The Potential Public Uses of the Behavior Sciences

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The amenities of scholarly exchange during any colloquium dealing with the mass media require at least some passing reference to a "communication model." By fortunate happenstance, it is actually convenient in this case to explore the "potential public uses of the behavior sciences" by imagining a sequence beginning with messages (the substance, procedures, and ideology of the disciplines which study human action) that are relayed by agents (the spoken word, the printed page, the silver screen) to target populations (students, clients, and citizens). The message may be described as "useful" when it 1) refers to issues that are salient for substantial numbers of people, 2) assists them to understand or control the social world, and 3) is not garbled in the process of transmission or reception.

The purpose of this paper is to indicate to what extent these conditions now obtain and to speculate under what circumstances they could be satisfied in the proximate future. Since some of my colleagues at this conference will report on specific findings in a number of areas of social concern, my remarks will be sufficiently general to avoid trespassing on their domains. At the same time, I shall try to refrain from those flights into abstraction that have sometimes earned academicians the censure of men who prefer reality.

The Message of the Behavior Sciences

Bernard Berelson and Gary A. Steiner in their encyclopedic propositional inventory, Human Behavior, identify the behavior sci-
ences as the disciplines of "anthropology, psychology, and sociology . . . minus and plus: Minus such specialized sectors as physiological psychology, archaeology, technical linguistics, and most of physical anthropology; plus social geography, some psychiatry, and the behavioral part of economics, political science, and the law." The wide range of interests encompassed by this term is evidenced by the scope of the Berelson-Steiner volume, which includes chapters on: 1) methods of inquiry, 2) behavioral development, 3) perceiving, 4) learning and thinking, 5) motivation, 6) the family, 7) face-to-face relations with small groups, 8) organizations, 9) institutions, 10) social stratification, 11) ethnic relations, 12) mass communication, 13) opinions, attitudes, and beliefs, 14) the society, 15) culture.

Formal definitions allocating these topics to particular disciplines—culture to anthropology, motivation to psychology, social stratification to sociology, and so forth—are deceptive. Academic disciplines, like most social products, are somewhat untidy, each having been partly shaped by historical legacy, random accretion, and the idiosyncratic preferences of its practitioners. Indeed, in my own field, there is a charming ritual that requires every doctoral examination to begin with some variant of "What is sociology?" This insultingly elementary query is addressed to the candidate in the guise of putting him at his ease, but the real motives of the faculty do us less honor. Quite simply, each of us clings to the vain hope that one fine day some bright young man will define the precise boundaries of our field, and thus remove our own perplexities. Since, after many years, this savant savior has still failed to materialize, we are beginning to suspect that he does not exist. Although we continue to pose the same cunning question with the same desperate tenacity, we have abandoned any real expectation of enlightenment. One escapes the most profound self-hatred and despair only by observing that his closest neighbors are similarly afflicted.

As each of the behavior sciences yields to expansionist ambitions and expropriates concepts and substantive interests from the others—a student may be enlightened about the political process, for example, in as many as five instructional departments—the distinctions between them become increasingly blurred. These ecumenical tendencies are further sustained by a shared dedication to the
method of science, or at least to its ethos. This commitment requires within every behavior science a similar division of labor, which is itself a source of interdisciplinary unity. For example, although Paul Lazarsfeld and Talcott Parsons are both sociologists, each might be more appropriately grouped with some political scientists than with each other. The former has much in common with Angus Campbell, whose studies of voting behavior are quantitative and empirical, while the latter has an undeniable kinship to David Easton, who also constructs abstract theoretical models.

The endless polemic on the relative merits of these and still other strategies of inquiry—there is still a certain lingering validity to Poincaré's observation that natural scientists report their findings and social scientists debate their methods—has the curious effect of creating bonds of recognition that transcend distinctive substantive interests. A sociologist who is accustomed to spirited exchanges on the relative merits of "philosophizing" versus "card counting," and finds the doves and the hawks in psychology in acrimonious dispute over the claims of "clinical" versus "statistical" prediction, is confirmed in a favorite principle: In some respects, life is everywhere the same.

The behavior sciences, then, seem sufficiently homogeneous to warrant treating them as a single entity. By so doing we may inadvertently conceal important, but hopefully not crucial, differences. All justify their existence, in part, by the conviction that, although knowledge is its own excuse for being, behavior science has "uses" beyond understanding. Some of these are relevant for public policy. The term "public" has a relatively precise meaning in social science usage which need not detain us here. In the present context it refers to nothing more esoteric than large numbers of people who are obliged to choose among alternatives affecting their collective welfare.

The decision-making process (and its aftermath) is as familiar as it is inexorable. Goals are envisioned and sought; means are employed to achieve these goals; there are always disparities between the intended and the actual outcomes; the perception of these disparities generates tensions or strains, to which there are reactions, which then have consequences for the next stage of goal seeking.
Much of our discussion will take the form of illustrations dealing with a few selected aspects of this process, but it is important to realize that what is at stake are such questions as: What social aims do we most cherish? What other goals are we willing to sacrifice in order to achieve them? What are the most efficient means consistent with our values that we might employ to accomplish our objectives? What price are we prepared to pay in scarce resources—time, energy, and organizational ingenuity—to achieve our aims? What sectors of society shall bear these necessary costs of attaining our purposes? What shall be the sequence of successive approximations toward ideal goals? What strategies shall we adopt in stimulating consent to our proposals?

The most general use of the behavior sciences, their knowledge, methods, and implicit ideologies, lies in their capacity to make this entire sequence less problematic by rendering ends, means, and their interrelationships more intelligible. In brief, they assist men to decide what goals to pursue, what actions make their attainment more probable, and what are the profits and costs of success or failure.

The Potential Uses of the Behavior Sciences in Defining Social Goals

Paul Lazarsfeld once identified the polar points on the “uses” spectrum as “the idea, most clearly represented by Soviet opinion, that the only justified use of social research is social revolution . . . [while, at the opposite extreme] utility in the narrowest sense [refers to] studies for government agencies, for business firms, labor unions, or other voluntary organizations that pay for them in the expectation that they will advance their purposes.”

American behavior science mainly pursues technical rather than salvationist aims. The reasons for this choice are embedded in the nation’s intellectual history and require, among other things, an explanation of why the American campus has so seldom been hospitable to the heresies of the right or the left. On the more superficial level, the status quo orientation reflects the triumph of the positivist doctrine of ethical neutrality in science.

Its fundamental theorem is that the only scientifically meaningful questions of value are those that can be reduced to statements
of fact. The steps in this process consist of first recasting prescriptive statements into the same general form as scientific assertions and then of eliminating all surviving normative terms from the resultant proposition. Thus, for example, the contention, "no nation ought ever to wage war" is actually an elliptical version of an implied "if . . . then" sequence including antecedent ethical commitments (e.g., brotherhood, love, compassion) and expected outcomes (e.g., high noncombatant casualties, suppression of dissent, neglect of the domestic poor) which together create the basis for pacifist convictions. But science is ill-equipped to comment on the purely ethical aspects of any argument. It has no metric to distinguish the intrinsic morality of love vs. hate, compassion vs. cruelty, or brotherhood vs. fratricide. It may request a hearing only about such matters that are at least in principle subject to empirical verification, in this instance the probability that war would, in fact, entail the anticipated consequences.

A mature behavior science would presumably consist of a set of contingent propositions which furnished a "then" for every theoretically or socially significant "if" and a series of instructions for achieving a wide variety of sometimes antithetical goals. And since scientists would still lack standards for defining correct moral choice, they would have no direct official concern for the ultimate uses of knowledge.

This definition of function permits behavior scientists to "clarify" but not to "criticize" goals. In the tradition of Max Weber, they specify the probability that 1) men can achieve whatever aims they seek, 2) they would find success pleasing, and 3) they desire particular outcomes for the reasons professed.

The field of criminology offers an illustration of the first of these contributions. Advocates of the death penalty often repair to a principle of retributive justice that they derive from Genesis 9:6, "Whoso sheddeth Man's blood, by Man shall his blood be shed," and from Leviticus 24:17,"and he who killeth any man shall surely be put to death." "Whoso" and "surely" are crucial conditions in these biblical injunctions, and, as social research clearly indicates, neither is currently satisfied in the American system of criminal justice. As we advance in procedural time from undetected murders in
the first degree, to offenses "known to the police," to the apprehension of the offender, to the courts, and finally to commutation of sentence, a predictable process of attrition rescues more than 95 percent from execution. Criminologists can also demonstrate that, of those who are convicted, a disproportionate number of those executed are male, Negro, and poor. In short, the "whoso" and "surely" desiderata are each violated, and it is unlikely that justice is, or, given current conditions, could ever be truly retributive. Such evidence has no bearing on the ultimate morality of the principle, but it might nevertheless persuade an advocate of capital punishment to reconsider his position.

A second type of clarification of goals is exemplified by the numerous studies of large- and small-scale organizations which indicate that "success" for one part of a system may entail "failure" for another. Peter Blau's research on efforts to render a public welfare agency more efficient showed that the introduction of statistical records increased productivity, enhanced supervision, permitted the introduction of rapid changes, and improved relations between interviewers and supervisors. At the same time, such records had the unintended consequence of threatening the supervisor's status by reducing him to the level of a file clerk; antagonized interviewers when the supervisor disregarded records and used discretionary powers in assigning rewards; undermined the organizational goals by encouraging a good record at the expense of real achievement; and stimulated "cut-throat" competition among interviewers. Under these circumstances, the client might wish to balance the blessings of efficiency against all the unpremeditated and unsought additional consequences.

It is probably useful to be aware of potentially contravening values even when the sustaining evidence is less secure. For example, I am not at all prepared to advocate the adoption of a crash program to combat what I am told is the rising ulcer rate of women. Aside from my customary stoicism in the face of other people's tribulations, I am cheered by the assurances of some behavior scientists that the incidence of peptic ulcers is in part related to the anxiety that results when people are free to choose—and perhaps fail—from among a wider range of available alternatives. If the obverse is true
and women can purchase serenity only by surrendering to the constraints of ideal *Gemeinschaft* existence—*Kinder, Kirche, Küche*—then my only regret is that so few women give their stomach linings for their country. These shaky data and sadistic musings aside, the principle remains: By directing attention to the price that must be paid in some values in order to achieve others, behavior research and theory may result in a reconsideration of originally cherished goals.

Finally, behavior science can help people arrive at a better understanding of why they reach certain of their decisions. A recurrent theme in all social investigation is distrust of initial appearances. This spirit of intellectual exposé frequently calls into question rationality of behavior and purity of purpose. Voting behavior is unmasked and revealed as a function of group interest, laboratory studies demonstrate the unreliability of perception, the theory of relative deprivation asserts that the most rewarded may be the least content—the message, in short, is that reality is elusive and we are not what we seem to be. This *caveat*, if taken seriously, should result in a heightened self-consciousness and a richer and more complex notion of personal motivation. Such self-awareness might well introduce greater rationality into human effort.

These examples of goals—“justice,” “morale,” “rationality”—may seem strangely unidirectional if they are to serve as illustrations of actual and potential modes of goal clarification by scholars who daily celebrate their value neutrality. They have not been selected arbitrarily. For although most of my colleagues are pleased to speak in the muscular rhetoric of positivism, they do so without genuine conviction. They are, as a group, decent men and could not be persuaded knowingly to undertake researches that threaten human freedom or dignity. They try to discover strategies for dealing with poverty, not merely as an interesting exercise in social engineering, but also because misery offends their sense of decency and justice. Those social scientists who become involved in morally ambiguous pursuits such as direct services to the military establishment find themselves the centers of much controversy and the objects of frequent censure. Most “value-free” behavior scientists avoid the friction between their “neutrality” and their private convictions because their moral commitments are consonant with those of the
dominant liberal ethic. They may thus escape the more troubling dilemmas of the doctrine of acquiescence.

A lesser number of behavior scientists regard "mere clarification" as opposed to the "criticism" of goals as a default of scholarly responsibility. They argue that the positivist retreats from moral choice behind the shield of modesty and the strategy of silence. Since he eagerly denies any expertise that is not borrowed from empirical science, he is able to parry with a "no comment" all questions that fall within the realm of social ethics. But by refusing to choose among competing social aims—e.g., the extension of the franchise to all citizens versus the maintenance of state rights—he implies that all goals are morally equivalent, thereby asserting much more than he had intended. Neutrality, then, becomes a value position like all others. If choice is unavoidable, value preferences should be made explicit, ranked, and ultimately assigned weights. Behavior science should expend its resources only on those goals that satisfy the requirements of a valid moral calculus.

Unfortunately, this call to our sense of duty is not ordinarily accompanied by a set of directives about the standards we might apply in assessing ends as well as means. An examination of classic and current definitions of the "good" in social philosophy is not reassuring. Barrows Dunham has identified eight such guides: 1) egocentric hedonism—"pleasant to me"; 2) utilitarianism—"pleasant to most people"; 3) moral intuitionism—"approved by me"; 4) culture relativism—"approved by society"; 5) conforming to the moral law; 6) conforming to the divine law; 7) a supreme good; 8) moral skepticism. If behavior scientists are called upon to advocate particular systems of prescriptive ethics, they will need value standards that are at minimum 1) social in that they refer to the interrelationships among people and 2) binding in that they are not a matter of private definition. Existing positions fail to meet one or both of these criteria.

The most heroic attempt to find a value standard that is both social and obligatory is found in theories such as nonrelativist pragmatism that derive their mandate from history. They profess to discover that over time mankind has sought such ends as "plenty" or "truth" or "moral good" or "freedom," but history also includes Torquemada and Auschwitz and the Treblinka.
The absence of standards clearly differentiating vice from virtue seems to leave the field to the positivists. Their triumph is, however, almost entirely verbal. They do not contend, after all, that social criticism is trivial intellectual activity, but only that it is inconsistent with their conception of the scientist’s role. But if a self-imposed role definition destroys part of their usefulness, then so much the worse for the definition. They could elect to think of themselves as “scholars” or “intellectuals” as well as scientists and expand the range of their legitimate activities.

The great merit of the salvationist tradition is that it insists that we pay attention to goals as well as means, to ultimate objectives as well as temporary expedients. Surely, we stand in need of the utopian visions of B. F. Skinner and the jeremiads of C. Wright Mills. Skinner assaults contemporary society in the name of a society yet to be; Mills, for all of his militancy, was primarily engaged in celebrating the durable values of Western civilization. If Skinner invites us to the brave new world, Mills reproached us for our infidelity to the promise of our past. It is easy to pretend condescension toward Skinner, to find him merely interesting, and to dismiss Mills as a scold because he refused us permission to be cynical about our own most cherished values. History is often unkind to those who are discourteous to prophets.

We have been spared the necessity of arriving at any definitive solution to the “value problem” because, despite the endless prattle about “manipulation,” the behavior sciences do not yet know enough to be very dangerous. But our knowledge is greater than it was a decade ago, in another decade it will be greater still, and it is folly to rely on ignorance to protect us from philosophy. Meanwhile, utility is served by those who “criticize” and those who “clarify,” by those who direct attention to a wider and sometimes better agenda of human possibilities, and those who, lacking apocalyptic vision, sustain the daily exertions of a complex society.

The Potential Uses of Behavior Science in Developing Means to Implement Social Goals

The task of specifying conditions and developing programs for the achievement of social goals is ordinarily known as applied social research. Such activity may be addressed to issues of the great-
est national importance or to relatively modest questions of public convenience. Alvin Gouldner’s summary of the activities of applied research organizations gives some indication of their scope.

1) the reduction of various forms of social deviancy as exemplified in efforts to rehabilitate criminals or juvenile delinquents, 2) improvement of the efficiency or effectiveness with which diverse lay goals are pursued as exemplified in the work of some industrial sociologists or applied anthropologists, 3) the reduction of tensions or conflicts such as in the work of some race relation specialists, 4) the reduction of tensions that a group experiences in relation to its environment such as those found in personnel testing, market research, and public relations surveys.

The ideal-typical sequence of an action research goes somewhat as follows: 1) a moral principle is asserted; 2) its institutional base is identified; 3) social goals are derived; 4) descriptive studies test the correspondence between aspiration and reality; 5) the social and individual consequences of the disparities are specified; 6) behavior research suggests means for narrowing the gap; 7) programs are developed that incorporate the proposed solution; and 8) evaluation procedures indicate the “success” or “failure” of the program. We may illustrate this pattern by alluding to the problem of “equality of educational opportunity.”

1. **Moral principle:** All citizens in a democratic society should have equal initial advantages in seeking the good things in life. If the race belongs to the swift, the starting line should be the same for all.

2. **Institutional base:** Free public education is the main instrument of public policy for providing some modicum of equality of opportunity.

3. **Social goal:** High-quality schooling should be equally accessible to all American children regardless of creed, color, national origin, social class, or differences in talent.

4. **Correspondence between goal and reality:** Research on the problems of the poor, Negroes, and Puerto Ricans leaves little doubt that the school system magnifies the inequities of a stratified society by offering some children superior education while
denying it to others. Moreover, many such children suffer from environmentally induced disabilities before entering school and throughout their educational careers.

5. **Social and individual consequences of the disparities**: The individual child experiences anxiety, hostility, and a deflation of self. At the societal level, lack of educational opportunity severely restricts the positive functions of education as a mechanism for recruiting and discovering talent, as an agent for economic growth, as a vehicle for social mobility, and as an instrument for peaceable social change.

6. **Research clue**: According to some scholars most of the growth or decline in tested intelligence occurs in the preschool years. A child who is the product of an intellectually impoverished environment is severely handicapped by the time he enters first grade.

7. **Program**: “Operation Headstart” establishes preschool programs as part of the war against poverty.

8. **Evaluation**: It is too early to make a definitive judgment, but such programs appear to be valuable. However, there is already sufficient evidence to indicate that they are unlikely to reduce cumulative social and psychological deficits unless they are articulated with subsequent school programs, effectively interpreted to parents and the school systems, and taught by instructors who find gratification in teaching “slow” children.

All of the resources of the behavior sciences — their theories, findings, and techniques; the methods that produce them; the ethical system that sustains the process of discovery — are implicated in the “action” process: 1) “pure” research in the purest sense, i.e., the development of conceptual schemes, measurement devices, and the like, that are substantively vacuous; 2) empirical generalizations about the nature of society and the individual at reasonably high levels of abstraction; 3) investigations of narrowly defined and circumscribed problems; 4) middlemen practitioners who can establish programs.

The unifying features of behavior science that link all of these echelons as they select appropriate means to achieve desired ends
include: 1) its methods of arriving at truth, 2) its emphasis on the concept of "system", 3) its quest for valid generalizations, 4) its contribution of specific techniques, and 5) its virtue.

As the conference progresses, someone will doubtless wonder out loud whether or not the behavior sciences are "really sciences." This is a harmless way to pass the time of day. I am content to relinquish the glowing symbolism of "science" so long as it is understood that behavior research has distinctive properties which separate it from other ways of arriving at truth. One of these is organized skepticism, a kind of institutionalized paranoia. Scientific method, properly understood, consists of a series of procedures which maximize the opportunities for revealing the errors in a plausible conjecture. This is the purpose of experimental logic, sampling, replication—the entire cumbersome apparatus of behavior science.

The Cambridge-Somerville Youth Study, which began in 1939, is a dramatic example of the utility of scientific procedure. A group of 325 boys judged to be "delinquent risks" in these two Massachusetts communities received, for a period of five years, the full benefits of the standard repertoire of social science rehabilitation techniques. These included psychological counseling, religious exhortation, and the guidance of the police. Three years after the conclusion of the project, a follow-up study indicated that neither the seriousness nor the frequency of the offenses committed by the boys in the intervening period were as high as had originally been anticipated.

If matters had stopped at this point, the project's personnel would have had occasion for justified self-congratulation. However, unluckily for their equanimity, but fortunately for knowledge, they had taken the precaution of recording the progress of a control group of similar size and characteristics. Powers and Witmer, who directed the experiment, were unable to discover any appreciable differences in the subsequent behavior of the treatment and control groups. A later study by Joan and William McCord tracing the experiences of both groups up to 1956 yielded substantially similar results, and the authors conceded that "using the standard of 'official' criminal behavior, we must conclude that the Cambridge-Somerville Youth Study was largely a failure."
The point to be noted is that the investigators would never have discovered that this was the case if the routine skepticism of the scientific method had not been reflected in their research design. This quality of mind is a welcome antidote for those programs that invest hope and energy without making any systematic effort to evaluate the results. Surely, the yearning for precision, the barriers which are created against innocence, the refusal to acknowledge superficial proofs are themselves public resources.

Methodological sophistication has its theoretical counterpart in those concepts of all the behavior sciences that emphasize the interrelatedness of parts to each other and to more comprehensive wholes. This idea is incorporated or implied in such notions as Gestalten, "configurations," "context," and above all in the notion of "system." A fairly standard treatment of this idea, in this case as it appears in the literature of organization theory, is the following: "Organizations are systems of individuals and groups which act upon one another. Changes in the behavior of one status group within an organization must affect the behavior of other groups, which in turn may have consequences feeding back to the group which changed first."

The concept of system means that behavior scientists are alert to the possible consequences of any change for the total unit in which it is implicated. Thus, for example, the contraction in the differential birth rate among socio-economic classes may also mean reduced opportunities for social mobility, which may in turn have consequences for voting behavior, which may in turn . . . . This continued awareness of interrelatedness, when brought to the attention of policy-makers, can protect against the assumption that problems may be solved in isolation.

Beyond these gifts of attitude and style, behavior scientists contribute the isolated facts, empirical generalizations, and the "middle-range" theories that are indispensable to public policy. Their capacity to generate increasingly abstract propositions is their greatest source of power. They diverge, in this respect, from the stereotype of crusading journalism which does heroic personal battle against the evils that beset us. Behavior science takes a rather more "cool" view of existence. It does not view life as a series of private triumphs
or failures. It wishes, instead, to comprehend human behavior in most abstract categories, and it is in this respect vulnerable to the charge of "dehumanization" which is sometimes leveled against its intellectual style.

But the habit of mind that deliberately renounces the effort to describe behavior in its full complexity and cherishes particular events only because they may eventually yield general propositions is nevertheless invaluable for some kinds of social understanding. Robin Williams, for example, painstakingly culled the literature of intergroup behavior almost two decades ago and produced the following instructive generalizations:

1) Militancy, except for sporadic and short-lived uprisings, is not characteristic of the most deprived and oppressed groups, but rather of those who have gained considerable rights so that they are able realistically to hope for more;
2) A militant reaction from a minority group is most likely when a) the group's position is rapidly improving or b) when it is rapidly deteriorating, especially if this follows a period of improvement.\textsuperscript{10}

Much that has seemed puzzling to some could have been anticipated if these propositions had been consulted. They might have stimulated more responsive social action if the public had been able to foresee that the civil rights movement would become increasingly militant rather than obligingly passive once it had seen some major victories. The peculiar strength of general propositions is that they are relevant not only for the population to which they refer but also for understanding other situations with similar conceptual elements. Williams' generalizations rather suggest that, now that college students and the organized poor have experienced some initial successes, neither is likely to fade painlessly away. The time for suppression, if it was ever a realistic strategy, has long since passed.

The behavior sciences are not only capable of aiding the public to anticipate and respond to events; they often provide the means to control them. Kenneth Boulding has recently contended that internal developments in the science of economics leading to greater theoretical power, the availability of extensive information, and the development of imaginative concepts have had profound repercus-
sions throughout the entire Western world. His comments deserve extensive quotation:

If one were to look for the most important single reason for the striking contrast between the twenty years after the First World War and the twenty years after the Second, in terms of economic development and the avoidance of great depressions, at least in the developed world, I would nominate the development of national income statistics as the most important factor. The whole concept of the gross national product, for instance, was almost unknown in political discourse before the Second World War. It is true also that certain conceptual changes in the theoretical image of the system, due mainly to the powerful insights of Keynes, went hand in hand with the new information system to create an image in the mind of economic policy makers of a controlled market economy, which means that the Second World War represents a real “system break” in the economic system of the Western world, with a very profound shift in its fundamental patterns of behavior.11

The intellectual power of the behavior sciences is linked with more virtue than is common in our society. Jacob Bronowski has eloquently stated the case for science as an ethical system:

The men and women who practice the sciences make a company of scholars which has been more lasting than any modern state, yet which has changed and evolved as no church has. What power holds them together? In an obvious sense, theirs is the power of virtue. By the worldly standards of public life, all scholars in their work are of course oddly virtuous. They do not make wild claims, they do not cheat, they do not try to persuade at any cost, they appeal neither to prejudice nor to authority, they are often frank about their ignorance, their disputes are fairly decorous, they do not confuse what is being argued with race, politics, sex or age, they listen patiently to the young and to the old who both know everything. These are the general virtues of scholarship, and they are peculiarly the virtues of science. Individually, scientists no doubt have human weaknesses. But in a world in which state and dogma seem always either to threaten or to cajole, the body of scientists is trained to avoid and organized to resist every form of persuasion but the fact.

The values of science derive neither from the virtues of its members, nor from the finger-wagging codes of conduct by which every profession
reminds itself to be good. They have grown out of the practice of science because they are in the inescapable conditions for its practice.\textsuperscript{12}

This ode was not dedicated to behavior scientists, and they probably do not merit quite so much lyrical energy. But they, too, are the beneficiaries of scientific training, and they are mostly situated in universities which, all things considered, can usually boast of a bracing moral climate. This is an embarrassing claim and one that will not be confirmed by reading academic novels. These ordinarily convey the impression that universities are more bookish versions of Peyton Place, that their inhabitants are mainly preoccupied with bureaucratic scuffling, and that surface civility is a disguise for corruption. This description of the campus is not devoid of appeal, but at the risk of relinquishing my credentials as a certified cynic, I should like to maintain that the community of scholars has great respect for truth and little tolerance for mendacity and that those attitudes could be absorbed at great public benefit.

After this recitation of the exemplary merits of the behavior sciences, it would be less than candid to conceal that the behavior sciences, as they are now constituted, suffer from severe maladies that restrict their usefulness. Berelson and Steiner concede that they suffer from "too much precision misplaced on trivial matters, too little respect for crucial fact as against grand theories, too much respect for insights that are commonplace, too much indication and too little proof, too little genuine cumulation of generalizations, too little regard for the learning of the past, far too much jargon."\textsuperscript{13} This indictment could be extended. The potential public uses of the behavior sciences are restricted by three major limitations: 1) some of their conclusions often turn out to be demonstrably erroneous; 2) others are disputed within the profession; and 3) data and techniques for inducing sponsored change are conspicuously meager.

Demography is among the most mature of all branches within the behavior sciences, and the late P. K. Whelpton was one of its most able practitioners. Yet his widely accepted population projections were consistently in error. At various times, he forecast that the "population of the United States . . . was scheduled to reach a maximum of 144.6 million by 1970 and to decline rapidly there-
after"; "the maximum during the century would not exceed 150 million"; "the population will reach its maximum of about 160 million soon after 1990, and then begin to dwindle numerically"; and "a maximum population of some 165 million would be reached about 1990 after which a decline would occur." Harold F. Dorn was prompted to ask, "Demography, is it science or literature?" and did not stay for an answer.\textsuperscript{14} It is clear, to understate the matter, that social bookkeeping based on these projections would have gone far awry.

It is further true that many issues in the behavior sciences remain unsettled. During periods of recession, is the economy better served by massive governmental spending or by reduction in taxes? Do Protestants exceed Catholics in the achievement ethic? Is there a power elite, or is it more accurate to refer to an intricate network of "veto" groups? Is the "positive reinforcement" of the teaching machine more effective for stimulating learning than the variable and sometimes irascible real-life teacher? Is the cause of economic development in transitional societies better served by elite or mass education? If there were malice enough and time, the instances of ambiguities in fairly central issues in the behavior sciences could be almost indefinitely multiplied.

Another severe limitation on the uses of the behavior sciences is their absence of concrete knowledge about the processes of change. It is true, as Wilbert Moore has noted, that "several social scientific disciplines, and notably economics and sociology, do provide some fairly high-level, empirically-based, and interdependent propositions concerning social change."\textsuperscript{15} However, high-level propositions are not the same as specific techniques for the transformation of individual men or their communities. The most publicized of these are "role playing," the psychodrama, and other such devices associated with the group dynamics movement. However, all would concede that, as measured against the magnitude of the challenge, these are frail instruments indeed.

\textit{The Populations}

The principal audiences for the knowledge of the behavior scientists may be identified as 1) the captive population of college stu-
dents, 2) strategic elites that make decisions in the society, and 3) the general public. It is difficult to ascertain to what extent the first of these groups has received the message. Their earnestness and performance on examinations seem to suggest that some knowledge has been absorbed; but, since there does not now exist a single study on the retention of information beyond graduation, it is difficult to tell whether any permanent damage has occurred. The research on differential effects of the academic “major” on values does not gladden the heart. There are no consistently large differences in political liberalism, ethnic tolerance, internationalism, etc. between those who concentrate in the behavior sciences and those otherwise occupied in the academy.

The prevailing evidence, then, gives us no warrant for assuming that persons other than the professional consumers of the behavior sciences—government officials, city planners, social workers, teachers—are much affected by them. There is, however, reason to believe that decision-makers, including congressmen, have a great deal of faith in their potential uses. Research funds from such sources as the National Institutes of Health, the National Science Foundation, and the Office of Education are ample, if not lavish, and fellowship assistance for graduate students is now available from a variety of governmental and corporate sources. An even more significant development is the reliance on behavior science experts at every level of society. As Henry Kissinger, himself a veteran of many Washington skirmishes, has written, “many organizations, governmental or private, rely on panels of experts. Political leaders have intellectuals as advisors. Throughout our society policy-planning bodies proliferate, research organizations multiply. The need for talent is a theme of countless reports.”

There is no satisfactory evidence indicating to what extent the general public is aware of behavior science findings. It would seem to follow, from all that has been said thus far, that they should be disseminated as widely as possible. The diffusion of such knowledge is, however, of a different order than other scientific information regularly carried by the mass media and involves perplexities that are inapplicable to, let us say, reports about space exploration or even medicine. The unhappy consequences of faulty perceptions of these
fields are cushioned by the fact that any action that results from such distortions is subject to effective veto by a professional, responsible, and technically proficient intermediary. A reader of a medical feature in Newsweek may not be able to differentiate the aorta from the cerebellum, but it is not he who will prescribe drugs or perform surgery. The situation with respect to social knowledge is, of course, quite different. The layman’s views become part of “effective public opinion” with all the action consequences implied by that uncertain phrase.

What, for instance, do we wish to convey to readers of the New York Daily News about racial differences in intelligence? What do we really know? The average test performance of Negroes is inferior to whites; there is, nevertheless, considerable statistical overlap; and an undetermined proportion of the variance may be attributed to environmental circumstance. Unfortunately for human decency, the equivalence of conditions that would permit confident interpretation do not obtain in contemporary America. When selected indices of social class are held relatively constant, differentials in measured intelligence customarily contract, occasionally expand, and sometimes remain unaffected. This being the case, most responsible scholars have concluded that there is “insufficient evidence to demonstrate intrinsic racial differences in intelligence.”

Moreover, the overwhelming majority of behavior scientists believe that evidence compiled under optimum conditions would reveal that the distribution of intelligence is the same among all races.

But since faith is not proof, it is altogether conceivable that whites are indeed “superior” to Negroes, the races are inherently equal, or, for that matter, Negroes are “superior” to whites. It seems highly arbitrary to assume that intelligence tests and environmental deficits are so perfectly calibrated as to account for the precise number of I.Q. points that Negroes differ from whites. This assumption may well underestimate the importance of the social milieu and the native intelligence of Negroes.

What shall we make of these findings, and how shall we transmit them to the general reader? Race relations are currently, to put it mildly, “delicate,” and history affords much testimony that the doctrines of biological superiority have often been the last refuge
of scoundrels. In the name of social responsibility, shall journalists then refrain from contradicting the widespread impression that "social scientists have demonstrated that all races are equal," or shall they indicate the unsettled and ambiguous state of knowledge in this sphere? There are questions which cannot be answered by easy reference to clichés about the "right of the public to know." At the very least, the phrase "to know" must be distinguished from unadorned "fact." Information does not become knowledge, nor does knowledge reach "understanding," until it is placed in context and its scientific and ethical consequences are defined.

Journalists might do well to inform their readers of the current state of the art in testing, to place the cognitive dimensions in proper perspective, to cite the intolerance of democratic theory for discriminatory behavior based on group averages, and above all to indicate the irrelevance of interracial comparisons for most issues of public policy. The problem is not whether Negroes are equal to whites, but whether they are equal to the ordinary burdens and privileges of contemporary life. And there is no evidence that Negroes are inherently unable to benefit from education, hold jobs, live in decent houses, and otherwise participate as full citizens in a free society. The hazards of exhibiting sensitive behavior science materials for public inspection may be those that are encountered in all aspects of democratic life, but they can be unduly magnified by journalists who, in the name of time-honored distinctions between "news" and "editorializing," refrain from morally relevant interpretation.

The Mass Media as Agent

At present, scholars speak to scholars, professors speak to students, experts speak to clients, but only the mass media can speak to the public. They could elect to report on the behavior sciences on the basis of criteria that are faintly analogous to familiar journalistic categories, 1) "for background only" and 2) "for direct quotation." In the first instance, the journalist uses knowledge to understand events and to interpret them for the benefit of his readers. However, he would not regard the behavior sciences as his "beat"
but simply as one of many sources of information that increased his own craftsmanship. He might instead spend full time or less at the behavior sciences desk in much the same fashion as his colleagues who cover the drama, music, medicine, and other departments that regularly appear in the mass media. These are, of course, not mutually exclusive choices, and a particular publication or television outlet could very well decide to do both. Either course would seem to argue for the inclusion of behavior science training in the curricula of schools of journalism. All of the relevant disciplines are now far too complex, too specialized, and too technical to permit easy access to findings by means of the usual techniques of journalistic investigation.

He will need to develop scientific competence if for no other reason than the necessity for emancipating himself from uncritical reliance on professional informants. Much behavior science leaves a great deal to be desired, as is evident to any novice in the field, and a journalist needs sufficient immersion in the literature of economics, anthropology, sociology, political science, and the law to exercise independent judgment. The need for professionalism is here fully as great, say, as it is in the case of the National Association of Science Writers. Nor would it be amiss to expand the number of programs such as those supported by the Sloan, Rockefeller, Ford, and Russell Sage Foundations. Any behavior science beat should include, among other things, some concern for the institutional aspects of the behavior sciences, their sources of support, the conditions under which they produce knowledge, and their relationship to national policy.

Journalists may be deterred from learning more about behavior science because of its deficiencies as an art form. Behavior scientists are not famous for the distinction of their prose, and on all sides we are admonished, “Talk to us in English.” Now it is obviously desirable to write with simplicity and grace, but, having granted this point, I am not at all sure that the injunction to “talk to us in English” is always a reasonable demand. The natural science editor is willing to learn the language of mathematics, to master technical terms, and to relax literary standards in order to confront the secrets of the physical universe. It is reasonable to require that a sentence
should be no more obscure than its content warrants. But if the
problems are complex and the analysis subtle, we sacrifice too much
if we fail to use technical language and style. A specialized vocabu-
lary not only promotes parsimonious communication; it often has
the additional merit of intellectual precision. Journalists who wish
to introduce readers to our findings will be obliged to learn and then
translate the language in which they are expressed.

There are, to be sure, problems involved in determining how
this tutelage can best be accomplished. Who shall preside over the
behavior science department—a scholar who can translate his pro-
fessional language into English, or a prose stylist who is willing to
obtain the requisite professional education? In either case, he should
be sensitive to the fact that linguistic elegance must sometimes be
sacrificed in the process of converting a plausible intuition into a
near certainty.

The alleged inscrutability of behavior scientists poses no in-
superable obstacles to fruitful collaboration. A more troublesome
difficulty is the pressure exerted on the media to sacrifice serious
reportage for the sake of audience appeal. Journalists are still to
some degree the captives of the public demand for high drama, "hu-
man interest," and "easy reading." These criteria could lead to ex-
cessive concentration on inconsequential trifles and induce the edi-
tor to ignore studies that are supported by quantitative rather than
case history data.

It is, for example, impossible to describe the behavior of indi-
viduals in groups without using words such as "more" or "less," or
"majority," or "minority," or "greater proportion," or "smaller
proportion," and other words of this type. Now the word "major-
ity," for example, can be translated to mean more than 50 per cent,
and 50 is a number; when we begin to use numbers, tables cannot
be far away, and for many people, neither can tedium. But the ex-
clusive emphasis on "human interest" in the conventional sense
will deprive readers of some of the most significant findings in the
behavior sciences.

The commitment of behavior scientists and journalists to dif-
ferent aesthetic standards and canons of reporting suggest that they
are in some respects two distinctive cultures. These differences
should not be exaggerated. They have more in common than the
mandate to publish or perish. Journalists are commonly engaged in
a primitive form of behavior science that we call, in our spritely
way, "participant-observation" and that reporters know as "getting
the story." Some of the most celebrated studies in our literature,
such as William Foote Whyte's *Street Corner Society*, are actually
journalistic works that are sharpened by the concepts of the behav-
ior sciences. Such studies are very valuable. They are especially use-
ful in suggesting hypotheses which may later be confirmed by more
sophisticated methods. My feeling is that journalists are ordinarily
better participant-observers than are behavior scientists. They can-
not be deflected by the intervening conceptual barriers that some-
times distort perception. When a newspaper reports a suicide, I
am left with some palpable sense of waste and terror. A sociologist
who reflects on the same incident feels the immediate need of enlist-
ing Durkheim as an ally, and Max Weber cannot be far behind. At
the level of "getting the story," we would do well to pay more atten-
tion to journalistic standards of salience, immediacy, and clarity.

Journalists are, moreover, at least the equal of behavior sci-
ents in dealing with "the story behind the story" of major national
and international events. In commenting on Amitai Etzioni's con-
viction that "the overwhelming majority of social commentators,
editorial writers, etc. who are uninitiated to sociology have a poor
record of understanding social issues from race relations to the rad-
cial right," Robert Bierstedt answers that "few if any sociologists
are superior in social analysis to such publicists as Walter Lippmann
and James Reston." He adds that "it is useful if embarrassing to re-
call that both of them are innocent of sociological training... It is
my own impression that most of us, as sociologists, tend to deni-
grate [as 'mere' journalism] the enterprise and accomplishment of
publicists in general..."17

Science claims no monopoly in understanding the world. The
moon belongs to the astrophysicist and to the poet as well as to
those who systematically study the marriages that result from lunar
madness. Behavior science is itself only a grand hypothesis. We are
wagering that, if we proceed according to methods that have some points of resemblance to those that have been successful in the natural sciences, these strategies will also yield benefits to us. Thus far our aspirations considerably exceed our achievements. Furthermore, even our best efforts tend to be somewhat disrespectful of the juices of life. One of my colleagues once heard a young graduate student explain that “human beings are residuals in my theoretical system.”

Permit me to relate a brief parable. Some twenty-five years ago I entered the Army, together with a goodly number of fellow sophomores. Our drill sergeant answered to W.K.; his despairing mother did not trouble herself to endow him with a full name. He was a wit, a kind of illiterate Noel Coward whose ignorance was equal to the grandeur of his malice. From time to time, he would inquire solicitously, “Where the hell do you guys think you are—at the senior prom?” and dissolve in self-congratulation.

I had a friend with whom I exchanged little speculations about our sergeant’s ancestry and his native intelligence. One day an officer interrupted our drill, said a few words to our nemesis, and gave him an assignment that made it necessary for us to return to our barracks without his benevolent guidance. As luck would have it, W.K. appointed my friend as his deputy. Now I was in the presence of a buddy, and I prepared to march back serenely with my usual dispirited shuffle. Suddenly, out of the foggy dew of Mississippi, I heard a voice no longer friendly asking, “Where the hell do you guys think you are—at the senior prom?”

The moral of this tale is, of course, that personality may well reside in the sergeantcy rather than the sergeant. Speaking as a sociologist, this anecdote pleases me. It reveals the fact of order and predictability and does not require intimate knowledge of real people. But what is good for sociology may be bad for the country. A society without idiosyncracy would, of course, be intolerable. If I may paraphrase W. H. Auden: When social scientists fully understand human beings, it will be their duty to teach them how they might once again become incomprehensible. No such prospect need haunt us. When all of the behavior sciences reach full maturity, there will still be wonder and enigma aplenty for poets, journalists, and philosophers. In this company of men who wish to understand and
guide other men, the behavior scientist will make significant contributions, but he will be only one among many.

3. The late George Lundberg remains the authentic voice of positivism in American social science. An excellent account of his position may be found in George A. Lundberg, "Semantics and the Value Problem," Social Forces, Vol. 27 (1948), No. 1, p. 116.