



Rome Wasn't Built in a Day: Reply to Denk

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Freeman 1977, 1984) and may eventually be the point at which the two perspectives mesh.

In summary, a greater appreciation of the heterogeneous nature of institutionally mandated change is necessary to counteract the recent tendency to overemphasize the efficiency and autonomy of state and professional initiatives—the most modern *deus ex machina*. In recent history, both forces have had profound, but not unlimited, effects on economic and social organization. The nature of those limits and their consequences should be the central concern of new research.

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ROME WASN'T BUILT IN A DAY: REPLY TO DENK¹

We are delighted that our article prompted Denk to pursue the issues discussed in his comment. We will explain briefly the reasons for our belief that the diffusion models he discusses cannot be meaningfully applied to the data that were available to us. We also wish to amplify our intended story line slightly.

Denk is correct in suggesting that our paper does not develop or test a

¹ The authors thank Glenn Carroll, Mark Granovetter, John Meyer, and Jeffrey Pfeffer for very helpful comments.

detailed theory of the diffusion process. There are at least five key reasons for that. First, lacking organization-level data, we cannot assess how the pace of institutionally mandated change may depend on "internal imperatives" without assuming that such imperatives are identical for all firms in a given industry, which we were unwilling to do.

Second, we lack the data needed to specify the sources of heterogeneous diffusion that may operate at the firm level, without which it is hard to know how to evaluate Denk's results and arguments. Many of his assertions about various diffusion models depend vitally on the nature of the "heterogeneity" involved. Denk regards differences in initial levels of adoption across industries as evidence of unobserved heterogeneity in the spread of modern personnel innovations among industries. However, unobserved heterogeneity need not be due principally to internal organizational imperatives, as Denk's exposition implies. Differences in institutional and environmental pressures are likely to be somewhat stable over time, which may account for observed differences in personnel practices across industries at the beginning of the interval we studied. Moreover, differences in initial levels of adoption across industries are consistent with many models of diffusion, including a single-source model in which industries differ in their receptivity to the "broadcasted message." In short, distinguishing among different statistical models of diffusion and trying to identify technical versus institutional sources of heterogeneous diffusion will be very difficult in this instance, particularly without firm-level observations across many time points or comparative data regarding the effects of particular institutional influences (e.g., state intervention during wars) across diverse settings.

Third, a complete model of the diffusion process that relied on these industry-level data would involve an unacceptably large number of variables relative to cases. Our review of the historical literature indicates that the development and diffusion of modern personnel practices depended on a complex set of factors that cannot be unraveled precisely with this small industry-level sample. A partial list includes: the race, sex, ethnic, occupational, and class composition of the work force (see Jacoby 1986); organizational scale, structure, technology, and skills; the era of industry (and firm) founding; union activity and labor unrest; labor scarcity and turnover; the formal associations and informal networks to which owners and managers belonged (see Jacoby 1985); the extent to which an industry was regionally concentrated; and the extent of scrutiny by the state.²

² Indeed, we gathered historical data on many of these characteristics of industries, originally intending to develop and estimate models predicting industry differences in the rate at which specific personnel practices were adopted.

Fourth, the picture is even more complicated because these variables have frequently interacted in shaping employment systems. For instance, in some settings labor scarcity and turnover among skilled workers led employers to implement bureaucratic controls aimed at developing long-term employment, while in other settings employers responded by deskilling jobs to make workers more easily replaceable. Which strategy was adopted has partly depended on the race, sex, and ethnic composition of the work force (Aronowitz 1973, chap. 3; Edwards 1979, chap. 9; Gordon, Edwards, and Reich 1982, chap. 5). We could not do justice to these complex interactions with the available data, so we focused on the few causal forces that seemed most theoretically and empirically significant.³ If Denk is suggesting that there is a lot more to the story, we agree.

Fifth, some aspects of Denk's heterogeneous-intensity model seem inappropriate in the present context. Specifically, his model assumes that the likelihood of firms in an industry adopting a specific practice depends on the proportion of other firms within that industry having already done so. The model thus implies that the relevant reference group for organizations in structuring their employment systems is other organizations in the same industry. That claim contradicts the theoretical literature on institutionalization (e.g., DiMaggio and Powell 1983), as well as the historical record concerning the spread of modern personnel practices (e.g., Jacoby 1985). Moreover, some institutional theorists have argued that industrial sectors have themselves become more reified and institutionalized over time (Scott and Meyer 1983); if so, then the extent to which "industry" demarcates the relevant population within which diffusion is occurring may itself vary across historical periods.

In sum, Denk correctly underscores the need for analysts to be explicit about the organizational diffusion processes of interest. However, for the reasons noted above, the kinds of results reported in his comment are unlikely to cast much light on the substantive issues of interest in our article.

Denk may also have misconstrued our argument somewhat. He seems to read us as suggesting that modern personnel practices followed a single-source diffusion process. However, as his comment acknowledges, we discussed multiple origins of these innovations and numerous factors (e.g., unionization, industry age, and the impact of World War II) that imply heterogeneity in the process by which technical and bureaucratic controls over workers diffused within and across industries. Denk also states that technical factors are crucial, not only because they directly

³ A sequel to our AJS paper (Baron et al., in press) provides more detailed analyses of how and why industries differed in the adoption of modern technical and bureaucratic controls.

affect organizational practices but also because they mediate or condition, at least in the short run, "rates of institutionally mandated change." He implies that we disagree with this assertion, yet we sought to make precisely that point. We argued, for instance, that organizational size and turnover may be associated with the adoption of modern bureaucratic controls partly because large firms and those with the high turnover experienced greater state scrutiny during World War II and greater leeway for personnel specialists to implement their profession's vision of the modern employment system.

In conclusion, we wish to reiterate the main message of our article. Past work on organizations and the employment relationship has focused disproportionately on firm-level considerations—such as the size and structure of the enterprise, skills, turnover levels, and technology—that are seen as affecting the costs and benefits of adopting various personnel practices. We emphasized that employment arrangements are also shaped by institutional forces that transcend organizational boundaries and can serve as powerful homogenizing influences on organizations. Our article was intended to correct the preoccupation with internal considerations in previous work—not as a hegemonic "institutionalist" statement that leaves little or no room for those considerations.

Understanding the interplay between organizational and institutional forces in the evolution of administrative structures, including employment systems, should be a major priority for future research. Given the theoretical, methodological, and data requirements of such a research agenda, however, it will not be an easy task, as our paper and Denk's comment demonstrate.

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