from Columbia University. His current research interests are the sociology and philosophy of organization science, organizational downsizing and restructuring, organizational decline and innovation, and organizational change.

Mark A. Mone is a professor of management in the School of Business Administration, University of Wisconsin at Milwaukee. He received his Ph.D. in organizational behavior and organization theory from Washington State University. His research interests include self-regulatory processes; organizational decline, innovation, and downsizing; philosophy of organization science; and research methods.

Gyewan Moon is an assistant professor of management in the School of Business and Administration, Kyungpook National University, in Korea. He received his DBA in management from Southern Illinois University at Carbondale. His current research interests include organizational decline and turnaround, strategic leadership, strategic management of technology, and corporate restructuring.

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