

- determinants of emotional state " Psychological Review 69 379-399
- Scheff, Thomas J
1963 "The role of the mentally ill and the dynamics of mental disorder A research framework " Sociometry 26 436-453
- Schutz, William C
1958 FIRO: A Three Dimensional Theory of Interpersonal Behavior. New York Holt, Rinehart and Winston
- Stanley-Jones, D
1970 "The biological origins of love and hate " Pp 25-37 in Magda B Arnold (ed), Feelings and Emotions. New York Academic
- Staub, Ervin
1971 "The learning and unlearning of aggression " Pp 93-124 in Jerome L. Singer (ed.), The Control of Aggression and Violence. New York Academic.
- Stokols, Daniel
1975 "Toward a psychological theory of alienation " Psychological Review 82 26-44
- Thibaut, John W and Harold H Kelley
1959 The Social Psychology of Groups. New York John Wiley
- Weber, Max
1946 From Max Weber: Essays in Sociology New York Oxford University Press
1947 The Theory of Social and Economic Organization New York Oxford University Press
- Weems, Luther B , Jr and Howard M Wolowitz
1969 "The relevance of power themes among males, Negro and white paranoid and non-paranoid schizophrenics." The International Journal of Social Psychiatry 15:189-96
- Weinberg, Martin S
1968 "Embarrassment: Its variable and invariable aspects." Social Forces 46:382-388.
- Wilson, Edward C.
1975 Sociobiology The New Synthesis Cambridge, Mass Harvard
- Young, Paul T
1961 Motivation and Emotion New York Wiley

Received 8/22/77

Accepted 11/7/77

ENVIRONMENTAL SOCIOLOGY: A NEW PARADIGM*

WILLIAM R. CATTON, JR.

RILEY E. DUNLAP

Washington State University

The American Sociologist 1978, Vol. 13 (February) 41-49

Ostensibly diverse and competing theoretical perspectives in sociology are alike in their shared anthropocentrism. From any of these perspectives, therefore, much contemporary and future social experience has to seem anomalous. Environmental sociologists attempt to understand recent societal changes by means of a nonanthropocentric paradigm. Because ecosystem constraints now pose serious problems both for human societies and for sociology, three assumptions quite different from the prevalent Human Exceptionalism Paradigm (HEP) have become essential. They form a New Environmental Paradigm (NEP). Sociologists who accept this New Environmental Paradigm have no difficulty appreciating the sociological relevance of variables traditionally excluded from sociology. The core of environmental sociology is, in fact, study of interactions between environment and society. Recent work by NEP-oriented sociologists on issues pertaining to social stratification exemplifies the utility of this paradigm.

Sociology appears to have reached an impasse. Efforts of sociologists to assimilate into their favorite theories some of the astounding events that have shaped human societies within the last generation

have sometimes contributed more to the fragmentation of the sociological community than to the convincing explanation of social facts. But as Thomas Kuhn (1962:76) has shown, such an impasse

* The authors contributed equally to the preparation of this paper, and are listed alphabetically. At various times we have had the benefit of stimulating discussions, for which we are grateful, with the following colleagues or graduate students: Don A. Dillman, Viktor Gecas, Dennis L. Peck, Kenneth R. Tremblay, Jr., Kent D. Van Liere, John M. Wardwell, and Robert L. Wisniewski. We are espe-

cially indebted to Don Dillman for his critical reading of an earlier draft of this paper. Dunlap's contribution to the paper was supported by Project 0158, Department of Rural Sociology, Washington State University, and this is Scientific Paper No. 4933, College of Agriculture Research Center, Washington State University, Pullman, WA 99164.

often signifies "that an occasion for re-tooling has arrived."

The rise of environmental problems, and especially apprehensions about "limits to growth," signalled sharp departures from the exuberant expectations most sociologists had shared with the general public. Environmental problems and constraints contributed to the general uneasiness in American society brought about by events in the sixties. Sociologists, no less than other thinking people, are still grappling with the dramatic shift from the calmer fifties, when the American dreams of social progress, upward mobility, and societal stability seemed secure.

In 1976 the American Sociological Association, following precedents set a few years earlier in the Rural Sociological Society and in the Society for the Study of Social Problems, established a new "Section on Environmental Sociology."¹ In this paper we shall try to account for the development of environmental sociology by showing how it represents an attempt to understand recent societal changes that are difficult to comprehend from traditional sociological perspectives. We contend that, rather than simply representing the rise of another speciality within the discipline, the emergence of environmental sociology reflects the development of a new paradigm, and that this paradigm may help to extricate us from the impasse referred to above.

The "New Environmental Paradigm" (NEP) implicit in environmental sociology is, of course, only one among several current candidates to replace or amend the increasingly obsolescent set of "domain assumptions" which have defined the nature of social reality for most sociologists. Environmental sociologists, no less than the advocates of the very different alternatives Gouldner (1970) has described, are attempting to come to grips with a changed "sense of what is real." Further, we believe the NEP may contribute to a better understanding of contemporary and future social conditions than is possible with previous sociological perspectives. To illustrate the power of this paradigm to

shed new light on important sociological issues, we shall briefly describe some recent NEP-based examinations of problems in stratification. But first we must contrast the old and new sets of assumptions.

The "Human Exceptionalism Paradigm"

The numerous competing theoretical perspectives in contemporary sociology—e.g., functionalism, symbolic interactionism, ethnomethodology, conflict theory, Marxism, and so forth—are prone to exaggerate their differences from each other. They purport to be paradigms in their own right, and are often taken as such (see, e.g., Denisoff, *et al.*, 1974, and Ritzer, 1975). But they have also been construed simply as competing "pre-paradigmatic" perspectives (Friedrichs, 1972). We maintain that their apparent diversity is not as important as the fundamental anthropocentrism underlying *all* of them.

This mutual anthropocentrism is part of a basic sociological worldview (Klausner, 1971:10–11). We call *that* worldview the "Human Exceptionalism Paradigm" (HEP). We contend that acceptance of the assumptions of the HEP has made it difficult for most sociologists, regardless of their preferred orientation, to deal meaningfully with the social implications of ecological problems and constraints. Thus, the HEP has become increasingly obstructive of sociological efforts to comprehend contemporary and future social experience.

The HEP comprises several assumptions that have either been challenged by recent additions to knowledge, or have had their optimistic implications contradicted by events of the seventies. Accepted explicitly or implicitly by all existing theoretical persuasions, they include:

1. Humans are unique among the earth's creatures, for they have culture.
2. Culture can vary almost infinitely and can change much more rapidly than biological traits.
3. Thus, many human differences are socially induced rather than inborn, they can be socially altered, and in-

¹ In the late sixties a Natural Resources Research Group was formed in the RSS, and in 1973 SSSP established an Environmental Problems Division

convenient differences can be eliminated.

4. Thus, also, cultural accumulation means that progress can continue without limit, making all social problems ultimately soluble.

Sociological acceptance of such an optimistic worldview was no doubt fostered by prevalence of the doctrine of progress in Western culture, where academic sociology was spawned and nurtured. It was under the American branch of Western culture that sociology flourished most fully, and it has been clear to foreign analysts of American life, from Tocqueville to Laski, that most Americans (until recently) ardently believed that the present was better than the past and the future would improve upon the present. Sociologists could easily share that conviction when natural resources were still so plentiful that limits to progress remained unseen. The historian, David Potter (1954:141), tried to alert his colleagues to some of the unstated and unexamined assumptions shaping their studies; his words have equal relevance for sociologists: "The factor of abundance, which we first discovered as an environmental condition and which we then converted by technological change into a cultural as well as a physical force, has . . . influenced all aspects of American life in a fundamental way."²

Not only have sociologists been too unmindful of the fact that our society derived special qualities from past abundance; the heritage of abundance has made it difficult for most sociologists to perceive the possibility of an era of uncontrived scarcity. For example, ecological concepts such as "carrying capacity" are alien to the vocabularies of most sociologists (Catton, 1976a; 1976b), yet disregard for this concept has been tantamount to assuming an environment's carrying capacity is always enlargeable as needed—thus denying the possibility of scarcity.

Neglect of the ecosystem-dependence

² For an early warning that this exuberance-producing force could be temporary, see Sumner (1896). Few twentieth century sociologists have taken the warning seriously

of human society has been evident in sociological literature on economic development (e.g., Horowitz, 1972), which has simply not recognized biogeochemical limits to material progress. And renewed sociological attention to a theory of societal evolution (e.g., Parsons, 1977) has seldom paid much attention to the resource base that is subjected to "more efficient" exploitation as societies become more differentiated internally and are thereby "adaptively upgraded." In such literature, the word "environment" refers almost entirely to a society's "symbolic environment" (cultural systems) or "social environment" (environing social systems).³

It is the habit of neglecting laws of other sciences (such as the Principle of Entropy and the Law of Conservation of Energy)⁴—as if human actions were unaffected by them—that enables so distinguished a sociologist as Daniel Bell (1973: 465) to assert that the question before humanity is "not subsistence but standard of living, not biology, but sociology," to insist that basic needs "are satiable, and the possibility of abundance is real," to impute "apocalyptic hysteria" to "the ecology movement," and to regard it as trite rather than questionable to expect "compound interest" growth to continue for another hundred years. Likewise, this neglect permits Amos Hawley (1975:8–9) to write that "there are no known limits to the improvement of technology" and the population pressure on nonagricultural resources is neither "currently being felt or likely to be felt in the early future." Such views reflect a staunch commitment to the HEP.

Environmental Sociology and the "New Environmental Paradigm"

When public apprehension began to be aroused concerning newly visible environmental problems, the scientists

³ Even sociological human ecologists have limited their attention primarily to the *social* or *spatial* environment, rather than the *physical* environment (see Michelson, 1976:17–23), reflecting their adherence to the HEP

⁴ See Miller (1972) for a lucid discussion of these laws

who functioned as opinion leaders were not sociologists. They included such individuals as Rachel Carson, Barry Commoner, Paul Ehrlich and Garrett Hardin—biologists. Leadership in highlighting the precariousness of the human condition was mostly forfeited by sociologists, because until recently, most of us had been socialized into a worldview that makes it difficult to recognize the reality and full significance of the environmental problems and constraints we now confront. Due to our acceptance of the HEP, our discipline has focused on humans to the neglect of habitat; consideration of our *social* environment has crowded out consideration of our physical circumstances (Michelson, 1976:17). Further, we have had unreserved faith that equilibrium between population and resources could and would be reached in noncatastrophic ways, since technology and organization would mediate the relations between a growing population and its earthly habitat (see, e.g., Hawley, 1975).

But, stimulated by troubling events, some sociologists began to read such works as Carson (1962), Commoner (1971), Ehrlich and Ehrlich (1970), and Hardin (1968), and began to shed the blinders of the HEP. As long-held assumptions began to lose their power over our perceptions, we began to recognize that the reality of ecological constraints posed serious problems for human societies and for the discipline of sociology (see, e.g., Burch, 1971). It began to appear that, in order to make sense of the world, it was necessary to rethink the traditional Durkheimian norm of sociological purity—i.e., that social facts can be explained *only* by linking them to other *social* facts. The gradual result of such rethinking has been the development of environmental sociology.

Environmental sociology is clearly still in its formative years. At the turn of the decade rising concern with “environment” as a social problem led to numerous studies of public attitudes toward environmental issues and of the “Environmental Movement” (see Albrecht and Mauss, 1975). A coalition gradually developed between sociologists

with such interests and sociologists with a range of other concerns—including rather established interests such as the “built” environment, natural hazards, resource management and outdoor recreation, as well as newer interests such as “social impact assessment” (mandated by the National Environmental Policy Act of 1969). After the energy crisis of 1973, numerous sociologists (including many with prior interests in one or more of the above areas) began to investigate the effects of energy shortages in particular, and resource constraints in general, on society: the stratification system, the political order, the family, and so on. (For an indication of the range of interests held by environmental sociologists see Dunlap, 1975, and Manderscheid, 1977; for reviews of the literature see Dunlap and Catton, forthcoming, and Humphrey and Buttel, 1976.)

These diverse interests are linked into an increasingly distinguishable specialty known as environmental sociology by the acceptance of “environmental” variables as meaningful for sociological investigation. Conceptions of “environment” range from the “manmade” (or “built”) environment to the “natural” environment, with an array of “human-altered” environments—e.g., air, water, noise and visual pollution—in between. In fact, *the study of interaction between the environment and society is the core of environmental sociology*, as advocated several years ago by Schnaiberg (1972).⁵ This involves studying the effects of the environment on society (e.g., resource abundance or scarcity on stratification) and the effects of society on the environment (e.g., the contributions of differing economic systems to environmental degradation).⁶

The study of such interaction rests on the recognition that sociologists can no longer afford to ignore the environment in

⁵ This does not mean that environmental sociologists focus only on bi-variate relationships between social and environmental variables, as illustrated by Schnaiberg's (1975) “societal-environmental dialectic” (to be discussed below)

⁶ For an alternative and narrower view of the domain of environmental sociology see Zeisel (1975 Chap 1)

their investigations, and this in turn appears to depend on at least tacit acceptance of a set of assumptions quite different from those of the HEP. From the writings of several environmental sociologists (e.g., Anderson, 1976; Burch, 1971, 1976; Buttél, 1976; Catton, 1976a, 1976b; Morrison, 1976; Schnaiberg, 1972, 1975) it is possible to extract a set of assumptions about the nature of social reality which stand in stark contrast to the HEP. We call this set of assumptions the "New Environmental Paradigm" or NEP (see Dunlap and Van Liere, 1977 for a broader usage of the term, referring to emerging public beliefs):

1. Human beings are but one species among the many that are interdependently involved in the biotic communities that shape our social life.
2. Intricate linkages of cause and effect and feedback in the web of nature produce many unintended consequences from purposive human action.
3. The world is finite, so there are potent physical and biological limits constraining economic growth, social progress, and other societal phenomena.

Environmental Facts and Social Facts

Sociologists who adhere to the NEP readily accept as factual the opening sentences of the lead article (by a perceptive economist) in a recent issue of *Social Science Quarterly* devoted to "Society and Scarcity": "We have inherited, occupy, and will bequeath a world of scarcity: resources are not adequate to provide all of everything we want. It is a world, therefore, of limitations, constraints, and conflict, requiring the bearing of costs and calling for communal coordination" (Allen, 1976:263). Persistent adherents of the HEP, on the other hand, accustomed to relying on endless and generally benign technological and organizational breakthroughs, could be expected to discount such a statement as a mere manifestation of the naive presumption that the "state of the arts" is fixed (see, e.g., Hawley, 1975:6-7).

Likewise, sociologists who have been

converted to the assumptions of the NEP have no difficulty appreciating the sociological relevance of the following fact: the \$36 billion it now costs annually to import oil to supplement depleted American supplies is partially defrayed by exporting \$23 billion worth of agricultural products—grown at the cost of enormous soil erosion (van Bavel, 1977). Environmental sociologists expect momentous social change if soil or oil, or both are depleted. But sociologists still bound by the HEP would probably ignore such topics, holding that oil and soil are irrelevant variables for sociologists. However, we believe that only by taking into account such factors as declining energy resources can sociologists continue to understand and explain "social facts." We will attempt to demonstrate this by examining some work by NEP-oriented sociologists in one of the areas they have begun to examine—social stratification.

Usefulness of the NEP: Recent Work in Social Stratification

The bulk of existing work in stratification appears to rest on the Human Exceptionalism Paradigm, as it ". . . does not adequately consider the context of resource constraints or lack thereof in which the stratification system operates . . ." (Morrison, 1973:83). We will therefore describe recent work in the area by environmental sociologists, in an effort to illustrate the insights into stratification processes provided by the NEP. We will limit the discussion to three topics: the current decline in living conditions experienced by many Americans; contemporary and likely future cleavages in our stratification system; and the problematic prospects for ending self-perpetuating poverty.

Recent decline in standard of living: A majority of Americans are concerned about their economic situation (Strumpel, 1976:23), and in *Food, Shelter and the American Dream*, Aronowitz (1974) exemplifies the growing awareness that *something* is not going according to expectation—that old ideals of societal progress, increasing prosperity and material comfort, and individual and inter-

generational mobility for *all* segments of society are *not* being realized (also see Anderson, 1976:1-3). Yet, even a "critical sociologist" such as Aronowitz seems impeded by the HEP in attempting to understand these changes. He views recent shortages in food, gasoline, heating oil, and so on, entirely as the result of "manipulations" by large national and supranational corporations, and is skeptical of the idea that resource scarcities may be real. Thus, his solution to the decline in the American standard of living would apparently be solely political—reduce the power of large corporations.

Although many environmental sociologists would not deny that oil companies have benefited from energy shortages, their acceptance of the NEP leads to a different explanation of recent economic trends. Schnaiberg (1975:6-8), for instance, has explicated a very useful "societal-environmental dialectic." Given the *thesis* that "economic expansion is a social desideratum" and the *antithesis* that "ecological disruption is a necessary consequence of economic expansion," a dialectic emerges with the acceptance of the proposition that "ecological disruption is harmful to human society." Schnaiberg notes three alternative *syntheses* of the dialectic: (1) an *economic synthesis* which ignores ecological disruptions and attempts to maximize growth; (2) a *managed scarcity synthesis*⁷ which deals with the most obvious and pernicious consequences of resource-utilization by imposing controls over selected industries and resources; and (3) an *ecological synthesis* in which "substantial control over both production and effective demand for goods" is used to minimize ecological disruptions and maintain a "sustained yield" of resources. Schnaiberg (1975:9-10) argues that the synthesis adopted will be influenced by the basic economic structure of a society, with "regressive" (inequality-magnifying)

⁷ Schnaiberg's term was "planned scarcity," but because adherents of the HEP might suppose that phrase referred to scarcity *caused* by planners—rather than scarcities (and their costs) *allocated* by planners—we prefer to speak of "managed scarcity."

societies most likely to maintain the "economic" synthesis and "progressive" (equality-fostering) societies least resistant to the "ecological" synthesis.⁸ Not surprisingly, therefore, the U.S., with its "non-redistributive" economy, has increasingly opted for "managed scarcity" as the solution to environmental and resource problems.⁹

Managed scarcity involves, for example, combating ecological disruptions by forcing industries to abate pollution, with resultant costs passed along to consumers via higher prices, and combating resource shortages via higher taxes (and thus higher consumer prices) on the scarce resources. There is growing recognition of the highly regressive impacts of both mechanisms (Morrison, 1977; Schnaiberg, 1975), and thus governmental reliance on "managed scarcity" to cope with pollution and resource shortages at least partly accounts for the worsening economic plight of the middle-, working, and especially lower-classes—a plight in which adequate food and shelter are often difficult to obtain. Unfortunately, these economic woes cannot simply be corrected by returning to the economic synthesis. The serious health threats posed by pollutants, the potentially devastating changes in the ecosystem wrought by unbridled economic and technological growth (e.g., destruction of the protective ozone layer, alteration of atmospheric temperature), and the undeniable reality of impending shortages in crucial resources such as oil, all make reversion to the traditional economic synthesis impossible in the long run (see, e.g., Anderson, 1976; Miller, 1972). Of course, as Morrison (1976) has noted, the pressures to return to this synthesis are great, and understanding them

⁸ Thus, e.g., among industrialized nations Sweden appears to have come closest to the ecological synthesis, while China represents the closest approximation to it by any developing nation (Anderson, 1976:242-251). In contrast, highly regressive developing nations such as Brazil seem strongly committed to the economic synthesis.

⁹ The U.S. economy is "non-redistributive" because overall patterns of inequality (i.e., relative shares of wealth) have been altered very little by growth, even though all strata have improved their lot via growth (Schnaiberg, 1975:9; Zeitlin, 1977, Part 2).

provides insights into contemporary and future economic cleavages.

Cleavages within the stratification system: Schnaiberg's ecological synthesis amounts to what others have termed a "stationary" or "steady-state" society, and it is widely agreed that such a society would need to be far more egalitarian than the contemporary U.S. (Anderson, 1976:58-61; Daly, 1973:168-170).¹⁰ Achieving the necessary redistribution would be very difficult, and opposition to it would be likely to result in serious, but unstable cleavages within the stratification system. In the long run, as environmental constraints become more obvious, ecologically aware "haves" are likely to opt for increased emphasis on managed scarcity to cope with them. The results would be disastrous for the "have nots," as slowed growth and higher prices would reverse the traditional trend in the U.S. in which *all* segments of society have improved their material condition—not because they obtained a larger slice of the "pie," but because the pie kept growing (Anderson, 1976:28-33; Morrison, 1976). Slowed growth *without* increased redistribution will result in real (as well as relative) deprivation among the "have nots," making class conflict more likely than ever before.¹¹ As Morrison (1976:299) notes, "Class antagonisms that are soothed by general economic growth tend to emerge as more genuine class conflicts when growth slows or ceases." Thus, in the long run the NEP suggests that Marx's predictions about class conflict may become more accurate, although for reasons Marx could not have foreseen.

In the short run, however, a very different possibility seems likely. The societal

pressures resulting from managed scarcity are such that large portions of *both* "haves" and "have nots" will push for a reversion to the economic (growth) synthesis. In fact, Morrison (1973) has predicted the emergence of a Dahrendorfian (i.e., non-Marxian) cleavage: "growthists vs. nongrowthists," with *all* those highly dependent upon industrial growth (workers and owners) coalescing to oppose environmentalists (who typically hold positions—in the professions, government, education, for example—less directly dependent on growth). The staunch labor union support for growth, and the successful efforts of industry to win the support of labor and the poor in battles against environmentalists, both suggest the emergence of this coalition. Somewhat ironically, therefore, support for continued economic growth has united capitalists and the "left" (used broadly to include most labor unions, advocates for the poor, and academic Marxists). Not only does this support reveal the extent to which most of the left has abandoned hopes for real *redistribution* in favor of getting a "fair share" of a growing pie, but it also reveals a misunderstanding of the distribution of costs and benefits of traditional economic growth.

The "Culture of Poverty" solidified: Sociologists guided by the NEP have not only questioned the supposed universal benefits of growth, but they consistently point to the generally neglected "costs" of growth—costs which tend to be very regressive (Anderson, 1976:30-31; Schnaiberg, 1975:19). Thus, it is increasingly recognized that the workplace and inner city often constitute serious health hazards, and that there is generally a strong inverse relationship between SES and exposure to environmental pollution (Schnaiberg, 1975:19). Further, in his study of the SES-air pollution relationship, Burch (1976:314) has gone so far as to suggest that, "Each of these pollutants when ingested at certain modest levels over continuing periods, is likely to be an important influence upon one's ability to persist in the struggle for improvement of social position . . . These exposures, like nutritional deficiencies, seem one mechanism by which class inequalities are

¹⁰ For example, wasteful consumption due to excess wealth and economic growth stemming from the investment of excess capital (for profit) would need to be halted, as would pressure for economic growth stemming from the unmet needs of the lower strata (see, e.g., Anderson, 1976:58-61, Daly, 1973:168-171)

¹¹ Managed scarcity and slowed growth are also likely to exacerbate tensions between developed and developing nations. This leads NEP-oriented sociologists (e.g., Anderson, 1976:258-269, Morrison, 1976) to see the future of international development quite differently than sociologists bound by the HEP (see, e.g., Horowitz, 1972).

reinforced." This leads him to suggest that efforts to eradicate poverty which do not take into account the debilitating impact of environmental insults are likely to fail.

Conclusion

We have attempted to illustrate the utility of the NEP by focusing on issues concerning stratification, for we believe this is one of many aspects of society that will be significantly affected by ecological constraints. As noted above, in the short run we expect tremendous pressure for reverting to the economic growth synthesis, for such a strategy seeks to alleviate societal tensions at the expense of the environment. Of course, the NEP implies that such a strategy cannot continue indefinitely (and the evidence seems to support this—see, e.g., Miller, 1972). Thus we are faced with the necessity of choosing between managed scarcity and an ecological synthesis.¹² The deleterious effects of the former are already becoming obvious; they help account for the trends described by Aronowitz and others. However, the achievement of a truly ecological synthesis will require achieving a steady-state society, a very difficult goal. As students of social organization, sociologists should play a vital role in delineating the characteristics of such a society, feasible procedures for attaining it, and their probable social costs. (See Anderson, 1976 for a preliminary effort.) Until sociology extricates itself from the Human Exceptionalism Paradigm, however, such a task will be impossible.

REFERENCES

- Albrecht, Stan L. and Armand L. Mauss
1975 "The environment as a social problem." Pp 556-605 in A. L. Mauss, *Social Problems as Social Movements* Philadelphia: Lippincott
- Allen, William R.
1976 "Scarcity and order. The Hobbesian problem and the Humean resolution." *Social Science Quarterly* 57 263-275
- Anderson, Charles H.
1976 *The Sociology of Survival: Social Problems of Growth* Homewood, Illinois: Dorsey
- Aronowitz, Stanley
1974 *Food, Shelter and the American Dream* New York: Seabury Press
- Bell, Daniel
1973 *The Coming of Post-Industrial Society* New York: Basic Books
- Burch, William R., Jr.
1971 *Daydreams and Nightmares: A Sociological Essay on the American Environment* New York: Harper and Row
- 1976 "The peregrine falcon and the urban poor: Some sociological interrelations." Pp 308-316 in P. J. Richerson and J. McEvoy III (eds.), *Human Ecology: An Environmental Approach*. North Scituate, Mass.: Duxbury
- Buttel, Frederick H.
1976 "Social science and the environment: Competing theories." *Social Science Quarterly* 57:307-323
- Carson, Rachel
1962 *Silent Spring* Boston: Houghton-Mifflin
- Catton, William R., Jr.
1976a "Toward prevention of obsolescence in Sociology." *Sociological Focus* 9:89-98
- 1976b "Why the future isn't what it used to be (and how it could be made worse than it has to be)." *Social Science Quarterly* 57 276-291
- Commoner, Barry
1971 *The Closing Circle*. New York: Knopf
- Daly, Herman E.
1973 "The steady-state economy: Toward a political economy of biophysical equilibrium and moral growth." Pp. 149-174 in H. E. Daly (ed.), *Toward a Steady-State Economy* San Francisco: W. H. Freeman
- Denisoff, R. Serge, Orel Callahan, and Mark H. Levine (eds.)
1974 *Theories and Paradigms in Contemporary Sociology* Itasca, Illinois: Peacock
- Dunlap, Riley E. (ed.)
1975 *Directory of Environmental Sociologists* Pullman: Washington State University, College of Agriculture Research Center, Circular No. 586
- Dunlap, Riley E. and William R. Catton, Jr. (eds.)
forth. "Environmental sociology." *Annual Review of Sociology*. Palo Alto, Calif.: Annual Reviews, Inc.
- Dunlap, Riley E. and Kent D. Van Liere
1977 "The 'new environmental paradigm': A proposed measuring instrument and preliminary results." Paper presented at the Annual Meeting of the American Sociological Association, Chicago
- Ehrlich, Paul R. and Anne H. Ehrlich
1970 *Population, Resources, Environment*. San Francisco: W. H. Freeman

¹² A point implicit in our discussion is worth making explicit: the NEP suggests that resource scarcities are unavoidable, but—as Schnaiberg's work indicates—societies may react to them in a variety of ways. Thus, as Schnaiberg (1975: 17) suggests, sociologists should begin to examine the social impacts (especially distributional impacts) of *alternative* responses to scarcity.

- Friedrichs, Robert W.
1972 *A Sociology of Sociology* New York Free Press
- Gouldner, Alvin W.
1970 *The Coming Crisis of Western Sociology* New York Basic Books
- Hardin, Garrett
1968 "The tragedy of the commons" *Science* 162 1243-1248
- Hawley, Amos H. (ed.)
1975 *Man and Environment* New York New York Times Company
- Horowitz, Irving L.
1972 *Three Worlds of Development The Theory and Practice of International Stratification* 2nd ed. New York Oxford University Press.
- Humphrey, Craig R. and Frederick H. Buttel
1976 "New directions in environmental sociology" Paper presented at the Annual Meeting of the Society for the Study of Social Problems, New York
- Klausner, Samuel Z.
1971 *On Man in His Environment* San Francisco Jossey-Bass
- Kuhn, Thomas S.
1962 *The Structure of Scientific Revolutions* Chicago University of Chicago Press
- Manderscheid, Ronald W. (ed.)
1977 *Annotated Directory of Members Ad Hoc Committee on Housing and Physical Environment* Adelphi, Maryland. Mental Health Study Center, NIMH
- Michelson, William H.
1976 *Man and His Urban Environment* 2nd ed Reading, Mass Addison-Wesley
- Miller, G. Tyler, Jr.
1972 *Replenish the Earth A Primer in Human Ecology*. Belmont, Calif.. Wadsworth
- Morrison, Denton E.
1973 "The environmental movement Conflict dynamics" *Journal of Voluntary Action Research* 2 74-85
- 1976 "Growth, environment, equity and scarcity" *Social Science Quarterly* 57 292-306.
- 1977 "Equity impacts of some major energy alternatives" Paper presented at the Annual Meeting of the American Sociological Association, Chicago
- Parsons, Talcott
1977 *The Evolution of Societies* (ed. by Jackson Toby) Englewood Cliffs, NJ. Prentice-Hall.
- Potter, David M.
1954 *People of Plenty* Chicago University of Chicago Press
- Ritzer, George
1975 *Sociology: A Multiple Paradigm Science*. Boston Allyn and Bacon
- Schnaiberg, Allan
1972 "Environmental sociology and the division of labor." Department of Sociology, Northwestern University, mimeograph.
1975 "Social syntheses of the societal-environmental dialectic: The role of distributional impacts." *Social Science Quarterly* 56 5-20
- Strumpel, Burkhard (ed.)
1976 *Economic Means for Human Needs* Ann Arbor Institute for Social Research, University of Michigan.
- Sumner, William Graham
1896 "Earth hunger or the philosophy of land grabbing" Pp. 31-64 in A. G. Keller (ed.), *Earth Hunger and Other Essays* New Haven Yale University Press, 1913
- van Bavel, Cornelius H. M.
1977 "Soil and oil" *Science* 197 213
- Zeisel, John
1975 *Sociology and Architectural Design* New York Russell Sage Foundation.
- Zeitlin, Maurice (ed.)
1977 *American Society, Inc* 2nd ed Chicago Rand McNally

Received 8/24/77

Accepted 10/25/77

MANUSCRIPTS FOR THE ASA ROSE SOCIOLOGY SERIES

Manuscripts (100 to 300 typed pages) are solicited for publication in the *ASA Arnold and Caroline Rose Monograph Series*. The Series welcomes a variety of types of sociological work—qualitative or quantitative empirical studies, and theoretical or methodological treatises. An author should submit three copies of a manuscript for consideration to the Series Editor, Professor Robin M. Williams, Jr., Department of Sociology, Cornell University, Ithaca, New York 14853.