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STUDYING ORGANIZATIONAL CHANGE AND DEVELOPMENT: CHALLENGES FOR FUTURE RESEARCH

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The study of change and development is one of the great themes in the social sciences. Many of the social and natural science disciplines have developed theoretical literatures and empirical findings about the birth, development, transformation, decay, and decline of human and natural systems. A recent tradition of research in the various fields of the organizational sciences has also grappled with organizational change and development (Van de Ven & Poole, 1995; Weick & Quinn, 1999; Woodman, 1989). These theories of change in the fields of management and organization studies must face the double hurdle of scholarly quality and practical relevance (Pettigrew, 1997). In addition to their relative youth, interdisciplinarity, and fragmentation, management and organization scholarship are challenged to develop knowledge in the image of science while also contributing to practice and policy making. This challenge has proven formidable; the change literature has been characterized as "a few theoretical propositions . . . repeated without additional data or development; a few bits of homey advice . . . reiterated without proof or disproof; and a few sturdy empirical observations . . . quoted with reverence but without refinement or explication" (Kahn, 1974: 487). Although Kahn's observation was made over a quarter of a century ago, some contemporary scholars consider that the assessment remains dismayingly accurate (cf. Macy & Izumi, 1993).

Fortunately, research and writing on organizational change is undergoing a metamorphosis. For example, Pettigrew (1985) critiqued the literature on organizational change as being largely acontextual, ahistorical, and aprocessual. Since then, considerable advances have been made in these areas. For example, several writers have acknowledged that context and action are inseparable, that theories of change ought to explain continuity, and that time must be an essential part of investigations of change if processes are to be uncovered (Green-

wood & Hinings, 1996; Orlikowski, 1996; Van de Ven, Angle, & Poole, 1989). This interest in time and process also triggered a new curiosity about the pace and sequencing of action in change processes (Gersick, 1994; Kessler & Chakrabarti, 1996; Weick & Quinn, 1999).

On the other hand, the field of organizational change is far from mature in understanding the dynamics and effects of time, process, discontinuity, and context. In particular, in a complex, dynamic, and internationally conscious world, a search for general patterns of change requires even more focus on temporal and spatial context. Generalizations are hard to sustain over time, and they are even tougher to uphold across international, institutional, and cultural borders. Dynamism has been difficult to study, and social science has developed quite comfortably as an exercise in comparative statics. Static states or cross-sectional analyses are privileged over the complex processes that lead to understanding the dynamics of change across time and space.

In this introduction to the *Academy of Management Journal's* Special Research Forum on Change and Development Journeys into a Pluralistic World, we propose that students of change should pay even greater attention to six key issues. Whereas progress is being made by organizational and management scholars, as we mentioned above, the organizational change literature remains underdeveloped regarding these six interconnected analytical issues: (1) The examination of multiple contexts and levels of analysis in studying organizational change, (2) the inclusion of time, history, process, and action, (3) the link between change processes and organizational performance outcomes, (4) the investigation of international and cross-cultural comparisons in research on organizational change, (5) the study of receptivity, customization, sequencing, pace, and episodic versus continuous change processes, and (6) the partnership between

scholars and practitioners in studying organizational change. We first explain and illustrate these six issues and then present a guide to the ten articles in this special research forum. We provide a gentle, coarse-grained assessment of these studies with regard to their involvement with our six analytical issues. Finally, we offer a conclusion and a further challenge for research on organizational change.

SIX INTERCONNECTED ANALYTICAL CHALLENGES IN STUDYING ORGANIZATIONAL CHANGE

Let us be clear about the purpose of this section of our introduction. That purpose is not to offer a comprehensive review of what is known and not known about organizational change. Neither is it to discuss the alternative methodologies for studying change. We do not claim to offer an exhaustive critical review of major empirical studies, nor do we review the different theoretical frameworks used to guide and interpret research on organizational change. Comprehensiveness is one route to perspective, but here we challenge by means of selectivity and focusing. The analytical challenges we offer are necessarily partial, but they are informed by experience of research on organizational change coming from different continents, stemming from varying intellectual traditions, and applying different theoretical perspectives and research methods. Incomplete as our challenges may be, they are, perhaps, provocative enough for those with a serious interest in the study of organizational change. We offer them here in a spirit that we hope will provoke a counter-challenge. We do not seek a spurious new orthodoxy, even if one were possible. In the process of knowledge production, intellectual diversity is a more attractive and possibly more effective scholarly goal than is intellectual closure.

Multiple Contexts and Levels of Analysis

Twenty years ago, it was quite common in empirical studies of organizational change for the unit of analysis to be a change event or episode. From such studies much was learned about the drivers and inhibitors of change in particular settings at particular points in time, but less was learned about the temporal and spatial contextual factors that were shaping those particular episodes. With the rise of contextualism as a theory of method in the 1980s (based on much earlier thinking by the philosopher Stephen Pepper [1942]), so arose a more exacting approach to studying organizational

change. One variant of this contextualist approach was the view that theoretically sound and practically useful research on change should explore the contexts, content, and process of a change together with their interconnections over time. This new focus on changing rather than on change presented scholars with a dual challenge: (1) to attempt to catch reality in flight and (2) to study long-term processes in their contexts in order to elevate embeddedness to a principle of method.

In the early work in this tradition, context was dichotomized into the outer and inner contexts of organizations. Outer context included the economic, social, political, and sector environment in which a firm was located. Inner context, meanwhile, was defined as features of the structural, cultural, and political environments through which ideas and actions for change would proceed (Pettigrew, 1985). At the same time as this work on change was emerging in Europe, related work using a slightly different language and quite different research methods—but still placing a heavy emphasis on the longitudinal study of change processes in their context—was developing in the United States (e.g., Lewin, Long, & Carroll, 1999; Van de Ven et al., 1989). In addition, seminal work on organizational creativity also emphasized context in theory development (e.g., Amabile, 1983, 1988; Woodman, Sawyer, & Griffin, 1993). Understanding organizational creativity as an exemplar of organizational change and innovation was seen as a promising avenue of exploration. Most importantly, however, organizational creativity cannot be meaningfully examined without developing research and theory focused on the situation within which creative processes and outcomes occur.

Different as they are, all of the above programs of research on change, innovation, and creativity place great emphasis on the role of contexts in the processual analysis of change. If the change process is the stream of analysis, the terrain around the stream that shapes the field of events, and is in turn shaped by them, is a necessary part of the investigation. There are many large analytical challenges implicit in this kind of contextualist inquiry. The recognition that processes of change are embedded in contexts and can only be studied as such creates a need to conceptualize and study the interactive field within which changes are emerging over time.

There are two key analytical choices to make when one specifies this interactive field. One is how many levels of analysis to include in the treatment of context. The second concerns complexity. Given that there are not only different levels of context to consider, but also most likely multiple related processes underway at those different lev-

els, all impacting on the primary change process under investigation, the second choice is which processes should be included and which excluded. A source of change in this form of analysis is the asymmetries between levels of context, where the intertwined processes often have their own momentum, pace, and trajectory. Thus, the rate and trajectory of change in an industrial sector facing significant boundary changes may be much faster than the sensing and adjustment pathways of individual firms to the regrouping of the sector. The relative slowness of the sensing and adaptation process of firms, and their failure to recognize that the bases of competition may have changed in their sector, can be a key factor explaining their loss of competitive performance (Pettigrew & Whipp, 1991).

Whatever the combination of levels of context brought into an analysis (and these have ranged from the intraorganizational level, through the sector, broad economic and political context, and nation state levels, to the global competition level), the potential payoff from this form of analytical ambition lies in the kinds of questions about change that can be posed and answered.

From the inner context of firms arise questions about the role of history, structure, cultures, power, and politics in enabling and constraining change. From the sector and economy emanate questions about the links between firm-level behavior, the changing boundaries and composition of sectors, and the punishing effects of altering macro economic conditions within and between nation states. And in international comparative work (to which we will shortly turn), scholars can explore the links between the rate and pattern of organizational innovations and the varying institutional, regulatory, and cultural contexts of nation states.

Treating the contexts of change as an interaction field creates additional challenges as well. Focusing on interaction moves away from the variables paradigm toward a form of holistic explanation. The intellectual task is to examine how and why constellations of forces shape the character of change processes rather than "fixed entities with variable qualities" (Abbott, 1992: 1). Rather than causality being attributed to variables, social actors move onto the stage of history as agents of history. Change explanations are no longer pared down to the relationships between independent and dependent variables but instead are viewed as an interaction between context and action. Crucially, context is used analytically not just as a stimulus environment, but also as a nested arrangement of structures and processes in which the subjective

interpretations of actors' perceiving, learning, and remembering help shape process.

Important as a contextualist analysis is to the understanding of change, its potential analytical power is limited without a sound treatment of action and also a sophisticated form of temporal analysis. The only way to reveal the relationship between multiple levels of context in the interaction field is to have a time series sufficiently long to show how firm, sector, and economic levels of context interact to energize change processes. Herein lies our next series of analytical challenges: how to incorporate time, history, process, and action in the study of organizational change.

Time, History, Process, and Action

In modernist social science, theories are universal and free from the specifics of time and place (Clark, 2000). The effect of this modernist tendency is so deep and pervasive in contemporary social science, and it infiltrates the practice of social analysis so implicitly, that many of its practitioners are not even aware of its impact on their scholarly routines. However, recent interest in time in social analysis (Avital, 2000; George & Jones, 2000; Mosakowski & Earley, 2000) has brought to wider attention the liabilities of atemporal analysis in organizational theorizing and empirical research. For example, Avital (2000) did not just offer an ontological critique of atemporal work, but also provided data from contemporary organizational researchers about why they limited themselves to "the ubiquitous single-snapshot technique" (Avital, 2000: 66). He noted that single-snapshot methods are not accidental or transitory, but rather are rooted in the deep structure of modernist social science.

George and Jones reached a similar conclusion: "Temporality is an essential feature of organizational behavior and it makes little sense to ignore it, treat it implicitly, or treat it in an inadequate manner" (2000: 677). For George and Jones, the price of a timeless organizational analysis is inadequate theorizing that fails to address some of the big conundrums in fields such as leadership and job redesign. However, a bigger casualty from an atemporal organizational analysis may be the still small number of process studies of organizational change that offer a holistic and dynamic analysis of changing.

Organizational analysis has been adroit at providing an image of dynamics while suppressing processes. Van de Ven (1992) argued that process is often used in three ways in the literature: (1) as a logic used to explain a causal relationship in a

variance theory, (2) as a category of concepts that refer to individuals or organizations, and (3) as a sequence of events that describe how things change over time. Of these three approaches, only the third permits explicit and direct observation of the process in action and, thereby, allows describing and accounting for how some entity or issue develops and changes over time. Thus, the definition of process needed in the literature on change should refer to sequences of individual and collective events, actions, and activities unfolding over time in context. This view of change processes as continuous contrasts with a view of changes as movement from one state to another (Weick & Quinn, 1999). This emphasis on continuity and change in organizations is underrepresented in the change literature. Any adequate theory of change should account for continuity, and this minimally requires the empirical exposure of change and continuity and the relationship between the two.

Garvin (1998) offered an integrating review of the literature that usefully drew together writing on work processes, behavioral processes, and change processes. Langley (1999) provided an analytical account of theorizing from process data. A few other authors (e.g., Pettigrew, 1985, 1987; Van de Ven, Polley, Garud, & Venkataraman, 1999) also have added to the empirical process literature. MacKenzie (2000) became a convert to processes in change research in proclaiming a new paradigm for the organizational sciences, the "process approach." He wrote the following: "Processes are often encapsulated in the form of variables. However, a variable about a process is not exactly the same as the process itself. Hence, processes are closer to the actual behavior than their encapsulation as variables" (2000: 110).

The language of change can be a liberating intellectual force or an analytical prison. Weick (1969) argued that a more active and processual treatment of organizing required the sublimation of the more familiar word "organization." In 1979, in the second edition of *The Social Psychology of Organizing*, Weick followed up with an even more emphatic plea, which can be paraphrased as "Stamp out nouns and stamp in verbs."

Since then, other authors have taken up the same challenge. Sandelands and Drazin pointed out the limitations of the variables paradigm and instead proposed exposing "how things come about [rather than] mystify the process in a welter of misbegotten observations and inauthentic processes" (Sandelands & Drazin, 1989: 458). They drew upon Ryle's (1949) distinction between achievement verbs (choice and change) and task verbs (choosing and changing) to make the point that theorizing about

process is enabled by an active, dynamic vocabulary. This linguistic mechanism is currently being explored and exploited in several large international studies of new forms of organizing and company performance. New forms of organizing are, of course, emerging (cf. Purser & Pasmore, 1993; Robertson, 1999). A process vocabulary can best capture processes of emergence (Pettigrew & Fenton, 2000; Whittington & Melin, forthcoming).

Thus far in our arguments, we have harnessed the study of changing to a series of tough challenges. Of these, the most compelling are the requirement to link context with action and the concomitant need to expose processes and mechanisms of change through temporal analysis. But what are the special features of a process vocabulary that can help uncover novel theoretical questions and reveal original findings? At the most general level, process questioning involves the interrogation of phenomena over time using the language of what, who, where, why, when, and how.

In addition to this special sensitivity to temporal questioning, the change scholar needs also to be mindful that time is more than just clock time or chronology. Time is not just "out there" as neutral chronology, but also "in here" as a social construction. Thus there is the constant challenge to study events and the social construction of events in the context of the local organizational time cycles that modulate the implicit rhythms of social systems. The temporal analyst must also identify events and chronologies to use as stepping stones in the search for patterns and structures. So the task becomes to identify patterns in the process of changing. History matters. But history is not just events and chronology, it is carried forward in the human consciousness. The past is alive in the present and may be shaping the emerging future. But change scholars must beware in all this of the convenient literary fiction of predetermined timetables of ordered and inevitable sequences or stages. Trajectories of change are especially probabilistic and uncertain because of changing contexts and the resultant complexities and ambiguities of human action.

Pragmatically, however, how can scholars make the concepts of time, process, and history key parts of their studies? Those prepared to make big commitments have three obvious options. Historical investigation can most readily provide long time series, and there has been a reawakening of interest in historical studies of industrial, institutional, and organizational change (Jeremy, 2001; Kieser, 1994). For the real-time analyst of innovation and change in organizational settings, the Minnesota Innovation Research Program (MIRP) represents an exemplary example (Van de Ven et al., 1989). And for

those who wish to combine retrospective and real-time analyses of change processes, the Warwick tradition of research on corporate strategy and change is another body of published experience (Pettigrew, 1985; Pettigrew & Fenton, 2000; Pettigrew & Whipp, 1991).

Change Processes and Organizational Performance Outcomes

In a recent extensive review of the research and writing on the determinants of organizational performance, Pettigrew, Brignall, Harvey, and Webb (1999) noted an imbalance in the development of that body of research. The review identified a very wide literature on the measurement of performance, a rapidly developing literature on performance management, and a relatively sparse and often contestable series of empirical studies on the determinants of organizational performance. Management scholars seem to have been curiously uncurious about why and how certain organizations consistently "outperform" their competitors. Where such studies exist, they are often found wanting, sometimes because of disputes about the chosen method of performance measurement and, in other cases, because of a tendency to use either univariate or unithematic explanations of performance differences. Examples of attempts to use univariate explanations of performance determinants include work seeking to link information technology to performance, and an equivalent unithematic example could be studies linking human resource management to variations in performance.

The research literature on organizational change may be criticized for similar reasons. Thus, although there are undoubtedly problems with what has been done, the bigger deficiencies lie in what has been left out. There are now many studies of change processes, even more evaluating change interventions, and still others trying to disentangle the interrelated set of factors contributing to the success of change initiatives. However, in very few empirical studies do researchers seek to link change capacity and action to organizational performance. We would have thought by now that process analysts of change would have been interested not just in the results of change processes or the processes that lead those results, but also in the dynamic and holistic appreciation of both processes and outcomes. Perhaps it is now timely to combine the learning from studies of the determinants of organizational performance with the experience that change scholars have had in trying to study the reciprocal relationship between change processes and performance outcomes.

The fact that this is a notably difficult research area should not deter us from the challenge. Even the more confined area of evaluating the success of change initiatives is replete with practical difficulties. What is success in the management of change? Definitions of success can include notions of the quantity, quality, and pace of change. There may well be trade-offs among those three, with quantity and pace achieved at the price of the quality of a change process. Judgments about success are also likely to be conditional on who is doing the assessment and when the judgments are made.

Whatever the challenges, building a performance outcome into a change process research design has a number of practical advantages. First, the outcome provides a focal point, an anchor for the whole investigation. This is particularly valuable when the process involves the collection and analysis of a long time series. Second, and crucially, there is the possibility of exploring how and why variations in context and process shape variability in the observed performance outcomes across a comparative investigation.

However, it is one thing to analyze the factors shaping the fate of change episodes and a much bigger and more intractable problem to produce convincing evidence that a pattern of change initiatives contributes to organizational performance. The rise and then fall of Peters and Waterman's (1982) book has undermined small-sample studies that look only at high performers. This event leaves scholars of change with two options that, ideally, they should combine. Option 1 is to carry out large-sample studies over time to clarify any association between the patterns of change adopted by firms and their financial performance. Such a research strategy would allow linking the "what" of change to firm performance but would reveal very little about the process and context of changing. Option 2, to carry out an associated set of longitudinal comparative case studies of matched pairs of organizations with high and low performance, then arises. Such case studies would allow researchers to answer questions about the process, context, and customization of change strategies that aid building and sustaining superior performance.

As yet there are still few longitudinal attempts to link change processes and practices to firm performance. The well-known and influential book *Built to Last*, by Collins and Porras (1995), gets close to this aim. It is well-researched and draws on a reasonably large sample of matched pairs of visionary and comparison companies, strong analysis of the factors that built and sustained the visionary elements, and commendable use of survey data and historical investigation; however, it stops short of

explicitly linking change with financial performance.

A European study conducted in the late 1980s by Pettigrew and Whipp (1991) examined the process of managing strategic and operational change in four mature industry and service sectors of the U.K. economy: automobiles, book publishing, investment banking, and life insurance. A pair of firms was chosen for study in each of the four sectors. Each pair was made up of a higher and a lesser performer in the same broad product market. This pairing avoided the general bias in the business literature of glorifying successful organizations and allowed direct comparisons of similarities and differences in change strategies. In summary, the high performers differed from the lesser performers in the way they conducted environmental assessment, led change, linked strategic and operational change, managed their human resources as assets and liabilities, and managed coherence in the overall process of competition and change. Because this study had a 30-year time series, it was possible to impose a double test on these five interrelated factors. The factors were used both to explain the differential performance of a firm in one era of business development and also to account for the loss or gain of performance relative to its comparator over time.

Such studies are still rare in management research. They require big commitments from funding bodies, teams of researchers kept together over several years, and sustained cooperation from organizations under investigation. Any particular study also has its limitations. The major limitations of the Pettigrew and Whipp (1991) research were the relatively small sample of firms under longitudinal investigation and their location in a single economy. The Collins and Porras (1995) study, with its 18 matched pairs of firms almost exclusively from the United States, also had a national boundary (the single exception was its inclusion of Sony). We will return to the importance of international comparative research on organizational change later in this article.

Progress in big research themes is dependent not just on novel and energetic research strategies, but also on important theoretical developments. Recent theoretical work on the new economics of complementarities pioneered at Stanford University by Milgrom and Roberts (1990, 1995) has great potential to enrich studies seeking to link innovations in organizational practices to firm performance. Although complementarities thinking has been developed most strongly in economics, it is easily connectable to and develops related thinking in contingency and configurational organization theory

(Donaldson, 1996; Miller, 1996). Contingency thinkers have tended to make disaggregated one-to-one comparisons of variables and their links with performance. Configurational theory extended this thinking to examination of more holistic and aggregated comparisons of the performance of whole types. Complementarities theory extends the configurational approach in two ways. First, complementarities theory generates performance predictions that go beyond simple binary-type comparisons of one configuration with another and emphasizes the problems of being caught making only a subset of the notional and perhaps desired changes. Second, complementarities theory insists on a simultaneously aggregated and disaggregated analysis, both to define the conditionality of individual effects on other effects and to ensure that full systems effects outweigh individual component effects (Whittington et al., 1999).

The crucial general proposition from complementarities theory is that high-performing firms are likely to be combining a number of changes at the same time and that the payoffs to a full system of changes are greater than the sum of its parts, some of which taken on their own might even have negative effects. This proposition is supported by meta-analytic work that shows that significant organizational improvement requires congruent changes in a wide array of system variables (Robertson, Roberts, & Porras, 1993). The challenge of examining this significant theoretical development is now being taken up with a range of empirical studies throughout the world. Ichniowski, Shaw, and Prenushi (1997) sought to study links between human resource complementarities and productivity in a sample of U.S. steel mills. In the Innovative Forms of Organizing (INNFORM) program of research in Europe, complementarities theory is used to examine innovative forms of organizing and company performance in a large sample of European, Japanese, and U.S. organizations (Pettigrew & Fenton, 2000; Whittington et al., 1999). However, these studies are few compared with the great scientific and policy need for research linking change to organizational performance.

International Comparative Research on Organizational Change

If studies linking change with performance require big commitments, these shade into insignificance compared with the challenges and risks of international comparative work. And yet in a culturally diverse and globally competitive world, scholars can only sit in discomfort in their own corners of the world pretending their patterns of change are the world's patterns of change. In this

section of our article, we thereby go beyond the significance of firm, sector, economic, political, and temporal context to give front stage to national context.

Clarke (2000: 10) commented that national differences have not been a strong driver of organization studies. There are many potential reasons for this. One certainly is the sheer difficulty of empirical work across national boundaries. A second is the modernist scientific tendency to prize the universal over the particular. A third (and this is probably easier to see outside the United States than inside) is the enormous impact of the U.S. social and management sciences on the rest of the world. However, with this great power as a knowledge producer has sometimes come an unwitting tendency to treat context as undiscussed background. So U.S. social scientists have often implied that their theories and findings are universal (Clarke, 2000; Whittington & Mayer, 2000). This tendency probably peaked in the 1960s and 1970s with scholars such as Parsons (1964), Rostow (1960), and Chandler (1977). More recently, there is a heightened sense of the significance of national and regional differences and of their importance in shaping the responses of firms to emerging markets (Hoskisson, Eden, Lau, & Wright, 2000), rates of entrepreneurial development (McGrath, 2001), and patterns of corporate governance (Davis & Useem, 2001), among other features of organizational life.

Nevertheless, research on organizational change and restructuring has usually focused on single cases or samples of firms in one country (e.g., Geroski & Gregg, 1994, Liebeskind, Opler, & Hatfield, 1996). There are, of course, counterexamples. Buhner, Rasheed, and Rosenstein (1997) have completed an empirical study of change in a sample of U.S. and German firms. An international team of researchers has completed a multinational comparative study of continuous improvement (CI) programs in eight different companies in Europe, Japan, and North America (Lillrank, Shani, Kolodny, Stymne, Figuera, & Liu, 1998). Their analysis details both differences and similarities in the design of CI across the eight firms compared and provides a good example of the benefits from international comparative work. Further, there has been at least the beginnings of work comparing the differences and similarities in the design and implementation of organization development programs across national cultures (e.g., Lau, 1996; Lau, McMahan, & Woodman, 1996).

In addition, very large programs of international comparative work are underway involving teams or networks of international scholars led from the United States and Britain. The current most notable

examples of such work are the New Organizational Forms for the Information Age (NOFIA) program coordinated by Lewin (Lewin, Long, & Carroll 1999; Lewin & Volberda, 1999) and INNFORM program coordinated by Pettigrew (Pettigrew & Fenton, 2000). The NOFIA program is building a database of organizational change events occurring within the largest corporations in Germany, Japan, Korea, the Netherlands, Scandinavia, Switzerland, the United Kingdom and the United States, using business-related information and news sources available from the Lexis Nexis on-line database. These broad mapping data (which have a temporal component) are being supplemented by country case studies.

The INNFORM researchers aim to examine the extent to which new forms of organizing have been implemented among large and medium-sized firms across Europe, the United States, and Japan, to test the performance effects of adopting new organizational forms, and to examine the managerial processes of moving from more traditional forms of organizing.

These three aims require the implementation of a multimethod research strategy and the collection of temporal data. This introduction is not the place to present the findings of this program of research, but the interested reader may wish to consult Ruigrok, Pettigrew, Peck, and Whittington (1999), Whittington, Pettigrew, Peck, Fenton, and Conyon (1999), Pettigrew, Massini, and Numagami (2000), and Pettigrew and Fenton (2000). However, to encourage related international research, we note the following: (1) The trends data comparing the adoption of innovative forms of organizing in Europe, Japan, and the United States have shown a common direction of change with different starting points and involving different paces. (2) Broadly, the findings indicate an incremental rather than a radical pattern of innovation in organizations. Organizations across the three regions appeared in the 1990s to be supplementing existing organizational forms rather than supplanting them. (3) However, within this pattern of homogeneity there were big, statistically significant differences in some of the indicators of innovation within Europe, and between Europe and Japan and the United States and Japan. (4) In the 1990s, the pace of organizational change was appreciably more incremental in Japan than in Europe and the United States. (5) In Europe, exploration of the complementarities theory indicated a strong association between whole-system change and firm performance. Whole-system change here meant changing structures, processes, and boundaries. Firms that made part-system changes, notably those that changed structures and boundaries

but not processes, revealed a negative association with organizational performance. This finding is consistent with meta-analytic work in North America that indicates successful systemwide change requires use of multiple change levers, many of which involve various work processes (Macy & Izumi, 1993).

As broadly as these findings are presented here, it is still possible to see the potential of international comparative work for mapping trends in organizational changes across, not just within, national boundaries. Such data can also more readily deflate easy assumptions about diversity or homogeneity across nations, not only in the content and direction of change, but also in its process and pace. The challenge is easy to recognize, and so are the practical problems of delivery (Pettigrew & Whittington, 2000).

Receptivity, Customization, Sequencing, Pace, and Episodic versus Continuous Change

The codification and transmission of change management knowledge and techniques have been thorough in most Western economies. The ideas and techniques of change management are now a global industry led by international consulting firms, gurus, a few high-profile chief executive officers, mass-media business publications, and business schools. The net effect of this diffusion is that most executives and consultants are familiar with the broad questions of change justification and change content. The why and what of change are often reasonably self-evident in many settings.

The more difficult questions, and the ones least studied by researchers, are temporal and situational. Where does a change agent begin a given change initiative, and what are the varying degrees of receptivity to change in this or that organizational division or national business context? Even if change agents know about the factors shaping degrees of receptivity to change, how should they customize the content and process of change to reflect the contexts of different parts of their organizations? The pragmatic temporal questions are also largely unstudied and inadequately understood. Where does one intervene first, and why (cf. Robertson et al., 1993)? What sequence of change interventions might flow from initial moves? What pace of change is appropriate in different settings to meet local and companywide objectives? And how do change agents maintain the momentum for change over time, given the now well understood tendency for change processes to run out of energy and momentum (Beer, Eisenstadt, & Spector, 1990; Pettigrew, 1998)?

It is clear that the what-to-do questions about organizational change need to be set alongside the where, how, and when questions. Doing this means more serious attempts to frame organizational change research by features of temporal and spatial context. Only then will researchers be in a position to intelligently contribute to the theory and practice of change receptivity, customization, sequencing, and pacing.

But for the scholar interested in developing research on the pacing and sequencing of change and receptivity to it, where are the notable stepping stones? Pacing and receptivity are analytically interdependent and alignable. The works by Kessler and Chakrabarti (1996), Eisenhardt (1989), Brown and Eisenhardt (1995, 1997), and Gersick (1988, 1989, 1994) are all potential building blocks, even though these widely scattered studies cross levels of analysis and explore different processes and settings for innovation and change. Thus, the Kessler and Chakrabarti review paper (1996) and the empirical work of Brown and Eisenhardt (1995) focus largely on the product development process as the unit of analysis. In Eisenhardt's earlier work (1989), the decision-making process is the unit of analysis, and Gersick took forward her earlier thinking about the pacing behavior of project groups (1988, 1989) into an organizational study of a venture capital-backed start-up company (1994).

The distinction between episodic and continuous change also requires mention. The term "episodic change" groups organizational changes that tend to be infrequent, discontinuous, and intentional. The assumption is that episodic changes occur as organizations move away from equilibrium or change as a result of a misalignment or environmental encroachment. Interventionists can motivate and manage episodic change. Miller's research (1993, 1994) on the unintended consequences of successful performance exemplifies a carefully constructed examination of episodic change. Successful organizations discarded practices, people, and structures they regarded as peripheral to success and growth. Miller's research contrasts with a much rarer—but much-needed—form of research on change that treats change as a continuous, nonepisodic phenomenon. Continuous changes are those that are ongoing, evolving, and cumulative; "a new pattern of organizing in the absence of explicit a priori intentions" (Orlikowski, 1996: 65) would exemplify such change. The distinctive quality of continuous change is its small, uninterrupted adjustments, created simultaneously across units, which create cumulative and substantial change. Studies by Sitkin, Sutcliffe, and Weick (1998), Sahlin-Andersson (1996), and Moorman

and Miner (1998) in which improvisation, continuous adaptation and editing, learning, and changing response repertoires are the foci of change analyses all represent this relatively rare approach to change research. Like the investigation of change processes, the study of continuous change is difficult, time-consuming, and resource dependent.

A set of studies on the sequencing of change processes also warrants further investigation and development. Early research and writing by Kanter (1983) and Hinings and Greenwood (1988) suggested that it may be more important to alter some elements of an organization before altering others. In particular, in their change archetypes work Hinings and Greenwood (1988) argued that, if altered first, "high impact" features of an organization provide a clear signal of the scale of future intentions and thereby construct a more receptive context for further action. A tradition of research going back to the 1960s suggests that beginnings are fateful (Stinchcombe, 1965), and this tenet is now embedded in a strong corpus of writing on path dependency (Mahoney, 2000). It seems remiss of organizational change scholars to have given limited attention to such important questions as, Does the order of things influence the way they turn out? For the practitioner of change, there is also a hunger to know whether those processes and mechanisms responsible for initiating change are similar to or different from those responsible for sustaining or regenerating organizational change.

Engagement between Scholars and Practitioners

It is never easy looking at others and ourselves through the partisan fog of the present. Nevertheless, through our contemporary haze it is possible to discuss a wider appreciation of the forms and processes of knowledge generation and use. Contemporary analysts of social science and of management knowledge tend to emphasize their tentative, partial, theoretical, linguistic, and constructed nature (Blackler, Reed, & Whitaker, 1993a). There is also a clearer recognition in recent work in the natural and social sciences that knowledge derives not just from individual thought but from collective processes of networking, negotiation, interpersonal communication, and influence. Thankfully, social and organizational scientists are not just regarded as citizens but also as human beings. More contentiously, there is also the view that knowledge workers are rarely just in the business of communicating evidence, facts, empirical generalizations, or even theories. More often than not, they may also be observed to be communicating inferences from

bodies of evidence rather than the evidence itself (Blackler, Reed, and Whitaker, 1993b).

Some writers on the natural sciences claim that a new social production of knowledge is emerging. But what are the broad elements of this structural transition in scientific endeavor? For Gibbons and his colleagues (Gibbons, Limoges, Notwotny, Schwartzman, Scott, & Trow, 1994), the move is from "mode 1" to "mode 2" knowledge production, with mode 2 supplementing rather than supplanting mode 1. Gibbons et al. characterized mode 1 as discipline driven. Here, research problems are framed and solved within a linear process of discovery and dissemination, and research involves teams homogeneous in terms of skills and experience and features discipline-directed quality control. In mode 2, research problems are framed in the context of application. Here, research is transdisciplinary, allows diffusion during knowledge production, involves teams heterogeneous in terms of skills and experience, and is more socially and politically accountable than the discipline-driven control process of mode 1.

Eschewing an ideal type of analysis, Ziman (1994) observed similar trends. Thus, Ziman's picture of modern science is a tapestry of more management, more evaluation, greater interdisciplinarity, more emphasis on application, more networking and collaboration, more internationalism, and more specialization and concentration of resources. Although neither Ziman nor Gibbons et al. refer directly to the field of management research, it is clear that the trends they refer to bear on the conduct of research in management at the beginning of the 21st century. As knowledge producers, management scholars need to critically examine our practice of knowledge production and take advantage of all the new opportunities that this changing intellectual, social, and political context is presenting to us (Huff, 2000; Pettigrew, 1997; Tranfield & Starkey, 1998). This is particularly so in an interdisciplinary arena such as organizational change, where a detached response risks being left on the margins.

SPECIAL RESEARCH FORUM ON CHANGE AND DEVELOPMENT JOURNEYS INTO A PLURALISTIC WORLD

In this section, we will briefly describe each of the ten articles included in the Special Research Forum on Change and Development Journeys into a Pluralistic World. In addition, we will discuss each of these contributions in light of the six analytical challenges that we have posed. Table 1 summarizes our assessment of the ten works in terms of a focus on each of the six challenges. This assessment is

TABLE 1
Issue Focus of the Articles in the Special Research Forum on Change and Development Journeys into a Pluralistic World

Article	(1) Multiple Contexts or Levels of Analysis	(2) Time, History, Process, and Action	(3) Linking Process to Outcome	(4) International Comparative Research	(5) Receptivity, Customization, Sequencing, and Pace	(6) Linking Scholarship and Practice
Dutton, Ashford, O'Neill, and Lawrence		X			X	
Arthur and Aiman-Smith		X				X
Heracleous and Barrett	X	X			X	
Lovelace, Shapiro, and Weingart	X					X
Okhuysen						
Denis, Lamothe, and Langley	X	X			X	X
Siggelkow	X	X				
Ferrier	X	X	X		X	
Pettus	X	X	X		X	
Noda and Collis	X	X			X	X

certainly a coarse-grained analysis rather than a detailed scrutiny. Also, in fairness to the authors, they were making no attempt to “map onto” our worldview with regard to research challenges in the organizational change arena. Obviously, we consider each of these papers to make significant contributions to the literature of organizational change, else they would not appear here. Rather, we offer Table 1 in the spirit of beginning a dialogue.

The first study, “Moves That Matter: Issue Selling and Organizational Change,” by Jane Dutton, Susan Ashford, Regina O’Neill, and Katherine Lawrence, examines the phenomenon of “issue selling”—the process by which individuals affect others’ attention to and understanding of issues—within the context of organizational change. Through an investigation of 82 accounts of issue selling, Dutton and her colleagues identify three types of contextual knowledge (labeled “relational,” “normative,” and “strategic”) that managers used to get issues onto a firm’s strategic agenda. Further, managers were observed to use an interesting variety of packaging, involvement, and process-related moves to sell issues to top management.

The Dutton et al. research has a strong focus on time, process, and action (issue 2 in our framework), as well as some attention to issues of customization, sequencing, and pace (issue 5). Although the study links change process to outcomes, as evidenced by the categorization of issue-selling episodes as either successful or unsuccessful, the linkage to organizational performance is not made (issue 3). Although this field study involved the active participation of senior managers and a number of other managers of an organization, engagement between scholars and practitioners as we de-

scribed it here (issue 6) is not present. Further, the study was performed in a single organization (a hospital), so the challenge of multiple contexts is not met (issue 1), nor does the study cross levels of analysis. In the same vein, the study does not represent international comparative research (issue 4).

Next, Jeffrey Arthur and Lynda Aiman-Smith, in “Gainsharing and Organizational Learning: An Analysis of Employee Suggestions over Time,” explore changes in employee suggestions over time within the context of a “gainsharing” program. Arthur and Aiman-Smith argue that organizational learning models provide a useful perspective for understanding how these programs work. Their analysis of suggestions made during a gainsharing program in a large manufacturing plant indicates that suggestions based on “first-order learning” (learning that is routine, incremental, and oriented toward the status quo) were initially high but declined over time, and suggestions congruent with “second-order learning” (oriented toward developing new patterns of thought and behavior) become more prevalent over time.

Research on this gainsharing plan has a strong focus on time and process (issue 2) stemming primarily from (1) the four-year longitudinal nature of the study and (2) the careful examination of processes of second-order learning. This research provides a good example of linking scholarship and practice (issue 6) both because of the involvement of union members and management in the design of the intervention coupled with the very applied nature of the work. Plant performance was examined on several dimensions, although the direct linkage between organizational change and employee suggestions is not made (issue 3). Like the study reported in the previous article, the research reported

by Arthur and Aiman-Smith was conducted in a single organization; thus there is no particular focus on multiple contexts (issue 1) or on the international arena (issue 4). However, there is some focus on different levels of analysis, as individual actions are examined within the context of organizational outcomes of the gainsharing program. Although the authors have paid some attention to issues of receptivity, customization, sequencing, and pace (issue 5), the research does not engage with this issue in any substantive way.

In "Organizational Change as Discourse: Communicative Actions and Deep Structures in the Context of IT Implementation," Loizos Heracleous and Michael Barrett report a longitudinal field study of information technology implementation in the London Insurance Market. This qualitative, ethnographic research explores the role of discourse in shaping organizational change processes. This article provides a tutorial on the development of a discourse analysis methodology based on hermeneutics and rhetoric and its application to the understanding of processes of organizational change.

Given this methodological purpose, the article exhibits a strong focus on our time, process, and action issue (issue 2) as well as on receptivity, customization, sequencing, and pace of change (issue 5). The setting for the research embodies multiple contexts (at some level of abstraction), as the London Insurance Market is composed of a large number of diverse organizations (issue 1). There is the potential to link process to outcome (issue 3) in this rich, qualitative analysis, but positivist researchers will not necessarily be satisfied that this has been done in a traditional measurement sense. Additionally, although the research setting does contain non-British firms, the Heracleous and Barrett study does not represent international comparative research (issue 4) in the manner that we raise here. Further, despite the authors' focus on issues of "practice" in their analysis, we do not view such a research methodology as providing much link between scholarship and practice (issue 6) at the current time.

An emphasis on organizational communications is also shown in "Maximizing Cross-Functional New Product Teams' Innovativeness and Constraint Adherence: A Conflict Communications Perspective," by Kay Lovelace, Debra Shapiro, and Laurie Weingart, who investigated the ability of cross-functional teams to produce innovations. They studied 43 cross-functional teams to determine how team communication affected team performance in terms of new product development. Functional diversity was seen to increase task disagreements, but how those disagreements are man-

aged and communicated influenced whether or not they negatively impacted innovativeness.

Lovelace and her coauthors conducted their research in 16 high-technology firms in three different sectors and aggregated data from individual team members to the group level. Thus, we consider the study's focus on multiple contexts and multiple levels of analysis (issue 1) to be strong, although ultimately the unit of analysis is the group. The research does a good job of linking scholarship and practice (issue 6), as it involves the active participation of both top management and organizational employees in an issue relevant for effective practice, and findings from the research were fed back into the organization. There is a focus on (and there were attempts to measure) team outcomes and link those to team process, but the link to organizational performance is not made in terms of the challenge we raise above (issue 3). Despite considerable theoretical focus on organizational processes, the cross-sectional data do not really address issues of time, process, and action as we have developed them here (issue 2). Nor is there much focus on issue 5 (sequencing and pace) or issue 4 (international comparative research).

The work by Gerardo Okhuysen, "Structuring Change: Familiarity and Formal Interventions in Problem-Solving Groups," also reports a group-level study. Okhuysen conducted a laboratory experiment designed to tease out the role of formal interventions and familiarity (the degree of personal knowledge that group members have regarding others) on a group's ability to change and adapt. In general, both familiarity and formal interventions were seen to provide the flexibility needed to improve groups' problem-solving performance.

This research has some focus on process and action (issue 2), although the time element is not really present in a laboratory task in the manner we raise here. Likewise, there is some focus on linking group processes to group outcomes, but links to organizational performance (issue 3) are beyond the scope of laboratory investigations. Laboratory research, almost by definition, does not address multiple contexts and levels of analysis (issue 1). Issues of sequencing and pace of change (issue 5) would be extremely difficult to address in a laboratory experiment as well, nor is there much in the way of direct linking of scholarship and practice (issue 6). This link could be provided by the application of research results from the laboratory to applied problems, but here the link is at some remove from the experience of the research itself. As with the other articles in our special research forum, international comparative research (issue 4) is not advanced by this work. The absence of marks

for this article in Table 1 should not be interpreted as suggesting that we do not value laboratory research in the organizational change arena. However, we do believe that most laboratory research will be unable to contribute to the six analytical challenges raised here.

Next, in "The Dynamics of Collective Leadership and Strategic Change in Pluralistic Organizations," Jean-Louis Denis, Lise Lamothe, and Ann Langley explore leadership and strategic change in the health care field. In pluralistic organizations with multiple objectives and diffuse power bases, a collective leadership is needed to effect substantive change. Utilizing case study methodology, the authors identify three types of collective links that leaders must manage in order to create organizational change: strategic (among members of the leadership team), organizational (between leaders and their internal constituencies), and environmental (between the leadership team and the external environment).

This research is particularly strong in terms of its focus on time, history, process, and action (issue 2), as well as receptivity, sequencing, and pace (issue 5). In general, qualitative research may provide an excellent vehicle for grappling with these challenges, as this study does. The research involves multiple contexts and levels of analysis (issue 1). In addition, the ongoing collaboration between the investigators and the organizational participants provides meaningful links between scholarship and practice (issue 6). Linking change processes to organizational outcomes is tenuous in this study, however (issue 3), and all of the organizations (hospitals) involved in this field study are in Canada (issue 4).

Nicolaj Siggelkow presents a longitudinal case study of Liz Claiborne, the large manufacturer of women's fashion apparel, in "Change in the Presence of Fit: The Rise, the Fall, and the Renaissance of Liz Claiborne." He uses this methodology to investigate the relationship between tightness of fit (for instance, between strategy and structure and structure and environment) and the firm's reactions to environmental change. Among other findings, attempts to conserve fit are seen as providing a major source of resistance to organizational change. Further, tight fits, although they have other advantages, make effective change more difficult.

Like Denis and colleagues' study, Siggelkow's work has a strong focus on time, history, process, and action (issue 2). The role of context and levels of analysis is also strongly addressed in the study (issue 1). Linking change processes to organizational outcomes (issue 3) does receive some attention. However, despite the inclusion of financial

data, demonstrating such links is problematic for case studies. There is no contribution to international comparative work (issue 4). The article provides little concrete link between scholarship and practice (issue 6), primarily because of the nature of the ideas addressed, nor does analysis of this case provide much insight into the sequencing and the pace of change activities (issue 5) although, by extension, fit could be viewed as dealing with issues of receptivity to change.

The next article, by Walter Ferrier, "Navigating the Competitive Landscape: The Drivers and the Consequences of Competitive Aggressiveness," provides a detailed analysis of competitive behaviors among organizations that should advance understanding of these competitive dynamics. Ferrier gathered data from rival firms operating in 16 industries over a seven-year period. Organizational performance differences are seen as stemming from the sequence of competitive actions chosen. These competitive actions in turn are influenced by characteristics of the firms, of the industries, and of the top management teams making the decisions.

Ferrier's study has a particularly strong focus on linking process to organizational outcomes (issue 3). In addition, it addresses multiple contexts (issue 1) as well as time, process, and action (issue 2). The focus of the work on patterns of competitive interactions over time provides insight into sequencing and pace (issue 5). The link between scholarship and practice is not emphasized (issue 6), nor does its use of a large sample of U.S. firms contribute to international comparisons (issue 4).

In "The Resource-Based View as a Developmental Growth Process: Evidence from the Deregulated Trucking Industry," Michael Pettus investigates the factors contributing to firm growth from a resource-based perspective within a deregulated industry. Strategic actions taken by the firms in the trucking industry are seen to follow patterns—some of which are more effective than others in fostering growth. It is not resources per se that facilitate growth, but how they are used.

This article's pattern of focus in terms of our analytical challenges is quite similar to that in the work by Ferrier. That is, this type of detailed archival analysis has the ability to link change processes over time to organizational performance outcomes (issue 3), provides insights into the sequencing and the pace of change activities (issue 5), focuses on both process and action across time (issue 2), and is rich contextually (issue 1). The research does not contribute to, nor was it designed to contribute to, international comparisons (issue 4). Further, linking scholarship and practice is not a feature of research of this variety (issue 6).

Finally, firm evolution is also the theme of the capstone article provided by Tomo Noda and David Collis, "The Evolution of Intraindustry Firm Heterogeneity: Insights from a Process Study." The authors explore firm heterogeneity within an industry using the cellular telephone service businesses of the seven "Baby Bells" as a research setting. The degree of heterogeneity over time is seen as being determined by three major forces—a firm's initial business experience in the industry, divergence forces resulting from ongoing firm experience and creating organizational momentum that is not necessarily the same among firms, and convergence forces, such as strategic imitation of successful actions.

This research has a focus on multiple contexts and levels of analysis (issue 1) as well as a strong focus on time, history, process, and action (issue 2) stemming from the careful historical analysis. Noda and Collis have created a study with strong potential for linking scholarship and practice (issue 6), a difficult task with data of this type. They (1) pursued extensive involvement with organizational informants and (2) highlighted a number of possible managerial actions that can influence the evolution of firms. This emphasis on managerial actions also creates insight into sequencing and pace (issue 5). On the other hand, compellingly linking change processes to organizational performance outcomes is not a strong feature of this study (issue 3), nor does it engage with the international comparative research (issue 4).

Although the research reported in these ten articles was performed in three different countries, an inspection of Table 1 indicates that none really addresses the international comparative research challenge that we raise here. Clearly, work in that arena remains a dramatic challenge for the field. Further, the difficulties of linking change processes to organizational performance are highlighted by this collection. Most of the studies show some link between changes and outcomes, but only two of the articles include an analysis of organizational performance of the sort we call for above. The collective contribution of the special research forum works in terms of our other research challenges, however, is more encouraging. We hope that readers enjoy and learn from this research collection as much as we have.

CONCLUDING COMMENTS

Our assessment in this introduction of some of the most pertinent challenges facing the study of organizational change is suggestive of a new pluralism for this field of research. The elements of

this pluralism may entail an even stronger engagement between social science and management research on change and innovation. It demands the exploration of multiple levels of analysis and the reciprocal study of contexts and actions in changing. The new pluralism should entail a new dedication to time and history and a willingness to reveal the relationship between change processes and outcomes by portraying changes as continuous processes and not just detached episodes. In a more culturally aware, diverse, and global world, scholars should extend ourselves beyond the boundaries of our own nations, not just to study diversity, but—where we find it—to reveal homogeneous patterns. This effort will task us further not just in finding ways to map such broad trends, but in collaborating with scholars who may have different intellectual traditions and values than we have. But there is yet a still bigger challenge. With this commitment to pluralism, organizational change research can extend the scope of its scientific base and simultaneously enhance its leverage in the ever-changing world of practice.

Herbert Simon has chided scholars for limiting our ambitions to "what is" knowledge and thereby underplaying our potential to deliver "how to" knowledge. Never was a field of research such as organizational change better placed to deliver combinations of "what is" and "how to" knowledge. But the "how to" knowledge is a question of not just the more rigorous exposure of continuous change processes through time and in context, but also of a more sophisticated and demanding engagement with practice. One of the fondest dichotomies in modernistic conceptions of science has been that of theory and practice. Recently, in examining the future of strategy research in management, Whittington, Pettigrew, and Thomas (2001) asked their readers to regard theory and practice as a more tightly linked duality. They argued that this "greater sensitivity towards practical complexity will prompt a more comprehensive notion of rigour" (Whittington et al., 2001: 486). There is no softness of academic standards here, but a considerable raising of the stakes in terms of the social production of knowledge. Woodman (1993) argued that the schism between the science of organizational change and the practice of changing organizations is the single biggest impediment to progress in effective change management.

The action steps to resolve the old dichotomy of theory and practice have often been portrayed with a request for management researchers to engage with practitioners through more accessible dissemination. But dissemination is ineffective, or even possibly irrelevant, if the wrong questions have

been asked. A wider and deeper form of engagement between management researchers and practitioners would entail experimentation with the co-funding, coproduction, and codissemination of knowledge. Examples of this kind of partnership research already exist—witness Bartlett and Ghoshal's (1989) research on transnational firms, Porter's (1990) government-sponsored work on national competitiveness, and even closer to our theme, the recent INNFORM program on innovative forms of organizing (Pettigrew & Fenton, 2000). Further, the *Academy of Management Journal* recently published a special research forum on knowledge transfer between practitioners and academics (Rynes, Bartunek, & Daft, 2001). The work in that forum should serve to advance our knowledge about the dynamics surrounding the research partnerships needed in the field of organizational change and development.

But a practical science of organizational change faces more double hurdles than the primary one of scholarship and relevance. As we have indicated throughout this article, there is the need to straddle the social and organizational sciences; to conceive of researchers and users as coproducers; to transcend current beliefs of scholars and users while also engaging with those beliefs; and to supplement disciplinary knowledge on change rather than attempt to supplant that knowledge. As ever in science as a human activity, the most fundamental challenges are to our own scholarly routines.

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