EXPLORING THE LIMITS OF THE NEW INSTITUTIONALISM: THE CAUSES AND CONSEQUENCES OF ILLEGITIMATE ORGANIZATIONAL CHANGE*

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While the "new institutionalism" has emerged as a dominant theory of organization-environment relations, very little research has examined its possible limits. Under what circumstances might the neoinstitutional predictions regarding organizational inertia, institutional isomorphism, the legitimacy imperative, and other fundamental beliefs be overshadowed by more traditional sociological theories accentuating organizational adaptation, variation, and the role of specific global and local technical environmental demands? We analyze longitudinal data from 1971 to 1986 for 631 private liberal arts colleges facing strong institutional and increasingly strong technical environments. Our findings reveal surprisingly little support for neoinstitutional predictions: (1) Many liberal arts colleges changed in ways contrary to institutional demands by professionalizing or vocationalizing their curricula; (2) global and local technical environmental conditions, such as changes in consumers' preferences and local economic and demographic differences, were strong predictors of the changes observed; (3) schools became less, rather than more, homogeneous over time; (4) schools generally did not mimic their most prestigious counterparts; (5) the illegitimate changes had no negative (and often had positive) performance consequences for enrollment and survival. Our results suggest that current research on organization-environment relations may underestimate the power of traditional adaptation-based explanations in organizational sociology.

Organizational sociologists have long sought a greater understanding of organization-environment relations. A noteworthy recent trend in this literature has been the relative deemphasis of traditional adaptation theories (Pfeffer and Salancik 1978; Selznick 1948; Thompson 1967) and the rise of alternative theories. Prominent among these alternative theories is the "new institutionalism" (DiMaggio and Powell 1991), also labeled by Perrow (1986) as the "new institutional school," which has emerged as a widely recognized, widely cited perspective with considerable impact on organization theory (Davis and Powell 1992).

Neoinstitutional explanations of organization-environment relations draw their power and distinctiveness largely from an explicit rejection of traditional adaptation theories, and from an emphasis on institutional rather than technical environments.[1] This rejection is typified by DiMaggio and Powell's (1991)

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[1] Technical environments approximate Thompson's (1967) definition of task environments, which include customers, suppliers, competitors, and regulatory groups. Institutional environments are much broader; they encompass overarching social forces such as norms, standards, and expectations held by relevant stakeholders and common to all inhabitants of the organizational field.

contention that neoinstitutional theorists in sociology "find adaptive storytelling less persuasive" and "reject functional explanations" (pp. 10–11). Tolbert and Zucker (1983: 22) describe a major debate in organization theory in terms of the contrast between a technical perspective that "views organizations as rational actors, albeit in a complex environment" (Thompson 1967) and an institutional perspective that "views organizations as captives of the institutional environment in which they exist." Similarly, Orru, Biggart, and Hamilton (1991) note that the major distinctive feature of "the new institutionalism" is that it "departs from . . . technically oriented approaches [to the study of organization environments] by turning our attention to *institutional* environments," and that "it is a theoretical perspective that focuses on organizational conformity with social rules and rituals" (p. 361).

DiMaggio and Powell (1983), drawing on the earlier work of Meyer and Rowan (1977), have developed the most strongly stated and most influential statement on neoinstitutional theory; they suggest explicitly that Weber's (1968) emphasis on the competitive marketplace as the major environmental force driving organizational change is no longer valid. Instead, they view institutional environments demanding conformity as dominant; as a result, organizations increasingly become prisoners in a new "iron cage" of institutional isomorphism (DiMaggio and Powell 1983). More recently, DiMaggio and Powell (1991) claimed again that (1) the new institutionalism is concerned with "persistence" rather than "change," (2) "the legitimacy imperative" acts as a source of "inertia," and (3) "not only does neoinstitutionalism emphasize the homogeneity of organizations; it also tends to stress the stability of institutional components" (pp. 13–14).

Very little large-scale, longitudinal research, however, has directly examined such predictions regarding organizational inertia, the tendency toward isomorphism, the legitimacy imperative, the relative influence of technical versus institutional environmental forces, and other fundamental beliefs of the new institutionalism. This may explain in part why Davis and Powell (1992:359) argued that "caution flags are warranted" in interpreting "work under the institutional banner." Such concerns suggest that it may be quite valuable to explore the limits of the new institutionalism. For example, when might the new institutionalism's emphasis on inertia, persistence, and isomorphism in highly institutionalized organizational fields be challenged meaningfully by more traditional sociological theories emphasizing organizational adaptation and diversity? We address these issues, first, by identifying key propositions in the neoinstitutional literature regarding the likelihood and direction of organizational change, as well as its antecedents and consequences. Then we examine the degree to which the patterns, predictors, and consequences of organizational change over time are consistent with the new institutionalism.

To provide a suitable empirical context for examining both neoinstitutional and more traditional adaptation perspectives on organization-environment relations, we use extensive longitudinal data from a large sample of nonprofit educational organizations (private liberal arts colleges) facing strong institutional pressures for conformity, as well as increasingly strong technical pressures for institutionally illegitimate organizational change. Because "education is the sector that has undoubtedly received the greatest scrutiny by institutionalists" (Davis and Powell 1992:357) and is often cited as an example of a highly institutionalized organizational field, examining educational organizations over time also seems particularly appropriate for exploring the possible limits of the new institutionalism.

THE NEOINSTITUTIONAL PERSPECTIVE

Reviews of the new institutionalism typically begin with the warning that there is no such thing as "institutional theory." For example, while neoinstitutionalists typically have emphasized how their perspective differs from adaptation theories (Pfeffer and Salancik 1978; Thompson 1967), DiMaggio and Powell (1991, chap. 1) also emphasize distinctions between the new institutionalism and "old" institutional theory (Selznick 1948). In fact, DiMaggio and Powell (1991) have acknowledged that perhaps it is "easier to gain agreement about what [neoinstitutionalism] is not than what it is" (p. 1).

Therefore, in defining the core of the new institutionalism (and how to test its predictions), we identify and discuss specific influential, representative pieces of neoinstitutional research.

The most explicitly defined, most strongly stated, most influential theoretical statement of the new institutionalism is found in DiMaggio and Powell (1983), and is summarized, clarified, and extended in DiMaggio and Powell (1991). Explicit and testable hypotheses can be derived from this version of neoinstitutionalism (Scott 1991). Consequently any attempt to discuss and test the central themes of neoinstitutional theory should begin by identifying the fundamental propositions of this perspective.

Drawing on the earlier work of Meyer and Rowan (1977), DiMaggio and Powell (1983) develop the notion that organizations exist in fields of other organizations that influence their behavior. When these organizational fields become "structurated" (i.e., well-defined and mature), they exert powerful influences on the behavior of the organizations within them. As fields undergo increasing structuration, the organizations, of necessity, become increasingly homogeneous. The collective rationality of organizations, along with their collective striving for legitimacy and social fitness, leads them to adopt uniform, institutionalized structures and practices that conform to the mandate of the institutional environment. This view stands in contrast to an adaptation perspective, which regards organizations as typically altering their structures and practices so as to maintain coalignment with changing general and local (and primarily technical) environments (Thompson 1967). Also note the contrast made explicitly in DiMaggio and Powell (1991:13) between the new institutionalism and the "old," more traditional institutional theory, which views organizations as continually adapting and changing (Selznick 1948). The new institutionalism regards organizational change as highly constrained; once an organizational field has been established, whatever change does occur will be toward greater conformity (DiMaggio and Powell 1983; Meyer and Rowan 1977; Scott 1987). This trend toward conformity is a central element of the neoinstitutional perspective (Scott 1991).

Because institutional arrangements preclude the choice of certain courses of action, the result is organizational inertia. DiMaggio and Powell (1983) state, for example, that "organizational actors . . . construct around themselves an environment that constrains their ability to change further in later years" (p. 148). The persistence, stability, and inertia that result from the legitimacy imperative imposed by institutional environmental constraints suggest the following fundamental neoinstitutional proposition:

Proposition 1: In a highly institutionalized organizational field, organizations are not likely to change in ways contrary to the demands of the institutional environment.

A related neoinstitutional proposition is that organizations in mature, well-defined organizational fields become less likely to change in response to conditions in the technical environment. This idea contrasts sharply with adaptation perspectives on organization-environment relations, in which organizations are viewed as seeking primarily to adjust to technical environmental demands, such as changes in consumers' preferences, competitive conditions, and other characteristics of the task environment (Pfeffer and Salancik 1978; Thompson 1967). In other words, neoinstitutionalists view changing technical environmental factors as relatively unimportant sources of organizational change in a mature organizational field. This is not to say that the new institutionalism views technical environments as having *no* influence on organizational change; as Scott (1991) observes, the difference is one of emphasis.

Proposition 2: In a highly institutionalized organizational field, changing technical environmental conditions exert little influence on organizational change.

Furthermore, from a neoinstitutional perspective, whatever organizational change occurs in such settings is viewed as a continuation of the homogenizing process, impelled by institutional rather than technical forces. DiMaggio and Powell (1983) argue that this continuing push toward isomorphism may be due to a number of institutional processes. As Scott (1991) states, however, "all are pre-

dicted to have the same effect—increased structural isomorphism" (p. 171); therefore Scott refers to the prediction of homogeneity as DiMaggio and Powell's (DATE) "master hypothesis." We express this idea in propositional terms:

Proposition 3: In a highly institutionalized organizational field, organizational change that does occur results in the increasing homogeneity of organizations.

Mimesis is one of the processes underlying DiMaggio and Powell's (1983) prediction of increased institutional isomorphism. This process is seen as likely to occur in an organizational field that has no clear performance criteria and no understanding of the technologies employed. Organizations operating in fields with these characteristics cannot objectively prove fitness to outsiders and lack proven methods to improve their own functioning. Thus such organizations are likely to mimic the most "legitimate and successful" organizations in their field to demonstrate fitness by their similarity to those organizations. DiMaggio and Powell (1983) suggest that mature organizational fields, with their "stable and broadly acknowledged centers, peripheries, and status orders . . . will be more homogeneous . . ." (p. 156). In other words, isomorphism results when organizations mimic high-status organizations.

Proposition 4: In a highly institutionalized organizational field, organizational change is explained by organizations' increasing resemblance to the most prestigious organizations in their field.

Homogeneity is also caused by the greater influence of the overarching institutional environment relative to local environmental conditions. DiMaggio and Powell (1983) and Scott (1987) view institutionalization as a process that occurs at the sectoral or field level; thus it renders local environmental variation less important than a traditional adaptation perspective for explaining changes in organizational practices (as discussed earlier). DiMaggio and Powell (1991) make this point explicit in their more recent work, arguing that "institutionalization tends to reduce variety, operating across organizations to override diversity in local environments" (p. 14). Thus, from an neoinstitutional perspective, differing local environmental contingencies should *not* be significant predictors of organizational change.

Proposition 5: In a highly institutionalized organizational field, organizational change is *not* predicted by diversity in local environmental conditions.

Also, performance implications are explicit in the neoinstitutional school. Organizations adhering to rather than deviating from the conformity required by institutional pressures are seen as increasing their ability to obtain needed resources and survive. Ecologists also have embraced this view. The "legitimacy" obtained from conformity is "imperative" precisely because of its presumed effect on organizational performance. This argument is made explicitly in other widely cited neoinstitutional works (D'Aunno, Sutton, and Price 1991; Meyer and Rowan 1977; Scott 1987). Meyer and Rowan (1977:34), for example, state that "organizations fail when they deviate from the prescriptions of institutionalizing myths," and that "organizations which innovate in important structural ways bear considerable costs in legitimacy."

Proposition 6: In a highly institutionalized organizational field, organizations that change in institutionally illegitimate ways typically suffer harmful performance consequences.

Although most neoinstitutionalists rely on the fundamental tenets of the new institutionalism stated above, some emphasize the diffusion process surrounding institutionalization—that is, the emergence of new organizational practices and the subsequent convergence or institutionalization of such practices. The most prominent example of this line of research is Tolbert and Zucker's (1983) study of the diffusion of civil service reform among American cities. They offer the general proposition that the primacy of technical versus institutional environmental forces may change over time: "[O]nce historical continuity has established their importance . . . changes in formal structure are adopted because of their societal legitimacy, regardless of their value for the internal functioning of the organization" (Tolbert and

Zucker 1983:26). These authors find that technical environmental factors predict early, but not late, adoption of organizational innovations. This issue has been examined as well in a number of other empirical contexts (Baron, Dobbin, and Jennings 1986; Burns and Wholey 1993). This research generates the following:

Proposition 7: Technical environmental factors are strong predictors of adoption for earlier adopters of organizational innovations, but not for later adopters.

EMPIRICAL CONTEXT AND HYPOTHESES

In an ideal empirical context for testing hypotheses related to the propositions developed above, institutional and technical environments would be equally strong or equally weak. Scott (1987) offers a 2 × 2 matrix using these dimensions, with organizations such as hospitals, banks, and utilities in the "strong institutional/strong technical environment" cell. Scott (1987) places educational organizations in the "strong institutional/weak technical" cell; this may explain why much of the neoinstitutional literature has emerged from observations of educational organizations (Covaleski and Dirsmith 1988; Meyer and Rowan 1977).

Thus, although our choice of empirical context may bias our results toward supporting neoinstitutional predictions, we have chosen to use a set of nonprofit educational organizations for our analyses, namely private liberal arts colleges. Neoinstitutionalists view nonprofit educational organizations as judged more strongly by the appropriateness of their form than by their outputs and believe that their survival requires conformity to the demands of the institutional environment (Davis and Powell 1992). Liberal arts colleges can be categorized in this way; in addition, they possess several features that make them particularly well-suited for testing predictions from institutional theory. First, liberal arts colleges operate in a highly structurated organizational field. They resemble each other closely, insofar as they are all nonprofit, private, independent schools providing predominantly undergraduate, liberal arts education. In addition, the average liberal arts college has been engaged in these practices for almost a century. Finally, the traditional undergraduate liberal arts education provided by these colleges historically has been valued very highly in the United States (Breneman 1990); this fact suggests that strong institutional pressures operate within this mature, well-defined organizational field. Thus, nonprofit liberal arts colleges are classic examples of organizations in a highly institutionalized organizational field that are likely to exhibit the inertia, stability, persistence, and conformity predicted by neoinstitutional theorists.

Changes in the technical environments of these organizations, however, also make this context appropriate for exploring the possible limits of the new institutionalism. Liberal arts colleges have faced powerful market-based pressures for change since the early 1970s. According to educational researchers the technical environments faced by these colleges have been altered by several significant trends, including: (1) a major shift in potential students' life goals away from more humanistic purposes and toward more personal economic objectives (Astin, Green, and Korn 1987), (2) increasing emphasis on specialized skills in the labor market (Cameron 1984), and (3) an expected and realized dramatic decline in the population of traditional college-age students (Stadtman 1980).

From an adaptation perspective (Thompson 1967), changes in life goals reflect changes in consumers' preferences that could have strongly negative implications for liberal arts colleges. Students with increasingly economic and decreasingly humanistic goals would seem likely to be less interested in the general liberal arts education that these colleges historically have provided. Similarly, an increased emphasis in the labor market on specialized skills creates an additional problem by limiting employment opportunities for liberal arts graduates who lack technical or professional skills (Stinchcombe 1983). The expected demographic decline exacerbates these problems by further eroding an already diminishing student base. Thus, with the shrinkage of the traditional student base, an adaptation perspective suggests that liberal arts colleges would seek to make major organizational changes to more fully satisfy their traditional consumers' desires or to at-

tract new consumers. More directly, the adaptation perspective suggests that the necessary changes are likely to involve the *professionalization/vocationalization of the liberal arts college curriculum*—that is, the addition of more professional, more career-oriented programs of study.

This situation is particularly interesting for testing predictions about the new institutionalism because this potential organizational change is perhaps the *most illegitimate* change that a liberal arts college could consider, short of leaving the higher education sector altogether. If one unifying historical normative belief or value is held by the various constituents of nonprofit, private liberal arts colleges (e.g., administrators, faculty, alumni, and philanthropic organizations), it is that liberal arts colleges are not intended to be schools for professional, career-oriented training. In fact, Hannan and Freeman (1984:149) use exactly this type of change as a hypothetical example of a "core" organizational change that is highly unlikely to occur because of the resistance that it would be likely to engender.

For at least three reasons, a change toward professionalization or vocationalization can be considered illegitimate for liberal arts colleges. Such a change is: (1) fundamentally *inconsistent* with deeply institutionalized norms and values in this field, (2) widely *viewed as a threat* to the perpetuation of these norms and values, and (3) vehemently *denounced* by significant actors in the institutional environments of these colleges. Although the definition of illegitimate change may not require the presence of all three of these factors, we show below that all three were present in the context of our study.

At the most foundational level, the adoption of professional programs is an illegitimate change simply because the practice of professional education fundamentally conflicts with the widely—and explicitly—espoused collective mission of these organizations, which is to provide *liberal education*. Liberal education, by its very nature, is aimed at imparting general knowledge and general capabilities. Thus it inevitably stands in opposition to professional studies, which are intended to teach specific, marketable skills (Breneman 1990; Crimmel 1993; Ness 1975; Pope 1990). The conflict between liberal education and professional education exists at the most deeply rooted, ideological level; indeed, the inconsistency between these types of education is so fundamental that liberal education is sometimes defined as that type of higher education which does not consist of "professional, vocational or technical studies" (Crimmel 1993:59; also see Cohen 1964).

While the prima facie inconsistency between professional and liberal education demonstrates the illegitimacy of adopting professional programs for liberal arts colleges, additional indicators can be found in discussions in the community of liberal arts colleges during period under study. French (1979), for example, captured the prevailing sentiment that "[liberal arts colleges] must protect the purity of liberal and general studies from the barbarians now at the gate who would bury us with careerism, technological specialization, and the cult of vocational preparation" (p. 470). Such a comment suggests that the professionalization of liberal arts colleges was viewed as a significant threat to the collective values of these organizations. Authors writing during this period characterized professional education as "a time bomb" (McGrath 1975:24) and as an "instrument of execution" that had placed liberal education "under siege" and threatened to "garrote" it (Stephenson 1974:386). The pressures for professionalization, it was argued, were motivated by a "cult of relevance" (Adams 1975:341); and according to some, these pressures threatened to "bastardize the disciplines" (Adams 1975:340) and to deprive liberal arts colleges of their "spirit and soul, feeling and purpose, worth and dignity" (Bratton 1976:527).

In 1975 even the president of the Association of American Colleges (AAC), the national association of liberal arts colleges to which more than 90 percent of the colleges in this sample belong, referred to pressures for professionalization as "centrifugal forces which threaten to split us off from the central core of our educational mission" (Ness 1975:72). It is also significant that the AAC annual conference at which Ness made this speech was organized around the theme "Consumerism, Student Needs, and Institutional Integrity." Indeed, throughout the 1970s the potential loss of integrity due to

professionalization was an omnipresent theme in the pages of the AAC journal, *Liberal Education*. In fact, most of the dialogue cited here was obtained from this journal. One representative passage summarizes both the threat posed by professionalization and the implications:

> It would be a mistake, in my opinion, for small private colleges to seek more students by offering new programs in technical fields. . . . Responding thoughtlessly to public demands and budgetary pressures could easily rob liberal arts colleges of their very souls. If that should happen then what would their survival be worth? Given the choice between commercialization and integrity, I believe that small liberal arts colleges should unhesitatingly choose the latter, even if this means running the risk of extinction. (Isetti 1974:546)

Finally, the illegitimacy of this innovation is reflected in the judgments passed by significant institutional actors during our study period. The adoption of professional programs would transform the college into an "educational service station" (Isetti 1974: 541), a "desecrated temple" (Crimmel 1993: 9), and/or an "academic theme park" (Crimmel 1993:13). Colleges considering the adoption of such programs were characterized as motivated by "the love of money" (Isetti 1974:543), depicted as engaging in "timorous pandering to the market" (Crimmel 1993:120), and accused of "rank commercialism" (Isetti 1974:541). Professionalization of the curriculum would "actively subvert the announced aims of the [liberal arts] college" (Crimmel 1993:31). Pope (1990) summarized the feelings of many in the field of liberal arts colleges, stating that "for nearly 200 years, the best minds . . . have said that the only practical college education is a liberal one," but that liberal arts colleges now risked sending the same message as do "vocationally oriented and morally neutered public institutions . . .: job training is more important" (p. 28).

It is hard to imagine a more illegitimate change for a liberal arts college than professionalizing its curriculum. Rarely is a potential organizational change decried by institutional actors in such strong moral, almost religious, terms. Indeed, such a change appears to be not only illegitimate, but heretical (recall that potential adopters were warned of "desecrating the temple," falling victim to "cult of relevance" and the "cult of vocational preparation," and failing to "protect the purity" of "the spirit and soul" of liberal arts from the "barbarians at the gate").

Thus the situation of private nonprofit liberal arts colleges facing strong institutional and technical environmental pressures is uniquely appropriate for testing what the new institutionalism would (and certainly would not) predict. Neoinstitutionalism suggests that in such a highly institutionalized setting, changes in the technical environment are not likely to have a significant effect on the colleges. Organizational change will be minimal, according to this perspective; whatever change might occur would lead to the increasing isomorphism of organizations. In a legitimacy-enhancing change, for example, a college would increasingly resemble the higher-status and more prestigious elite liberal arts colleges. Mission-altering changes, such as professionalizing liberal arts curricula, would be extremely unlikely given the strong historical institutional pressures facing liberal arts colleges and the illegitimacy of such a change. Finally, any organizations that chose to make such illegitimate changes would be likely to suffer performance declines due to ignoring the demands of the institutional environment.

In contrast, a traditional adaptation perspective suggests that technical environmental pressures (stemming from changes in consumers' preferences, specialized labor market demands, and the diminishing number of college-age students) will impel many nonprofit liberal arts colleges to professionalize their curricula. Those colleges that face additional pressures from the local technical environment will be particularly likely to change. Finally, those that choose not to change in this technically appropriate but institutionally illegitimate manner are likely to experience performance declines. We can now examine whether (under these circumstances) the observed actions of the colleges studied, the significant predictors of those actions and the subsequent implications for performance are consistent with the new institutionalism.

In this discussion we suggest the following hypotheses, each corresponding to the neoinstitutional propositions developed

above. Given the strong institutional pressures for stability and conformity facing liberal arts colleges:

H_1: Colleges will not be likely to change in illegitimate ways, such as moving toward professionalizing or vocationalizing the curriculum.

H_2: Changes in the colleges' technical environments will exert little influence on the organizational changes they make.

H_3: Organizational changes made by the colleges will result in the increasing homogeneity among these organizations.

H_4: Organizational changes made by the colleges will be explained by colleges' increasing resemblance to the most prestigious colleges.

H_5: Organizational change will *not* be predicted by diversity in colleges' local environmental conditions.

H_6: Those colleges that make illegitimate changes will be more likely, on average, to experience organizational decline and organizational death.

In addition:

H_7: Technical environmental factors will predict which liberal arts colleges were early adopters of professional programs, but will not predict which colleges were late adopters of such programs.

METHOD

Data

Data for this study come primarily from the Higher Education General Information Survey (HEGIS) conducted annually by the National Center for Education Statistics. We obtained additional data from the *Comparative Guide to American Colleges and Universities* (Cass and Birnbaum 1971) and from the 1980 U.S. Census. Our final data set includes annual information on program offerings, degrees granted, and performance of the 631 colleges included in the study for each year from 1971 to 1986. The study includes all private, independent liberal arts colleges in the United States as of 1970, as classified by the Carnegie Commission (1970). Liberal arts colleges are readily distinguished from other higher education organizations, which fall into one of the other four categories in the Carnegie Commission classification: research universities, doctoral-granting universities, comprehensive colleges and universities, and two-year colleges. The colleges in our study represent the complete population of American liberal arts colleges during this period. We obtained consumer preference data from Astin et al.'s (1987) authoritative annual survey of 200,000 American freshmen, which has been conducted annually since 1966.

For the theoretically motivated reasons mentioned earlier, our study period begins in 1971: The major technical environmental changes, although continuous, began to emerge more strongly in the early 1970s, as documented by higher education researchers. Continuous yearly observations of these organizations over the period from 1971 to 1986 allows full consideration of both leading and lagging organizational responses, as well as an ample time frame for assessing performance implications.

Change and Performance Variables

Organizational change. Organizational change is the primary dependent variable in the study and is also the independent variable of interest in Hypothesis 6. We measured it as the first-time addition, to a liberal arts college's curriculum, of any one of five professional programs: business administration, health, communications, public affairs, and computer science.

As noted above, the addition of such programs (in fact, often entire academic departments) has been used by Hannan and Freeman (1984:149) as an example of a "core" change for these organizations, in part because it represents a movement away from the traditional goals and missions of these colleges.[2] Such a change reflects changes not only in admissions policies, resource alloca-

[2] Programs may encompass a number of different courses of study; for example, business is a program, although it may include a number of majors. We view a program as having been added when a college grants a degree in that area for the first time.

tions, and other significant aspects of policy, but also changing cultures and a fundamental change in the established, legitimate mission of the organizations studied. Therefore in this study we examine the type of illegitimate core organizational change of interest to institutional (and ecological) theorists (Scott 1987).

Organizational performance. We employed two measures of organizational performance to test Hypothesis 6. The first is *enrollment decline*. The enrollment of a liberal arts college is a highly relevant performance variable for the organizations in this study and a widely accepted measure of organizational health (or sickness) among colleges. Educational researchers have established that declining enrollment is a major indicator of organizational decline (Cheit 1971; Gilmartin 1981), and ultimately is a strong predictor of organizational death. Because the variable of interest is organizational decline and because it is not obvious that liberal arts colleges continually and uniformly pursue enrollment growth, the measure used is a dichotomous (yes/no) variable that captures whether a college's FTE (full-time equivalent) student enrollment has decreased. (As noted in the "results" section, we also examine whether the results might be sensitive to alternative specifications, such as 2 percent and 5 percent decline thresholds.)

A second and related performance measure we used is *organizational death*. Survival is as much an overarching goal for colleges as for other organizations. This variable is of theoretical interest in neoinstitutional and other organization-environment perspectives, and it is particularly relevant for nonprofit organizations such as those studied here. We examine the effects of adding programs on mortality over subsequent one- and two-year periods. (As stated in the "results" section, we also examine whether the results might be sensitive to alternative specifications—for example three years later and beyond.) To summarize, organizational "sickness" and death represent two universal measures of organizational performance consistent with both neoinstitutional (Meyer and Rowan 1977; Zucker 1987) and traditional adaptation (Thompson 1967) theories of organization.

Technical Variables

Consumer preferences. To address whether organizational change appears to follow consumers' preferences (Hypothesis 2), we obtained data on the stated life goals of college freshmen from Astin's annual U.S. survey of entering students (Astin et al. 1987). Several questions regarding goals were particularly appropriate for this study. For example, we collected data over time on responses to questions measuring the students' goals to "be very well off financially" or to "develop a meaningful philosophy of life." An increased trend toward employment and financial goals suggests consumers' preference for professional (as opposed to liberal arts) degrees. Similarly, a decreasing concern about developing a meaningful philosophy of life suggests a decreasing preference for degrees in traditional liberal arts programs. By examining whether trends in these aggregated preferences over time correlate well with the aggregated changes of liberal arts colleges toward professional programs, we could learn whether technical environmental changes, such as changes in consumers' preference, are significant predictors of organization change in highly institutionalized fields.

Another variable that serves as a proxy for consumers' preferences, but at the organizational level, is a time-varying variable capturing the proportion of a college's enrollment composed of part-time students. Such students are more likely than full-time students to prefer career-oriented programs of study. Thus, by examining whether organizations with a higher *proportion of part-time students* are more likely to change, we obtain an additional test showing whether consumers' preferences are significant predictors of organization change in highly institutionalized fields.

Local environment. We also used a number of measures to assess differences in local environmental conditions. Several measures captured environmental differences attributable to geographic area. During the period of study, economic growth varied considerably across states. Thus schools in more economically advantaged states may be less susceptible to the overall changes in environmental conditions described earlier. Accordingly, we

include a local environmental variable to capture economic variation: *per capita personal income of the state* in which the college is located. A second variable often discussed by educational researchers is whether a college is in a *rural* (versus urban/suburban) setting. During the period of study, rural areas in the United States were shrinking (in population and in economic terms) relative to urban/suburban areas. From a traditional adaptation perspective, colleges in such areas therefore would be considered more sensitive to changing technical environments (and thus more likely to change). We coded colleges as rural (a dichotomous yes/no variable) if they were located outside any SMSA (standard metropolitan statistical area). Following the same logic, we included a census variable capturing the *local school enrollment* (primary and secondary) in a college's county.

Other local environmental variables are also likely to affect the available pool of potential students. The next measure is the school's dependence on students who come from within the state. Schools with a historically larger *proportion of in-state students*, because of their relative inability to attract students from the national population, are likely to be more sensitive to the changing market conditions, and thus more likely to change. We measured this time-varying variable yearly as the number of in-state FTE students divided by the total number of FTE students. A second measure is *religious affiliation* (a dichotomous yes/no variable). A religiously affiliated college is somewhat more restricted in its pool of potential students, and thus is likely to be more sensitive to technical pressures for change. From a neoinstitutional perspective, however, one might expect these organizations face strong pressures *not* to change.

A final measure that captures local variation in a college's susceptibility to changing technical environments is the *ratio of tuition revenue to total revenue* (Paulsen 1990). This time-varying measure captures the degree to which an organization relies on the "customer" element in its technical environment (Thompson 1967), as opposed to other constituencies such as alumni, foundations, and churches. From a traditional adaptation perspective, the higher this ratio, the more sensitive one would expect colleges to be to changing consumers' preferences, and thus the more likely they are to change.

Institutional Variables

Homogeneity. The extent of homogeneity within the field over time is the outcome of interest in Hypothesis 3. We operationalized homogeneity for a given year as the dispersion around the mean number of professional programs offered in that year. We created the dispersion measure for each year by (1) computing the mean number of professional programs offered in each year, (2) computing the mean deviation from this mean in each year, and (3) taking the absolute value of this mean deviation. Trends in this dispersion measure were then considered over time in testing Hypothesis 3. This approach is consistent with DiMaggio and Powell's (1983:156) discussion regarding measuring homogeneity over time in terms of "standard deviations" of structural indicators.

Status. To test Hypothesis 4, (whether organizational change is explained as an isomorphic process whereby liberal arts colleges increasingly resemble the most prestigious organizations in their field), one must select a group of high-status organizations. Fortunately an existing industry-specific indicator of organizational prestige is well suited to this purpose. We identify as most prestigious those 62 organizations which filled the top three spots on Cass and Birnbaum's (1971) six-point selectivity index. The Cass and Birnbaum scale is a recognized measure of an institution's "quality," and is compiled by acknowledged experts in the industry. Because legitimacy is bestowed on an organization by others (Singh, Tucker, and Meinhard 1991), this indicator of reputational/status difference is a particularly appropriate measure for the present study.

Early versus late period. This variable is of interest in testing Hypothesis 7. Whereas Tolbert and Zucker (1983) divided their sample into four period-specific subgroups, we bisected our sample into early and late subgroups (closer to those in other early/late adoption studies, such as Burns and Wholey 1993). Our measure is defined as a dichoto-

mous (early/late) variable that captures the period before 1980 versus after 1980, and creates two periods of equal length. (As noted in the "results" section, we also examine whether the findings might be sensitive to alternative specifications.) We interact this variable with the technical variables described earlier to assess whether the relationship between the technical variables and the addition of professional programs is different in early versus late periods. This approach is more precise than analyzing two subgroups separately and then attempting to examine the comparative strength of specific coefficients and overall fit across subgroup equations (Tolbert and Zucker 1983).

Control Variables

Given the extensive literature relating size and age (Hannan and Freeman 1984) and financial well-being (Cyert and March 1963) to the likelihood of organizational change, we controlled for *organizational age*, *size* (FTE enrollment), and *financial health* (endowment per FTE) in all equations predicting program change (adding professional programs). In the pooled models predicting the addition of professional programs we included measures of the *prior number of programs* already offered and whether a college had *added a program in the prior period.* In this way we controlled for the nonindependence of observations across years (Allison 1984). For the models predicting the addition of a specific program, also to control for nonindependence, we added dummy variables for whether the organization *adopted other professional programs in the same period.* In addition, we controlled for the number of organizations in the population that previously had adopted a particular professional program, given some evidence that *adopter density* may be a significant predictor of organizational change (Haveman 1993). We also included an ecological measure of competition, namely *local density* (the number of other colleges in a college's county). The performance models included, as control variables, all of the variables we used to model change. Finally, the performance equations predicting enrollment decline controlled for *enrollment decline in the previous period.*

Analyses

We examined Hypotheses 1 through 4 using descriptive statistics and *t*- tests. Hypotheses 5 through 7 required more complex time-series methods. We employed discrete-time event-history methodology to examine the causes and the survival and enrollment consequences of adding professional programs (Allison 1984; Yamaguchi 1991). This form of analysis entails simple logit analysis of pooled time-series data wherein multiple organizations are observed at multiple, equally spaced intervals. This allows us to estimate the hazard of an event (professional program addition, enrollment decline, and organizational death) occurring in any one of t discrete time periods as a function of covariates that are allowed, but not required, to vary over time.

The discrete-time model has the following general form:

$$\log[P(t)/(1 - P(t)] = a + b_1x_1 + b_2x_2(t),$$

where $\log(P(t)/(1-P(t))$ represents the log odds of the event occurring for a particular organization at any time t, a represents the baseline hazard of the event occurring, b_1 represents the change in the log odds for each one-unit increase in a time-invariant covariate x_1, and b_2 represents the change in the log odds for each one-unit increase in a time varying covariate $x_2(t)$.

The discrete-time model, unlike the continuous-time model, does not require exact information on the timing of events and thus is well suited to handling ties on the dependent variable. Accordingly it is appropriate when measurement is based on discrete times covering fairly large intervals (such as years) and when the event of interest sometimes occurs for a substantial number of organizations at the same time, as in this study (Petersen 1991; Yamaguchi 1991). In virtually all cases the discrete-time model produces results that closely approximate those produced by continuous-time models (Allison 1984).

We employed the simplest form of model in the analyses of adding a specific professional program and of organizational death (both of which are nonrepeatable events). Estimating the hazard of adding *any* of the five professional programs and of enrollment

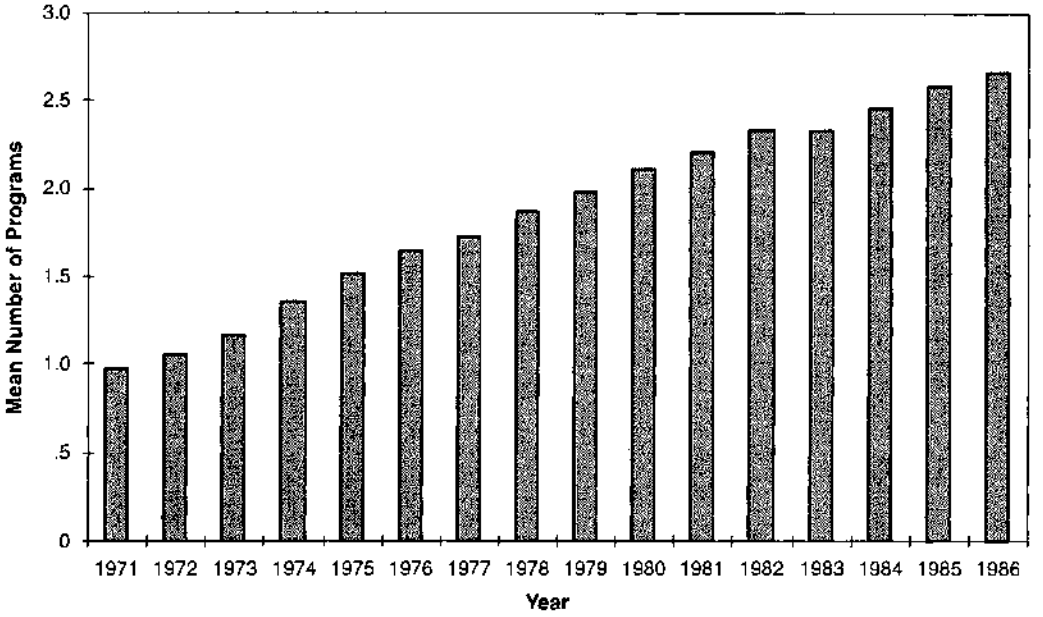

Figure 1. Mean Number of Professional Programs Offered, 1971 to 1986

Source: Astin et al. 1987

Note: For 1971, the mean number of programs was 1.00 (S.D. = .89). For 1986, the mean was 2.67 (S.D. = 1.57). The *t*-value for the difference between the means is 29.57 ($p < .001$, N = 566)

decline, both of which are repeatable events, required a more complex analytic strategy; in these cases we applied appropriate controls for nonindependence of observations (variables for "number of professional programs offered" and "added in last period"). We conducted these two sets of analyses (adding a *specific* professional program and adding *any* professional program) to provide evidence on overall change and on the specific components of that overall change. We discuss this issue again in the "results" section.

RESULTS

Hypothesis 1 states that liberal arts colleges, as a highly institutionalized organizational field with strong pressures for stability and conformity, would be unlikely to change in ways inconsistent with prevailing institutional constraints, such as professionalizing or vocationalizing the curriculum. The aggregate evidence does not support this hypothesis, however: 447 of the 566 liberal arts colleges that survived the 16-year period of study changed the number of professional programs they offered. Figure 1 shows that the mean number of professional programs offered by these colleges was .98 in 1971 but had climbed to 2.67 by 1986 ($t = 29.57$; $p < .001$). The modal number was 1 in 1971 and 3 in 1986. This indicates that despite the highly institutionalized setting a large number of organizations underwent substantial illegitimate changes during this period. This finding does not support the initial neoinstitutional hypothesis that change would be unlikely in a highly structurated field (Hypothesis 1).

Similarly, the findings do not support the neoinstitutional prediction regarding the relative insignificance of technical environmental forces in influencing organizational change in mature, well-defined organization fields (Hypothesis 2). Figure 2 indicates a clear relationship between consumers' preferences and the organizational changes described in Figure 1. The practices of the liberal arts college in each year vary directly with the consumers' preferences, as measured by stated life goals. Figure 2 illustrates that the time trend in students' preference for being financially well-off is correlated strongly and positively with the trend toward the

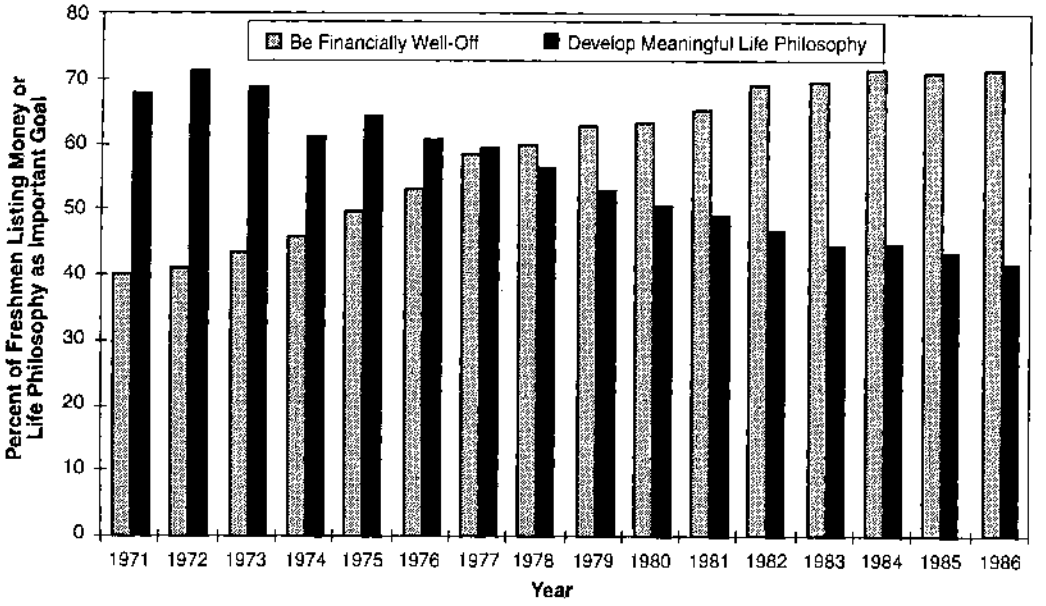

Figure 2. Trends in Students Preferences and Life Goals, 1971 to 1986

professionalization of the curricula in liberal arts colleges. In addition, students' desire to develop a meaningful philosophy of life appears to be correlated strongly and *negatively* with the time trend showing the increased professionalization of the liberal arts college curriculum. These results are inconsistent with Hypothesis 2; they suggest that even in this highly institutionalized field, technical environmental forces (here, consumers' preferences) play a substantial role in affecting organizational change.

Hypothesis 3 states that, given the strong institutional pressures facing liberal arts colleges, whatever organizational change occurs will tend to increase homogeneity. Figure 3, however, shows no evidence of the homogenization predicted by the neoinstitutional perspective. In fact, Figure 3, which captures the changes in the dispersion around the mean number of professional programs that the schools offered in each year, shows clearly that the dispersion of professional programs offered by liberal arts colleges has been *increasing*, rather than decreasing, over time. Figure 3 shows that this increased dispersion from 1971 to 1986 is also statistically significant: When the mean absolute deviations for 1971 are compared with those for 1986, the average organization is .64 away from the mean number of programs offered in 1971, as opposed to 1.33 away from the mean number of programs offered in 1986 ($t = 17.74$; $p < .001$). Thus, although this organizational field shows movement over time, it is toward *heterogeneity* rather than homogeneity (contrary to Hypothesis 3).[3]

Hypothesis 4 asks whether the changes made by liberal arts colleges are explained by the neoinstitutional prediction whereby lower-status colleges increasingly resemble the higher-status organizations in their field. We tested this hypothesis by examining whether the differences between the structures and practices of the most prestigious colleges and those of the rest of the field are diminishing over time. Figure 4 shows that, contrary to Hypothesis 4, the differences between the more prestigious and less prestigious colleges steadily *increased*, rather than decreased, over the years studied. The less prestigious colleges became increasingly more professionalized over these years, and

[3] To ensure that this finding was not sensitive to possible changes in organizational size over time, we also defined dispersion as the number of professional programs divided by organizational size. The results remain unchanged ($t = 12.21$ $p < .001$), showing increasing heterogeneity rather than homogeneity over time.

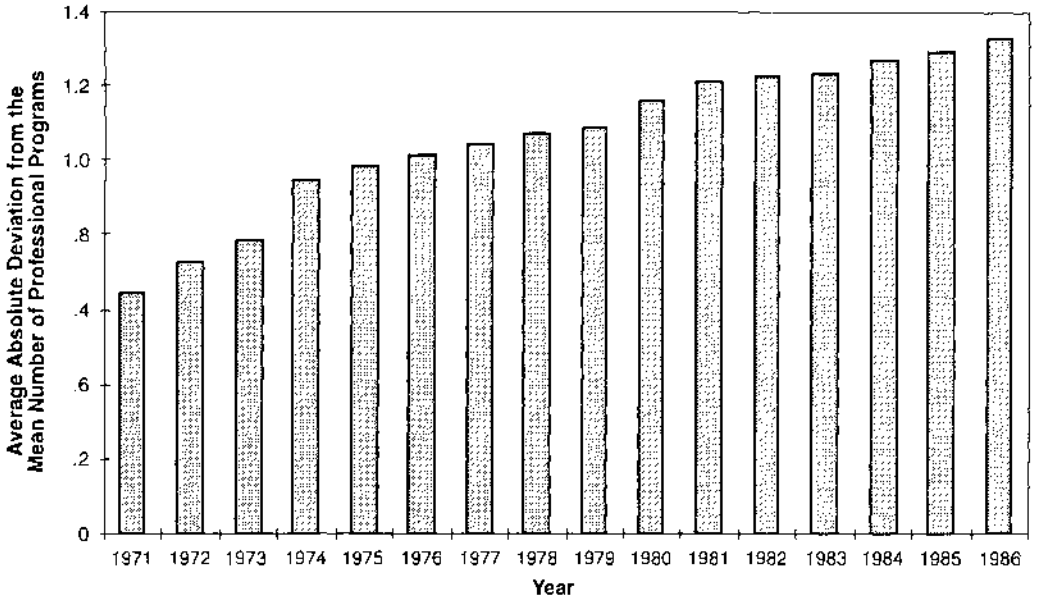

Figure 3. Away from Homogenity? Professional Program Variety in an Organizational Field

Note: For 1971, the average absolute deviation from the mean was .64 (S.D. = 61). For 1986, the average deviation was 1.33 (S.D. = .82). The *t*-value for the difference between the means is 17.74 ($p < .001$, N = 566).

more strongly so than the more prestigious colleges. Rather than observing colleges that increasingly resemble the more prestigious liberal arts colleges over time, we find a trend toward greater dissimilarity between the higher- and the lower-status colleges. The difference in the magnitude of change toward professionalization in these two groups of colleges from 1971 to 1986 is the critical statistic ($t = 6.92$; $p < .001$). To summarize then, the growing overall heterogeneity and a growing gap between higher-status and lower-status organizations suggest respectively the rejection of the neoinstitutional Hypothesis 3 and Hypothesis 4.

The discrete-time event-history analyses reported in Table 1 allow for a more direct inferential test of Hypothesis 2 (whether technical forces affect change in a highly institutionalized field) and Hypothesis 5, which refers to the differences in local environmental conditions. The most relevant results are displayed in the first column of Table 1, because they address the hypotheses most directly. The first column addresses the addition of *any* of the five possible professional programs, while each of the other five columns provides additional information on the addition of a specific program; thus we provide evidence on overall change and its specific components. For example, the first column in Table 1 ("Any Professional Program") shows that the percentage of part-time students (a proxy for students' preference for career and professionally oriented programs) was a significant predictor of adding professional programs: Schools with a greater proportion of part-time students in a given period were more likely to subsequently add programs. This finding is inconsistent with the neoinstitutional deemphasis of technical environments in highly institutionalized fields (Hypothesis 2), but quite consistent with a traditional adaptation perspective, which emphasizes factors such as consumers' preferences.

The statistical significance of the measures of local variation shown in the first column in Table 1 does not support the neoinstitutional prediction regarding the insignificant role of differences in local environmental conditions (Hypothesis 5). For example, as a college's dependence on in-state students increases, so does its likelihood of adding a professional program. Although this finding is inconsistent with Hypothesis 5, which ar-

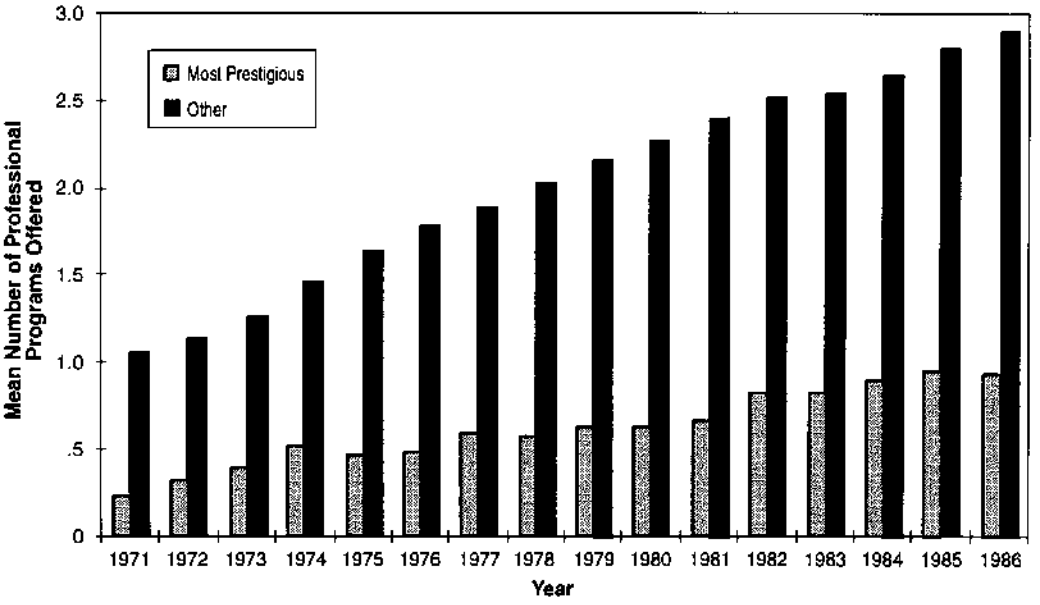

Figure 4. Mean Number of Professional Programs Offered; Most Prestigious Colleges versus Other Colleges, 1971 to 1986

Note: For prestigious colleges, the mean number of programs added between 1971 and 1986 was .68 (S.D. = 1.15); for other colleges, the mean number added was 1.80 (S.D. = 1.32) The *t*-value for the difference between the means was 6.92 ($p < .001$; N(prestigious) = 60, N(other) = 506).

gues that local situational variables will be overridden by macro-institutional factors, it is consistent with a traditional adaptation perspective: Faced with a relative inability to attract students from the national population, a school is more sensitive to changing technical environmental conditions (and thus is more likely to adapt). Similarly, schools with a religious affiliation were also significantly more likely to add a professional program, in keeping with a traditional adaptation argument that such restrictions on the pool of potential students will make such schools more sensitive to the technical environmental pressures for change.

Furthermore, schools that rely more heavily on tuition as a source of revenue were more likely to add programs. Again, this finding is inconsistent with an institutional deemphasis on local environmental conditions (Hypothesis 5), and more consistent with the adaptation perspective (Thompson 1967), whereby an organization depends on the "customer" element in its technical environment. Finally, two of the three regional variables capturing local environmental differences are also statistically significant, as a traditional adaptation perspective would suggest (only the rural variable was not significant). Schools in more financially disadvantaged states—that is those with lower per capita income, were more likely to change, as were colleges with lower local school enrollments. Taken together, these results are quite inconsistent with the notion of the new institutionalism that, in a highly institutionalized field, organizational change will not be sensitive to local environmental differences (Hypothesis 5).

Tables 2 and 3 display a test of Hypothesis 6, which refers to the performance implications of institutionally illegitimate organizational change. Table 2 shows the effect of such a legitimacy-reducing change (i.e., professionalization) on enrollment decline, a widely accepted measure of poor organizational health among colleges (Collier and Patrick 1978). The results are inconsistent with the institutionally based Hypothesis 6: Specifically, they show no harmful performance effects of illegitimate organizational change. In fact, Model 1 in Table 2 shows

Table 1. Discrete-Time Event-History Analysis Showing Antecedents of Adding Professional Programs: American Liberal Arts Colleges, 1971 to 1986

Independent Variable	Any Professional Program	Business	Communications	Public Affairs	Health Fields	Computer Science
Percent part-time students[a]	.174^{+++} (.046)	.397^{+++} (.118)	.093 (.086)	.331^{+++} (.097)	.374^{+++} (.107)	.196^{++} (.079)
Tuition revenue/ total revenue	.555^{+} (.315)	2.429^{+++} (.800)	.245 (.652)	1.082^{+} (.642)	1.251^{+} (.711)	−.232 (.604)
Percent in-state students[a]	.314^{++} (.084)	1.118^{+++} (.247)	.498^{++} (.181)	.132 (.154)	.156 (.189)	.384^{++} (.147)
Religious affiliation	.241^{++} (.089)	−.104 (.252)	.518^{++} (.184)	.297^{+} (.178)	.569^{++} (.214)	.310^{+} (.150)
Rural	−.032 (.138)	−.164 (.354)	−.211 (.270)	.510^{+} (.304)	.252 (.326)	.057 (.253)
Local school enrollment[a]	−.052^{+} (.026)	−.136^{+} (.080)	−.034 (.051)	−.202^{+++} (.053)	−.103^{+} (.063)	−.136^{++} (.042)
Per capita income in state	$-.822^{-4++}$ ($.343^{-4}$)	$-.427^{-3+++}$ ($.118^{-3}$)	$-.646^{-5}$ ($.649^{-4}$)	$-.206^{-3+++}$ ($.666^{-4}$)	$-.161^{-3+}$ ($.816^{-4}$)	$.356^{-4}$ ($.596^{-4}$)
Age	$-.960^{-3}$ ($.110^{-2}$)	$-.475^{-2}$ ($.303^{-2}$)	$-.623^{-3}$ ($.219^{-2}$)	$-.283^{-2}$ ($.218^{-2}$)	$-.299^{-3}$ ($.284^{-2}$)	$-.359^{-2}$ ($.195^{-2}$)
Size[a]	.384*** (.072)	.459** (.176)	.536*** (.144)	.431** (.143)	.528*** (.167)	1.133*** (.133)
Endowment/ FTE enrollment[a]	−.026 (.018)	−.093* (.041)	$-.771^{-3}$ (.037)	−.056 (.036)	−.065 (.042)	.036 (.037)
Local density	−.018 (.022)	−.059 (.061)	−.035 (.051)	.034 (.047)	.041 (.052)	$.138^{-2}$ (.038)
Number adopters in population	$-.405^{-2}$ ($.269^{-2}$)	$-.319^{-2}$ ($.329^{-2}$)	$-.254^{-2}$ ($.161^{-2}$)	$-.453^{-2**}$ ($.162^{-2}$)	$-.137^{-2}$ ($.449^{-2}$)	$.011^{***}$ ($.771^{-3}$)
Added business concurrently	—	—	.768* (.367)	$.129^{-2}$ (.480)	.777 (.431)	−1.324 (1.021)
Added communications concurrently	—	1.565*** (.479)	—	.239 (.352)	.513 (.397)	.335 (.317)
Added public affairs concurrently	—	.981 (.590)	.310 (.345)	—	.507 (.393)	.640* (.317)
Added health fields concurrently	—	.883 (.515)	.479 (.387)	.326 (.396)	—	.249 (.475)
Added computer science concurrently	—	.138 (.999)	.671* (.324)	.721* (.329)	.007 (.478)	—
Prior number of programs	−.220*** (.034)	—	—	—	—	—
Added program in last period	−.097 (.112)	—	—	—	—	—
Constant	−2.533 (1.397)	−3.708 (2.282)	−8.358*** (1.304)	−2.209 (1.181)	−4.841** (1.721)	−12.154*** (1.169)
Organization-years	6,745	1,486	3,863	3,440	2,937	5,320
Chi-square	110.36***	126.47***	63.94***	92.64***	73.20***	332.63***

Note: Negative superscripts indicate the number of places the decimal point should be shifted to the left (e.g., $.129^{-2} = .129 \times 10^{-2} = .00129$). Numbers in parentheses are standard errors.

[a] Variable has been log-transformed.

$^{+}p < .05$ $^{++}p < .01$ $^{+++}p < .001$ (one-tailed tests)

$^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$ (two-tailed tests)

Table 2. Discrete-Time Event-History Analysis Showing Effects of Adding Professional Programs on Hazard of Enrollment Decline: American Liberal Arts Colleges, 1971 to 1986

Independent Variable	Model 1	Model 2
Added any professional program	$-.286^{+++}$	—
		(.080)
Added business	—	$-.410^{+}$
		(.209)
Added communications	—	$-.182$
		(.149)
Added public affairs	—	$-.269^{+}$
		(.150)
Added health fields	—	$-.019$
		(.183)
Added computer science	—	$-.361^{++}$
		(.146)
Percent part-time students[a]	$-.020$	$-.022$
	(.034)	(.034)
Tuition revenue/total revenue	$-.645^{**}$	$-.664^{**}$
	(.227)	(.227)
Percent in-state students[a]	$-.118^{*}$	$-.123^{*}$
	(.057)	(.057)
Religious affiliation	$-.076$	$-.073$
	(.063)	(.063)
Rural	.179	.201
	(.104)	(.101)
Local school enrollment[a]	$-.037^{*}$	$-.037^{*}$
	(.018)	(.019)
Per capita income in state	$.330^{-4}$	$-.353^{-4}$
	$(.261^{-4})$	$(.261^{-4})$
Age	$.170^{-2*}$	$.166^{-2*}$
	$(.826^{-3})$	$(.824^{-3})$
Size[a]	$-.116^{**}$	$-.117^{**}$
	(.045)	(.044)
Endowment/ FTE enrollment[a]	$-.019$	$-.019$
	(.014)	(.014)
Local density	$.879^{-2}$	$.826^{-2}$
	(.016)	(.054)
Number adopters in population	$.014^{***}$	$.015^{***}$
	(.002)	(.002)
Constant	-5.347^{***}	-5.472^{**}
	(1.092)	(1.103)
Organization-years	5,619	5,619
Chi-square	115.72^{***}	120.20^{***}

Note: Negative superscripts indicate the number of places the decimal point should be shifted to the left (e.g., $.129^{-2} = .129 \times 10^{-2} = .00129$). Numbers in parentheses are standard errors.

[a] Indicates that variable has been log-transformed.

$^{+}p < .05$ $^{++}p < .01$ $^{+++}p < .001$ (one-tailed tests)

$^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$ (two-tailed tests)

that adding any professional programs had a significant *negative* effect on enrollment decline in the subsequent period.[4] Model 2 in Table 2 shows that this overall result also holds for 3 of the 5 individual professional programs examined.

In Table 3 we examine the performance effects of adding professional programs using organizational death, another, more severe discrete performance indicator. Both Model 1 and Model 3, which estimate the effect of adding *any* of the professional programs (after one and two years, respectively), show results that again are inconsistent with Hypothesis 6: The risk of organizational death does not increase after making an illegitimate organization change.[5] Models 1 and 3 do not appear to show an actual decrease in the risk of organizational death. However, Models 2 and 4, which decompose the overall results by considering separately the effect of adding specific professional programs, merit additional discussion. In four of five instances with a one-year lag (Model 2) and in one of five instances with a two-year lag (Model 4), the absence of *any* organizational deaths follows the addition of a specific professional program addition prevented estimation of a hazard rate for that particular change (this is noted in Table 3 by $^{\#\#\#\#}$). In other words, the $^{\#}$ signs in Models 2 and 4 indicate that none of the organizations that added these particular programs failed in the subsequent period (one year in Model 2 and two years in Model 4) and thus that it was impossible to estimate

[4] We found very similar results at alternative specifications of decline (e.g., 2-percent and 5-percent decline thresholds). Also, it is not definitionally true that adding programs will enable a college to avoid enrollment decline. To use an analogy, if General Motors offers more models for sale, this does not imply that they will sell more cars.

[5] We also find no increased risk of mortality when estimating the effect of professional program addition on organizational mortality in later years ($t + 3$ to $t + 10$). In addition, the general result is not a function of the absence of events: Models 1 and 3 of Table 4 indicate a nontrivial number of organization deaths (28 and 26 respectively) during this period. Recent higher education research suggests that the number of deaths has been smaller than expected, in part because of the adaptive changes made by liberal arts colleges (St. John 1991).

Table 3. Discrete-Time Event-History Analysis Showing Effect of Adding Professional Programs on Risk of Organizational Death: American Liberal Arts Colleges, 1971 to 1986

	1 Year Later		2 Years Later	
Independent Variable	Model 1	Model 2	Model 3	Model 4
Added any professional program	−.968 (1.031)	—	.557 (.510)	—
Added business		####	—	####
Added communications	—	####	.414 (1.033)	—
Added public affairs	—	.388 (1.033)	—	.104 (1.104)
Added health fields	—	####	—	1.427+ (.767)
Added computer science	—	####	—	.397 (1.048)
Percent part-time students[a]	.119 (.238)	.100 (.203)	.171 (.201)	.124 (.188)
Tuition revenue/total revenue	.902 (1.392)	.308 (1.225)	−.009 (1.247)	−.477 (1.203)
Percent in-state students[a]	−.193 (.367)	−.273 (.325)	−.211 (.335)	−.186 (.324)
Religious affiliation	−.879 (.460)	−.723 (.420)	−1.105+ (.410)	−.977+ (.399)
Rural	.501 (.628)	1.202+ (.608)	.735 (.567)	1.178+ (.572)
Local school enrollment[a]	.016 (.143)	.126 (.019)	.131 (.131)	.142 (.124)
Per capita income in state	$-.261^{-3}$ $(.199^{-3})$	$-.143^{-3}$ $(.178^{-3})$	$-.263^{-3*}$ $(.175^{-3})$	$-.132^{-3}$ $(.173^{-3})$
Age	−.008 (.007)	−.009 (.007)	−.007 (.006)	−.009 (.006)
Size[a]	−1.073+++ (.261)	−1.200+++ (.197)	−1.129+++ (.250)	−1.177+++ (.228)
Endowment/FTE enrollment[a]	−.090 (.075)	−.093 (.064)	−.116+ (.064)	−.135+ (.060)
Local density	.007 (.110)	−.053 (.103)	−.041 (.098)	−.062 (.096)
Number adopters in population	.015 (.015)	.005 (.014)	−.005 (.013)	−.005 (.013)
Constant	−1.492 (7.957)	2.509 (6.979)	8.383 (6.644)	7.534 (6.531)
Organization-years	6,759	6,834	6,736	6,805
Chi-square	32.81**	49.99***	46.83***	63.53***

Note: Negative superscripts indicate the number of places the decimal point should be shifted to the left (e.g., $.129^{-2} = .129 \times 10^{-2} = .00129$). Numbers in parentheses are standard errors.

[a] Variable has been log-transformed.

Coefficient could not be estimated.

$^{+}p < .05$ $^{++}p < .01$ $^{+++}p < .001$ (one-tailed tests)

$^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$ (two-tailed tests)

Table 4. Discrete-Time Event-History Analysis Showing Antecedents of Adding Professional Programs in Earlier and Later Periods: American Liberal Arts Colleges, 1971 to 1986

Independent Variable	Coefficient	(S. E.)
Percent part-time students × later period	−.094	(.087)
Percent revenue from tuition × later period	−1.193^{+}	(.584)
Percent in-state students × later period	.098	(.167)
Religious affiliation × later period	−.189	(.169)
Rural × later period	−.191	(.249)
Local school enrollment × later period	$-.571^{-2}$	(.043)
Per capita income in state × later period	$.620^{-4}$	($.684^{-4}$)
Later period	−.106	(.848)
Percent part-time students[a]	.222***	(.062)
Tuition revenue/total revenue	1.021**	(.389)
Percent in-state students[a]	.273**	(.112)
Religious affiliation	.322**	(.120)
Rural	.051	(.186)
Local school enrollment[a]	−.047	(.033)
Per capita income in state	$-.111^{-3}$	($.473^{-4}$)
Age	$-.968^{-3}$	($.111^{-2}$)
Size[a]	.391***	(.073)
Endowment/FTE enrollment[a]	−.027	(.018)
Local density	−.018	(.023)
Number adopters in population	$-.361^{-2}$	($.401^{-2}$)
Prior number of programs	−.213***	(.034)
Added program in last period	−.112	(.113)
Constant	−2.744	(1.998)
Organization-years	6,745	
Chi-square	118.86***	

Note: Negative superscripts indicate the number of places the decimal point should be shifted to the left (e.g., $.129^{-2} = .129 \times 10^{-2} = .00129$). Numbers in parentheses are standard errors.

[a] Indicates that variable has been log-transformed.

$^{+}p < .05$ $^{++}p < .01$ $^{+++}p < .001$ (one-tailed tests)

$^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$ (two-tailed tests)

these coefficients. The exceedingly low mortality rate following the addition of these professional programs suggests that such changes in fact often enhanced survival. Thus the analyses for both performance outcomes indicate no support for the neoinstitutional Hypothesis 6, which proposes that adopting illegitimate changes threatens organizational health and survival. On the contrary, the results suggest that even institutionally illegitimate changes—when consistent with technical environmental demands—can enhance organizational performance.

In Table 4 we address whether technical environmental factors predict the adoption of professional programs for earlier, but not later, adopters of such programs (Hypothesis 7). Using interaction terms to capture possible differences in the relationship between our seven technical variables and program adoption in the early and the late period, Table 4 shows very little support for Hypothesis 7; only one of the seven interaction terms emerges as significant.[6] In addition, a chi-square test for increase in fit suggests that adding the seven interaction terms does not significantly improve the fit of the model. Thus we found little support for the notion that the relationship of technical variables to program adoption differs between the early and the late period.

DISCUSSION

We have examined several fundamental propositions from the new institutionalism perspective. We formulated and tested corresponding hypotheses using data on U.S. liberal arts colleges, a mature, well-defined, highly structurated organizational field that faces very strong institutional pressures and increasingly strong technical pressures. Our intent was to explore the possible limits of the new institutionalism by examining the

[6] Given possible multicollinearity among these interaction terms, we also estimated separate models for each term, but found no additional evidence supporting early versus late differences. In addition, we estimated these interaction effects using a continuous measure of time rather than the early/late indicator variable, and obtained similar results. Again this finding suggests that the effect of technical variables on adoption did not vary significantly as a function of time.

robustness of its applicability in this setting. Powell (1991), in a discussion of "expanding the scope of institutional analysis," suggested that to create "a robust institutionalism" there is a need for "large-scale, longitudinal studies that explore the staying power of institutional arrangements" (p. 201). In our large-scale longitudinal study we found that institutional arrangements may not always have the staying power that previously was assumed. The most prominent, most surprising conclusion is that across seven different tests of hypotheses, the neoinstitutional perspective consistently was unable to account for the observed organizational behavior and performance in this empirical context.

First, technical environments appeared to impel a great many educational organizations to make significant, legitimacy-decreasing changes in their fundamental structure and policy. In addition, the organizational changes observed could not be explained as resulting from processes of institutional isomorphism. Rather than becoming more homogeneous over time, we observed a significant *increase* in heterogeneity. Furthermore, most colleges did not imitate the highest-status colleges of their field, but rather became increasingly dissimilar to these colleges, thus contributing to the significant decrease in the homogeneity of the field. Also, contrary to neoinstitutional contention but in keeping with a traditional adaption perspective, local technical environmental factors significantly predicted the major changes that the colleges undertook. Finally, and again contrary to neoinstitutional predictions, the institutionally illegitimate (but technically adaptive) changes we observed had no negative implications—and often had positive implications—for organizational survival and health.

These results are somewhat striking for at least three reasons. First, even though each of the seven hypotheses is conceptually distinct and was tested separately, the results are surprisingly uniform in their lack of support for neoinstitutional predictions. Thus our results and their implications do not hinge on any single assumption, hypothesis, operationalization, or method of analysis.

Second, although neoinstitutional theorists have long used educational and other nonprofit organizations as classic examples of organizations facing strong institutional pressures, our results do not support this view, at least in the case of nonprofit liberal arts colleges. Even though the education sector has been scrutinized by many neoinstitutionalists (Davis and Powell 1992), this scrutiny generally has not involved large-scale longitudinal quantitative studies; nor has it been directed at identifying situations involving both strong institutional and strong technical pressures. Evidence for the constraint of institutional forces may seem clear when technical environmental forces are minimal, but this point would not represent a strong test of the institutional perspective; nor could it be considered a basis for the rejecting more traditional adaptation-based theories in organizational sociology.

Third, the addition of professional programs cannot be interpreted as evidence of symbolic changes in which adoption is decoupled from actual implementation (Meyer and Rowan 1977; Westphal and Zajac 1994). The professionalization of the curriculum of liberal arts colleges documented here resulted in massive changes in resource allocation and shifts in the composition of the kinds of degrees granted. Our data show that by 1986, 38 percent of all degrees granted by liberal arts colleges were professional degrees, compared to 11 percent in 1971. In addition, this core change was difficult and controversial for these organizations because of its institutional illegitimacy and its implications for allocation of internal resources. Therefore the addition of professional programs shown here could hardly be described as mythical or ritualistic actions undertaken lightly to appease institutional forces. Indeed, as discussed earlier, such core changes were (and largely still are) *antithetical* to the established institutional order confronting liberal arts colleges (Crimmel 1993); they certainly were not motivated by a "legitimacy imperative." Quite the contrary, these changes were largely illegitimate in terms of liberal arts colleges' traditional missions.

Note also how our results compare and contrast with Brint and Karabel's (1991) qualitative study of community colleges. Although we share their concern about the new institutionalism's neglect of issues relating to organizational change (which they call "gaps in the new institutional theory" [p. 343]), our

empirical context is quite different. Brint and Karabel described how powerful institutional actors and organizational leaders mobilized support for educational changes that were not influenced by technical environmental forces. We analyzed how, why, and with what consequences organizations facing strong institutional and technical environments changed in institutionally illegitimate but technically desirable ways. Our study suggests that maintaining or establishing legitimacy should be viewed as only one of several possible paths toward organizational viability, and that alignment with global and local technical environments (even at the risk of institutional illegitimacy) represents an alternative path that provides an escape from the "iron cage" of a strong institutional environment.

We also considered whether our surprisingly nonsupportive results for neoinstitutional predictions might somehow be sensitive to the definition of an organizational field. For example, are our more prestigious and less prestigious liberal arts colleges in the same organizational field? Theoretically the presence of status differences, such as those observable in our sample of organizations, is quite consistent with the notion of a single, mature, institutionalized organizational field. In fact, as stated earlier, DiMaggio and Powell (1983) claim that mature organizational fields typically have "stable and broadly acknowledged centers, peripheries, and status orders" and therefore that they "will be more homogeneous" (p. 156). Because of the considerable similarities in social identity shared by all schools in this sample, it is also hard to argue that these organizations were not in the same organizational field. (Indeed, our focus on nonprofit, private liberal arts colleges, rather than on all types of higher education organizations, reflects a conservative definition of an organizational field.)[7] Nonetheless we examined this issue empirically by dividing our sample into more prestigious and less prestigious subsamples and performing our analyses separately for each. *For both subsamples*, we found evidence of (1) a clear increase in the mean number of professional programs over time and (2) a clear increase in standard deviations over time. This result provides further evidence of the increasing changes and heterogeneity, rather than inertia and homogeneity.[8]

The final hypothesis relating to institutional diffusion (Hypothesis 7) does not fare much better than the six preceding hypotheses. As noted earlier, technical variables were generally significant predictors of the adoption of professional programs, and this relationship generally did not differ significantly for early and late periods. This finding is not consistent with Tolbert and Zucker (1983) or with subsequent studies that showed differences between early and late adoption patterns. Several issues merit discussion, however, before we interpret this empirical result further.

First, we purposely chose a mature, well-defined, highly institutionalized organizational field for our study. In contrast, the Tolbert/Zucker model stresses how, in a *newly forming organizational field*, technical environmental forces will be overshadowed over time by institutional forces, which will lead organizations toward isomorphism. It is less explicit as to when or why a diffusion process will begin or end in an already highly institutionalized field. In fact, Friedland and Alford (1991:244) have suggested that neoinstitutionalists "do not have the theoretical tools" to address such issues, and propose an interpretative institutionalism to address this shortcoming. In contrast, our approach and findings suggest that simply rediscovering the role of technical environmental factors can lead to a more appropriate model of the diffusion of organizational innovations (Oliver 1992).

Second, it is not clear what one can conclude from an institutional analysis of early versus late adoption and diffusion of organizational practices when the diffusion leads to greater *heterogeneity* of organizations, rather than greater homogeneity. In prior analyses it was presumed that change in the later pe-

[7] Organizational fields sometimes are defined much more broadly — for example, by Fligstein's (1991) use of two-digit SIC codes. Such an approach, although appropriate for that research, would be much too imprecise for this study.

[8] Figure 2 showed that elite schools also changed over time; the rate simply was not at as high as for nonelite schools.

riod was impelled by institutional forces and led to increased homogeneity, in agreement with institutional isomorphism accounts. As stated above, Tolbert and Zucker (1983) stress how, in a newly-forming organizational field, institutional forces will overshadow technical environmental forces over time, leading to convergence. This presumption of ultimate homogeneity is also found in Leblibici et al.'s (1991) prediction regarding fringe organizations and early adoption. Leblibici et al. (1991) emphasize how, in an already existing organizational field, the success of early (mostly fringe) innovators will cause dominant organizations to adopt, thus leading to convergence.

Rather than accepting the assumption that an organizational innovation is ultimately followed by convergence, we suggest another possibility: Organizational innovations may diffuse by beginning with a period of emergence, followed by *divergence*. We also suggest two theoretical mechanisms to explain such an evolution.

First, it is possible that some innovations (e.g., the professionalization of liberal arts colleges) become popular in terms of number of adopters, but never become institutionally legitimated. In support of this view, the quantitative variable measuring adopter density in our study was not related positively to change, that is, there appear to be no institutional "bandwagon effects" leading to convergence. Rather, our study suggests that institutional pressures governing the field remained strong (i.e., no "deinstitutionalization" occurred), but many organizations simply disregarded institutional pressures, and responded instead to technical pressures. Although successful adaptation to technical environmental pressures by making illegitimate changes is contrary to neoinstitutional predictions, we do not mean to suggest that organizations are wholly unconcerned about legitimacy. In fact, neoinstitutionalism may be valuable in explaining how organizations develop socially acceptable accounts to justify actions of questionable institutional legitimacy (Kraatz and Szyliowicz 1996; Zajac and Westphal 1995).

Second, the emergence of the organizational innovation (i.e., the adoption of professional programs) may be motivated by global technical environmental changes, whereas the divergence may be due to local technical variables; that is, organizations may tailor their responses to varying local technical demands (Zajac and Kraatz 1993). This interpretation is consistent with Thompson's (1967) adaptation framework and suggests that future neoinstitutional research should consider more seriously how global and local technical environmental factors may affect both the assumptions and the composition of institutional diffusion models.

Although our findings clearly are not consistent with the new institutionalism, one can interpret them as at least partly supporting the "old institutionalism" of Selznick and his students (Clark 1972; Selznick 1948). Neoinstitutionalists (DiMaggio and Powell 1991:13) have drawn sharp contrasts between the old and the new institutionalism. Selznick's institutionalism emphasized organizational adaptation, change, and uniqueness; neoinstitutionalists emphasize inertia, persistence, and conformity. In this important respect, the old institutionalism thus can be viewed as closer theoretically to traditional adaptation theories in the organization theory literature (Pfeffer and Salancik 1978; Thompson 1967). DiMaggio and Powell (1991) suggest that neoinstitutionalists currently are engaged in an "attempt to come to terms with competition and efficiency," and that "typical of this effort is the rapprochement between institutionalism and the population ecology approach" (p. 32). Our findings, which also run counter to the ecological prediction that change increases illegitimacy and hence raises death rates, suggest that this rapprochement should be extended to include not only selection models but also the traditional adaptation models in organizational sociology that the new institutionalism—and population ecology—have chosen to eschew.

Neoinstitutionalists then are challenged to incorporate elements from alternative perspectives of organizational sociology while maintaining a core set of logically consistent beliefs that distinguish it from other perspectives. This clouding of ideas led Davis and Powell (1992:359) to wave "caution flags" for researchers seeking to interpret diverse work that claims to incorporate neoinstitutional theory. Another alternative, of course, would be for neoinstitutionalists to explicitly acknowledge the limitations of existing argu-

ments and/or limitations in the applicability of those arguments.

We do not interpret our findings as evidence favoring the replacement of more strongly sociological views of organizational behavior with less sociological or more economic views. Rather, we view our results as suggesting that reports of the decline and death of traditional adaptation- based explanations in organizational sociology may be greatly exaggerated. When neoinstitutionalism first emerged, organization theory viewed almost all organizational change as technically adaptive, and the identification of small institutional effects generated theoretical progress (Scott 1991:165). Now that neoinstitutionalism is broadly accepted, however, the pendulum should swing back, with greater emphasis being placed on the fact that organizations do change in technically adaptive—and even institutionally illegitimate—ways, and that the diffusion and outcomes of such changes may be quite different from what neoinstitutionalists have imagined. Otherwise the benefits in identity that neoinstitutionalists have gained by distancing themselves from the substantial body of organizational research inspired by the views of Weber, Selznick, and Thompson on organization-environment relations could be outweighed by the burden of maintaining a theoretically and empirically unsatisfying approach to understanding organizational change.

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