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that if we want to understand delinquency what we most need to study is the causes of the behavior of labelers and the consequences for children of being labeled. Not the crime, but the person who calls it a crime; not the criminal, but the results of being called one.

Drawing on a variety of studies of delinquents and the people who deal with them in Boston, Wheeler and his colleagues produce some surprising findings. Sharp reversals of common-sense expectations appear, for instance, in the relations between professional ideologies about delinquency and professional practice. Hard-bitten old cops take a tough line toward delinquents, but they do not arrest as many as do the young officers who have acquired a more lenient ideology, and judges with "treatment" perspectives commit more boys to reform school than old-fashioned judges. Every professional group that processes delinquents responds to them in ways dictated by its power position, espousing that ideology and taking those actions that increase their control over the conditions of their own work, no matter what the effect on the delinquents.

Aaron Cicourel's book considers similar matters in much finer detail, showing how police and probation officers turn particular children into delinquents or fail to do so as they go through their daily routines. Detailed analyses of interviews and documentary records show how the police balance the constraints of their jobs against the opportunities afforded by each case for personal and occupational aggrandizement. "Obvious" social facts, such as criminal and school records, dissolve into fragile social constructions which officials manipulate and on whose manipulation children's fates depend. Reality, in the form of crimes and criminals whose causes we are to discover, turns into a cooperative social enterprise to present the appearance of reality. Explanation is traded in for detailed description. Simple studies of very young people become delinquent are no longer possible.

Most people will find the Wheeler volume easier to follow, for it relies on established conventions of social science research. Each conclusion rests on a base of quantified evidence, careful measurements of attitudes, behavior, or both. Cicourel, in contrast, calls into question most ordinary assumptions used to process information in social science and thus makes it very difficult

to use relatively easily gathered numerical material. As an alternative, he goes through lengthy interview protocols statement by statement, showing that the researcher must use the same common-sense rules of interpretation laymen do in order to make sense of what people say. No quantified data look quite the same, or half so trustworthy, after this demonstration.

In the end, careful readers will have equal difficulties with both books. The trust that Wheeler and his colleagues place in quantification and precision turns out to be misplaced, for the various studies they report produce conclusions as tentative and lacking in a solid evidential foundation as the most impressionistic studies whose faults they are designed to avoid. Based on extremely indirect indicators (that can be measured) of complicated processes (whose relationship to those indicators is questionable), these studies do not produce the firm assertions of causal connections we might expect from such rigorous procedures. Except for the few papers in the book that rely on more detailed and intimate observation à la Cicourel, the standard language of the conclusions is "it seems that" or "it may be," hardly a fitting reward for so much effort.

The Cicourel book disappoints in another way, by failing to make systematic use of the knowledge it contains about the organization of juvenile jus-

tice. Real analysis of the social structure which produces juvenile delinquency as a social fact goes by the board while Cicourel makes and re-makes the point that delinquency is a socially produced fact. Unless you are more interested than most readers are likely to be in that technical argument, you rapidly lose interest in a book on social organization all of whose conclusions on organization take the form of casual glosses on an interview protocol.

Each book contains a great deal more information than I have summarized here, on the police, court personnel, mental health professionals, families, politicians, and even on youthful offenders. Yet their most important feature is not the information they contain, but rather the evidence they give of a radical reorientation in delinquency studies, no matter what their technical bias. Each adds to the weight of evidence arguing that crime, delinquency, and other forms of deviance have no meaning apart from the social processes by which they are defined as having that particular meaning. Any theory of the etiology of deviance proposed in the future must take account of that general proposition and of the specific problems that flow from it, as these volumes have done.

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A Very Large Number of Independent Variables

Politics and Social Science. W. J. M. MACKENZIE. Penguin Books, Baltimore, 1967. 424 pp. Paper, \$1.95.

In the last 20 years the social sciences have been extraordinarily active. More work has been done since World War II than in all the preceding generations. New technologies for the collection and processing of data have opened vistas few conceived of before. Although more studies are conducted in the United States than in the rest of the world put together, those who can afford to read only one book about what is going on in the social sciences would do well to choose this one by a British political scientist. In 413 packed pages, Mackenzie offers an encompassing, well-written, and judicious overview of these new activities. He focuses his survey on the study of political life, but the book also provides considerable

insight into the operations and limitations of social sciences in general.

There obviously are many more activities than results; hence Mackenzie has chosen to focus on "approaches" rather than on findings. (A good inventory of social science findings is already available in B. Berelson and G. Steiner, *Human Behavior*, 1964.) To summarize a book that summarizes the work of such a varied and complex field is a task beyond this reviewer; instead I shall draw upon Mackenzie's keen analysis of many studies to illustrate the difficulties social science faces in its attempt to be both rigorous and relevant.

The various contending approaches to the study of society have one feature in common: they all produce more heat than light. It is easy for the adherents of any one school, theory, or method to point to gaping holes in the logic and

empirical validity of the others; it is much more difficult for them to support their own claims. Mutual respect, humility, and collaborative efforts are much called for but are not particularly abundant. It seems that the "softer" the field, the harsher the debates about concepts and procedures.

The reasons for this lack of consensus in social science are numerous: The subject of social science is human; hence there are many limitations on experimentation. The number of "cases" is often small—for instance, there are only 130-odd nations in the world, maybe a score of full-fledged revolutions in human history; so statistical analysis is severely restricted. The investment of man-years and funds is comparatively low; in the U.S., social science has been allotted about 2 percent of R&D expenditure as compared with 30 percent for space. Most important, in my judgment, the development of social science is hampered by the complexity of the subject matter—the extremely large number of independent variables that somehow have to be considered.

Hence all the various endeavors described by Mackenzie are to be viewed as attempts to gain knowledge by grand simplifications, by reducing the factors dealt with in order to achieve at least a partial or "first approximation" map of the social world. The approaches differ in degree of comprehensiveness and rigor. Some, like Toynbee's work, cover all the civilizations human history has known, with both deliberate and unwitting inattention to subtle and not so subtle differences as well as to empirical validation. Others, such as computer simulations of social decision-making, are quite precise, but their coverage of the subject matter is extremely narrow, often limited to highly structured and routine situations, such as playing tic-tac-toe.

By and large, the rigorous approaches are made with the natural sciences as a model, and the more comprehensive work draws on humanistic traditions, especially historical methods and legal studies. Mackenzie focuses on the first category, because this is where most of the new work in the social study of political life has been conducted in the past two decades. This work tends to be quantitative and analytic and to be couched in neutral terms ("social change" has replaced "progress and decay"), and has so far been unsuccessful, as Mackenzie shows, in providing a

comprehensive theory of political processes or of society.

Attempts to build mathematical models for social parameters have, by and large, not as yet yielded good approximations of significant bodies of social data, and explanations of the relationships uncovered tend to be trivial. Frequently the model-builders stress the esthetic value of models, explicitly foregoing a claim to empirical validity, not to mention comprehensiveness.

Games, machine simulations, and small-group experiments—in which the subjects, often college sophomores, perform highly contrived tasks in carefully designed situations—have been somewhat less rigorous than mathematical models and only somewhat more encompassing. Mackenzie shows that these methods have yielded some specific insights (he singles out the work of T. C. Schelling), but the scholars themselves are likely to agree that they deal at best with a small slice of the world we seek to understand, and that the relation of their findings to those of students of other slices is far from evident. (A. Rapoport commented that only an idiot would try to generalize from the studies of student pairs playing a game to international conflicts. But then, all sciences seem to have their share of fools.)

Mackenzie describes another approach to the understanding of political life: the use of analogues. The more it is established that the social life of canines, birds, monkeys, and other such subhuman beings is less determined by heredity and more by social organization than was formerly supposed, the greater the temptation to study the complicated issues of human politics in a zoo or a jungle enclave. One such study calls attention to relationships among the following factors: scarcity of resources, curbing of population growth, the challenging of intra-tribe hierarchies (or pecking order), and increase in intertribe tensions and aggression. This represents a whole category of studies which deal with animals but appear to be relevant to humans.

Another kind of analogue, and probably the approach that will appear most novel to anyone who has not kept up closely with social science work, is the economic (or "exchange") model of politics. In this model, those who are in power are treated as producers and their followers as consumers; votes are analogous to money, and legislation and programs of the executive branch to

output. Mackenzie points out that this model, which transfers postulates and propositions from economics, orders some known facts about political life (for example, that in a two-party system the voters push the parties toward similar policies) and offers some new ones (such as that, over the long run, parties that live up to their campaign promises gain in support).

The contributions of these and other efforts are beyond doubt; but in order to achieve the analogue, major aspects of the sociopolitical world are omitted. For instance, the exchange model tends to leave out all nonrational factors; voters are assumed to know what the parties are doing and what their own interests are, and to choose rationally among the parties in accord with these interests. But studies of voting show this assumption to be very remote from the way actual voters behave. If exchange models tend to be rationalistic, analogues from animal societies tend to be unduly fatalistic. By and large, animal societies have no cybernetorial overlay, no capacity to systematically anticipate events and make prior societal adjustments. Thus, they must first suffer overpopulation, then war or population curbing (as by infanticide), before the food-population ratio is adjusted. While the cybernetorial and self-changing operations of human societies are still quite deficient, they seem to be improving, and any theory of politics that provides no analysis of such guidance mechanisms and their limitations seems to me to be very segmental and unduly "animalistic."

Mackenzie also reviews two "grand" theories, which attempt to provide a comprehensive and direct analysis of our subject area rather than rely on models or analogues. David Easton's work draws on exchange models but is directly concerned with the polity; Talcott Parsons's work draws on the organic tradition and deals with the social system as a whole, viewing the polity as a subsystem. Both men are very influential scholars in political science and sociology, and each has written several major books. Their grand theories simply cannot be summarized or evaluated here. Mackenzie does a fine job of reviewing them; unfortunately, he devotes much less attention to the work of Karl W. Deutsch, whose *The Nerves of Government*, especially, adds an essential ingredient to the system theories developed by Easton and Parsons. Deutsch analyzes the cybernetorial

overlay which has an essential role in human societies, particularly modern ones, and in the understanding of our future. Actually, the state, and political processes in general, may be seen as a set of giant mechanisms whose function is to guide social processes and change.

Much more is dealt with in Mackenzie's volume, from the significance of the study of primitive tribes and "stateless politics" to the contributions of linguistics to the study of political culture; from the ancient roots of political science to recently constructed data archives. For all these the reader must turn to the volume itself.

Mackenzie's deep concern with the great issues of political life, with the prerequisites and components of freedom, social justice, and peace, are evident throughout the volume, but they take a second place. His main focus is on the development of tools and disciplines for the study of these prerequisites and components. Here this British political scientist—born in 1909—is very much *au courant* and "American"; whether a more humanistic social science may not contribute more to the study of political life than his volume implies remains to be seen.

In closing, it seems proper to mention that Mackenzie summarizes this reviewer's voluminous prior work in three succinct pages which are remarkable for their accuracy and fairness. The repeated reference to my departure from the scene is, however, at least slightly premature.

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Through a Glass Darkly

The Year 2000. A Framework for Speculation on the Next Thirty-Three Years. HERMAN KAHN and ANTHONY J. WIENER. Macmillan, New York, 1967. xxx + 431 pp., illus. \$9.95.

The Future as Nightmare. H. G. Wells and the Anti-Utopians. MARK R. HILLEGAS. Oxford University Press, New York, 1967. xii + 200 pp. \$5.75.

From the dark art of the necromancer, the darker arts of the soothsayer, the magician, the gypsy's tea leaves, the witch who describes the future by interpreting the entrails of some recently dead creature, we have

emerged into the gray art of forecasting.

Man has, probably forever, wished to foretell the future, though it is a relatively modern phenomenon that any considerable number of persons should wish to predict fairly precisely in time and quantity, to predict for more than a brief span of time, and—this is most revolutionary—to predict alternative outcomes of current policies in order to make the prediction something more than the astrologer's irrational reading of meaningless signs.

A popular indoor sport among some intellectuals in recent years has been to turn on "hate" sessions directed ineffectually at the senior author of *The Year 2000*. Because Herman Kahn has seen fit to face objectively the possibilities of our common anxieties—the universal holocaust—in sensible books with titles like *On Thermonuclear War* and *Thinking about the Unthinkable*, certain silly self-styled liberals have tried to make that rational man into an advocate of devastation. It was never true, it is not true, and let's bury that idea as fast as possible.

What are Kahn and Wiener about? Well, they are not about forecasting, exactly. They seek to portray a series of "surprise-free" futures, extrapolating (not in a silly way) past trends. Those future states are defined narrowly and then, by introduction of options and uncertainties, within broader limits. But all this is set within a framework of policy decision, informed by the notion that some portion of the future will be what current decision-makers decide that it will be, plus or minus the anticipated or unanticipated consequences.

To describe the Kahn-Wiener book briefly would be unfair. Just to quieten otherwise uninformed critics: (i) the authors know that the longer the predictive span, the greater the chance that quite unpredictable events will make a difference; (ii) they know that unique events are unpredictable (though I should have welcomed a professional face-saving statement about probabilities of classes of events); (iii) they recognize—praise be to them—that calculations of the future, and how to modify it, are no longer abstruse academic pursuits (rarely practiced) but are the real business of real people working with various models of social change. That the models of social change employed are inadequate should not surprise us. That the options available—the display of which is the major purpose of this book—should not be en-

tirely cheerful should surprise us no more.

Why the study of the future, and why counter-utopias that sound a threatening and therefore admonitory note—witness *The Future as Nightmare* by Hillegas—should have come upon us in these last few years will be given an interpretation, after the event, by my colleagues who think that they are specialists in "sociology of knowledge." Such explanations are likely to be more persuasive than conclusive. Certainly interest in the future is closely related to the growth of explicit planning in public and private affairs, and the emphasis on rational decisional processes that go beyond mere judgment and experience. In any event, the market for rulers and french curves useful for extrapolating trends, not to mention crystal balls, must be very good these days.

What remains interesting is the attempt to follow through on the implications of current events and past trends in order to formulate wiser courses for the future. The notion is that one should distinguish between those future states that are desirable and intended, and those that are undesirable and unintended. (Any card-carrying sociologist can make a four-fold or eightfold table out of those distinctions.)

Kahn and Wiener construct a "standard world" for the end of the century, with considerable attention to its economic and technological state but without neglect of its political, cultural, and attitudinal state. They then proceed to introduce other possibilities that are somewhat less "surprise-free" but not out of the question; these alternative formulations go under the rubric of "canonical variations." Nor do the authors neglect wholly undesirable future states. In addition to a chapter on thermonuclear war there is one blithely titled "Other twenty-first century nightmares," with attention to chemical and electronic controls of behavior, genetic controls to permit breeding for specific traits, psychological manipulation, and similar horrors. "The evolution of society may produce the devolution of man."

I shall not here summarize the contents of these volumes, for such summaries let the lazy presume that they have read the books. I have, rather, reacted to these books, for I think they are important and worthy of close inspection. But since we are often re-