Comment

Contents

Individual Goals in Evolving Organizations

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Understanding collective behavior requires a social–evolutionary perspective. Colarelli (September 1998) offered a worthwhile introduction to this perspective and identified how it can be used to predict stability and change in organizations. One element of this social–evolutionary perspective is of such fundamental importance that it merits greater clarification and elaboration.

Colarelli (1998) stated "the slippery nature of organizational goals makes the relationships between interventions and organizational outcomes problematic," and "what may work at one level of a nested hierarchy may not necessarily be functional at another level" (p. 1050). This is true and important, but it fails to specify a social–evolutionary insight that has profound consequences: Interventions intended to promote organizational goals will be successful only when these interventions also promote the goals of the individuals working within the organization.

Evolutionary selection operates primarily on individuals, not on populations. In biological evolution, genetic information is most likely to be passed on when it has positive functional consequences for individual organisms. In social evolution, information (e.g., an idea) is most likely to be retained and replicated when it does some good for the individuals who encounter it. For example, stereotypic beliefs more readily become normative when those beliefs (more so than others) serve the immediate impression-management goals of individuals (Schaller & Conway, 1999). In general, innovative ideas become popular and interventions succeed not because they serve organization goals, but because they serve the salient needs of individuals. Sometimes abstract organizational goals are commensurate with the short-term individual needs; but when they aren't, interventions that are good for the health of an organization may not succeed at all. Indeed, behaviors that have negative consequences on organizational health—but that serve individuals' immediate needs—may become culturally entrenched and difficult to change.

Consider one relevant organizational culture: The culture of psychological science. As in other cultures, scientific norms emerge and endure as a result of processes operating on individuals (Hull, 1988; Kitcher, 1993). Although one might assume that these norms serve the progress of science, these norms more directly serve the needs of scientists and are sometimes counterproductive to scientific progress. Many innovations that might better serve the goals of science fail to catch on.

One obvious example is the near-ceremonial reliance on null hypothesis significance testing. For decades, scientists have been aware of the inferential limitations of significance testing. For decades, there have been impassioned pleas to use additional analytic methods that would facilitate discovery and accurate description of psychological phenomena, and so would promote the progress of psychological science (e.g., Mulaik, Harlow, & Steiger, 1997). But these methods pose costs to individuals. Scientists would have to learn new statistical techniques and revamp the way they teach their students, and they would have to deviate from comfortable traditions of statistical reporting. Although these individual costs are modest and almost everyone acknowledges that other statistical methods could serve the science better, the imperfect old statistical rituals persist.

A second example pertains to scientists' critical appraisal of innovative theories. The progress of science depends on the publication of ideas that transcend accepted wisdom. However, compared with older, more familiar ideas, brand-new ideas are perceived to have a greater likelihood of being wrong. The self-correcting tendency of scientific inquiry ensures that the systemic costs of publishing mistaken ideas is minimal compared with the benefits of innovation. But these systemic outcomes are largely irrelevant to individual scientists, to whom the publication of seemingly true but actually erroneous research poses meaningful hazards: If theories are wrong or research results are in error, then "every one who uses them has their research set back" (Hull, 1988, p. 311). So, although it serves science best to nurture and support conceptual breakthroughs, individual scientists' needs for certainty can lead them to act otherwise. In fact, research evidence reveals some antinovelty bias within the manuscript review process—especially under conditions in which individual scientists are at the greatest risk of being compelled by the innovative ideas (Crandall & Schaller, 1998). Given these individual-level selection pressures, it is no surprise that deliberate attempts to foster conceptual innovation (e.g., McGuire, 1973) have had little systemic impact (Higgins, 1992).

Not only may individual-level selection pressures thwart the success of specific innovations, but they may also inhibit innovation, period—and thus limit variability of methods, practices, and theories. Colarelli (1998) rightly notes that "enhancing variation helps to ensure that an organization will have a sufficiently broad range of behavioral repertoires to cope with uncertain futures" (p. 1052). Anything that inhibits procedural eclecticism and conceptual diversity undermines long-term organizational health. This implication underscores the great value of organizational interventions that do successfully facilitate procedural and conceptual diversity. But, because individual-level psychological needs (e.g., needs for simplicity, structure, and cognitive efficiency) are threatened by diversity, these interventions may be among the most difficult to effect.

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How can a diversity of ideas and procedures be fostered in the face of these individual-level selection pressures? One solution is to attempt first to introduce diversity of individual-level selection pressures. When individuals' needs are all the same, an innovation will either serve all individuals' needs, or it will serve no one's. In a psychologically diverse population described by a variety of needs and goals, an innovation is more likely to succeed with at least some subset of the population. The innovation might then spread further. Thus, Colarelli (1998) was correct to emphasize the fundamental value of variation across individuals, but not all variation is created equal. Within a social–evolutionary context, it is motivational variation—diversity of immediate needs and goals—that is especially relevant to the success of innovative ideas and procedures. Of course, it is no easy matter to introduce motivational diversity to organizations. Individuals prefer to affiliate and work with others who are similar to themselves (Crandall, Schiffhauer, & Harvey, 1997). Thus, interventions designed to nurture a diversity of needs and goals may themselves be undermined in part by the chronic human preference for familiarity.

The fundamental implication is this: When designing an intervention intended to serve the abstract goals of a group, it is necessary to consider carefully the very human needs and goals of the individuals within that group. These interventions are unlikely to succeed unless they serve individuals' more personal—perhaps more venal—desires as well.

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Evolving Perspectives on Organizations

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Colarelli (September 1998) proposed that an evolutionary perspective is important to the study of organizations and organizational change. I agree entirely with this proposal and would like to offer some additional insight into organizational change that is based on another development in evolutionary theory. This change has been in the way the genetics of organisms is expressed. Organisms now are seen as composed of two major interdependent, but independent, subsystems (Eldredge, 1986).

One genetic subsystem is concerned with the reproduction processes of organisms (Eldredge, 1995). The primary purpose of this system is replication. Organisms, therefore, act as *replicators*. Replicators are concerned with "more making" through sexual or asexual reproduction. If replication stops, the continued existence of the organism is dependent on the survival of the current populations of the organism. When they are gone, the species is extinct. The replication system consists of coadapted, internally balanced gene complexes that cannot vary without drastic effects on the ontogenetic program of a species. Change here *creates a new form of the system* (Eldredge, 1986).

The second genetic subsystem is concerned with the flow of energy through systems (Eldredge, 1995). The primary purpose of this system is competition with other organisms and adaptation to the environment. Organisms, therefore, also act as *interactors*. Interactors are concerned with adaptations relevant for matter–energy transfer and, therefore, are economic in nature. The interactor system allows gradual change to accumulate *within an organism* on the basis of competition for environmental resources (Eldredge, 1986). This system is much more plastic and tracks changes necessary to compete for environmental resources. Changes here, however, do not affect the basic nature of the individual or of the species: They merely reflect adaptations important to economic success.

This model of the dual nature of organisms may be applied to organizations. Some implications of this new development are (a) a change in what defines the fundamental nature of organizations, (b) the locus of change in these systems, and (c) the manner in which new organizational forms are developed.

First, the study of organizational species has, to date, largely been concerned with the interactor portion of organizations. This view is best exemplified in the work of McKelvey (1982) on organizational systematics. McKelvey has proposed that the core technology of organizations provides the defining characteristic of organizational forms. The core technology consists of the primary task (a set of activities that bears directly on the conversion of inputs into outputs critical to the organization's survival) and workplace management (the set of managerial activities that bears directly on the operation of a primary task to foster the continued survival of the organization).

This concentration on defining organizational types, however, limits our understanding of the replication function of organizations. Organizations must replicate to maintain themselves. The primary focus of this replication, however, is probably not on training individuals to perform a task. Rather, replication is concerned with issues of fit with the organization's culture. Therefore, the defining characteristic of an organizational species is not its input–throughput–output cycle: The defining characteristic of an organizational species is not technology but organizational culture (Svyantek, 1997).

Second, Colarelli (1998) noted that organizational change is a process that most often involves incremental change. Eldredge's (1986, 1995) model of the dual nature of organisms fits well here. Such incremental changes occur in what Eldredge (1995) has called the interactor level. The primary purpose of these changes is to bring the organization back into fit with fluctuations in the organization. Colarelli's article pointed out the importance of not overapplying a metaphor from one scientific area to another. He stated that organizational evolution is best understood as a Lamarckian process through which acquired characteristics are passed on to the next generation. This is the process through which change occurs in the interactor system.

Darwinian evolution of organizational forms, however, still occurs. Colarelli (1998)