Soviet life. Like Gustafson, she calls attention to the need to differentiate between attributes of large organizations and the special features of Soviet institutions.

Loren Graham's superb concluding paper is both a summary of the comparative issues and a presentation of important research on the highly pertinent topic of attitudes toward genetic engineering. Graham indicates ways in which the other studies contribute to an understanding of "the Soviet Union, the nature of science, and the common problems of industrialized nations." He then goes on to expand our knowledge of all three subjects. Genetic engineering raises some of the most complex moral issues confronting scientists today, and an examination of how these issues have been handled in another society may help us to develop our own approaches as well as to understand the other society.

Highly speculative discussions of genetic engineering began in the Soviet Union in the late 1960's. The nature of these discussions changed as the field developed, and especially after a Soviet delegation attended the 1975 Asilomar conference. While major attention in the United States was focused on unintended dangers that might result from genetic research, Soviet scientists stressed the threat of "careless or ill-intentioned individuals." Graham rightly attributes this difference to Soviet biologists' fears of political controls after the experience of Lysenko. Their delicate balance between the Marxist "philosophical interpretation of science" and the objective "evaluation of science itself" by scientists is jeopardized by questions about who should determine the parameters of permissible scientific research. The Soviet debate over genetic engineering is fascinating in itself, but Graham also directs our attention to larger issues. These include Soviet scientists' particular difficulty with the relationship between scientific knowledge and social values; the undeniable fact that "external" factors are influencing the development of the field of human biology; and the underlying similarity of the debate over genetic engineering in the two societies. That in both countries we find scientists concerned with political interference, philosophers concerned about preserving ethical values, and numerous individuals concerned with traditional morals and the potential misuse of scientific knowledge suggests that this problem is a "common dilemma of all industrialized societies."

There are numerous other themes in this volume that could be discussed, such as the institutional characteristics stressed in several of the contributions. Mark Adams demonstrates that institutional structure was crucial to geneticists' ability to continue their work in a hostile ideological environment. Those who find the stress on institutions outweighing the "social" element in the book should pay particular attention to Gustafson's reminder that institutions and education are major mechanisms for maintaining historical traditions. Another general subject, discussed by Lubrano, Adams, and Gustafson, is the importance of informal contacts and networks in the highly structured and constrained Soviet environment. But to do justice to all the important issues raised in this book is impossible.

One could, of course, quibble here and there. There is no index. Adams's treatment of Dubinin is somewhat inconsistent (compare pp. 189 and 192). A bibliography or series of bibliographical essays would have been very useful. There are a few typographical errors, although none impede comprehension. Such oversights are distinctly minor when compared to the contribution this volume makes to our knowledge of science and society in the Soviet Union and in all nations where scientific research is a major endeavor.

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Communities in Decline

The Dying Community. Papers from a seminar, Sante Fe, N.M., Sept. 1976. ART GALLAHER, JR., and HARLAND PADFIELD, Eds. University of New Mexico Press, Albuquerque, 1980. xiv, 306 pp. $25. School of American Research Advanced Seminar Series.

Several conceptions of both community and death cohabit uneasily in this diffuse, uneven, and yet encouragingly broad and novel symposium. The most compact groups of participants include anthropologists with sociocultural (Gallaher, Padfield) and archeological (W. Y. Adams) fields of concentration and sociologists with theoretical (A. J. Vidich) and agrarian (A. L. Bertrand, W. Rohrer) interests, although even their common concerns are at best loosely defined. Substantially if somewhat eclectically extending the approach is a scattering of single representatives of other disciplines: resource economics (M. Clawson), child psychiatry (D. A. Looff), gerontology (M. Wylie), social psychology (H. Levin), and modern American literature (D. Quantic). One stated objective of the conveners and editors was to develop a general conceptual framework for the study of community decline and dissolution, a task undertaken primarily in their joint introduction and in separately authored chapters by them, Adams, and Vidich. Other chapters are largely concerned instead with examining more empirically the causes and human consequences of this process, for example with respect to attitudinal changes, minorities, children, and the elderly.

The focus of most contributors is on slowly withering, small settlements in the relatively recent or contemporary United States, as more active population elements detach themselves from static conditions or depleted resources and are attracted to the wider opportunities in metropolitan centers. (Held in 1976, the symposium failed to take notice of even more devastating abandonments in urban ghettos like the South Bronx, or to anticipate the Frostbelt-Sunbelt transition of more recent notoriety.) But community also sometimes stands for entire social systems, most lastingly and impressively embodied in ancient urban capitals that once stood at the heads of complex settlement hierarchies. Only in that case do ruins attest to death as a complete and unambiguous cessation of life in a particular set of loci, even if for causes that, as Adams notes, seldom have been satisfactorily explained by historians or archeologists. Additionally, community is sometimes used in a less geographically specified sense, such as a relatively well-defined, self-conscious, and depressed region like Appalachia that is dependent on, peripheral to, and perhaps (in the view of some contributors) exploited by modern industrial civilization.

Crossing over by degrees into a more metaphorical realm, the coeditors speak of the approaching "global extinction of a heretofore universal form of association." Regarding the growth of urbanism, centralized government, bureaucracy, technology, and capital-intensive industry as cumulative and irreversible, they depict small towns and rural communities as generally limited to passive, inadequate responses that lead to a slow, demoralizing retreat before massive exterior forces. Yet by their own accounts death is in many cases neither immediate nor assured. While describing it as "perhaps *the* secular phenomenon of the industrial age," Gallaher and Padfield go

on to acknowledge that the dying small community has nevertheless become "a persisting form of association in its own right." Moreover, they and Vidich concede that the small, homogeneous, spatially isolated community is to a large extent an ideal model, "a culturally remembered rather than real form of association." Richly distinctive in cultural and symbolic terms, the model's historic insubstantiality is apparently belied by its evocative power as a source of alienation, social criticism, and activism accompanying—and negatively reacting to—the emergence of industrial capitalism.

Gallaher draws attention to the unquestionably close association between the little community and the traditional subject matter of anthropology. "Anthropologists have always accepted the universality of the little community," he claims, "and in its complete forms have viewed it as the smallest unit to encompass the range of institutions necessary for a human group to ensure its sociocultural future." Consistent with this image of primal self-sufficiency, his understanding of "the concern of this volume" is that "there are situations in which the intrusion of external authority threatens the very basis for community identification." But the danger in so formulating the approach is that social units convenient for study in one or a few anthropological field seasons then gradually become merely assumed to be elemental units of relative constancy. This can lead, as Gallaher recognizes in principle but does not entirely avoid in practice, to a distorted emphasis on functionally interdependent parts of little communities at the expense of their multiple external linkages. External interrelations, the totality of "contextual" features affecting social groupings of any size, continuously redefine the nature and identity of the community itself. This was already partly apparent to Robert Redfield and Julian Steward, whose early work on the problem Gallaher cites, but in the last two decades or so the anthropological critique of the reification involved in concentrating so heavily upon the single community as an analytical unit has widened decisively.

The traditional anthropological approach, in any case, was directed largely toward primitive peoples in economically undeveloped settings. Only with some strain can this be employed in a symposium very largely concerned with how the networks of subjective as well as objective relationships adversely affecting little communities in the United States can be studied and perhaps modified. Padfield, in a sweeping and impassioned but impressive paper that combines a Neo-Marxian approach with the frontier hypothesis of Frederick Jackson Turner, supplies what is less a complementary than an alternative theoretical framework. While the safety valve of the frontier remained open, he argues, human habitats were "programmed to die" within a political system "geared fundamentally to protect the privileges of private capital." Of the values enduring after that era has ended, "the two that are least compatible are belief in 'progress' as essential to the good life and belief in the rural community as the ideal human environment. Of the many cultural contradictions creating acute stress in the national society, growth fundamentalism and rural fundamentalism are perhaps the most persistent and profound." To accommodate such tensions calls for a major effort at the "reconciliation of symbolic appearances and institutional realities," an effort Padfield harshly but effectively caricatures as American small-town boosterism. "In essence, this posture constitutes a mind set against cognition of the forces impinging upon it, like a denial of death in a dying patient."

While Gallaher's and Padfield's theoretical premises thus are oddly matched in origin, they are alike in viewing small communities as prevailingly powerless. For one, it is primarily intrusions of external authority that threaten an otherwise persistent and harmonious internal order. For the other, similarly, "the question of who controls agriculture, mining, or lumber in the West is more basic to community death and decay in that region than the question of 'location preference' of migrants, or how the unemployed cope, or how sacrifice is rationed among the underemployed." For them, as for Rohrer and Quantic and to a lesser extent for some of the other contributors, the only significant field of corrective action as well as explanation is not local but national.

Yet is this so? These authors join in implying that processes of community regeneration are uniformly few and weak in comparison with those of attrition. But meanwhile the balance of population movements in this country has begun to tilt decisively away not merely from cities but from metropolitan areas. And, as only Levin notes, proliferating new ethnic and quasi-ethnic movements surely are taking on some of the aspects of "culturally remembered" communities. What the coeditors at times come close to advocating is a struggle to preserve any and all communities, fossil-like and partly moribund though many may already have become. Perhaps, as Levin suggests in a rousing concluding chapter, "the most binding, vital, and healthy sense of community" can be generated through precisely such a struggle. But the urgency of the case for doing so rests ultimately on the untested assumption that our stock of communities cannot sustain itself, continuously replacing some with others that take on new and more adaptive forms.

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A Behavioral Commonality

Animal Tool Behavior. The Use and Manufacture of Tools by Animals. BENJAMIN B. BECK. Garland STPM Press, New York, 1980. xvi, 308 pp., illus. $24.50. Garland Series in Ethology.

In this book the leading expert on the use of tools by animals presents a sophisticated discussion of this kind of behavior. The treatment begins with a discussion of problems of definition, provides an interspecific comparison of performance and a consideration of underlying cognitive processes, and brings the understanding derived from the examination of animal tool behavior to bear on the evolution of human tool use. Written in a clear style, with careful summary statements after each section, the book is at the same time enlivened by a delightful but unobtrusive sense of humor.

At least half of the book is devoted to a definitive catalog of animal tool use and manufacture in groups ranging from invertebrates to the great apes. For each example the actual behavioral patterns observed and the context and possible utility of the behavior are carefully presented. The catalog is followed by a judicious discussion of borderline cases and best ways to make interspecific comparisons.

Beck then reviews the evidence concerning the ontogeny of tool-using behavior, clearly a critical feature in comparing adult performance between species. He argues that contexts that provide opportunities for play and exploratory manipulation greatly enhance the probability of invention of novel tool patterns—hence the unusual varieties of tool use, many of which have no counterpart in the wild, found among captive animals.

Beck also reviews evolutionary and ecological considerations bearing on tool use in animals and especially in the