SOCIAL SCIENCE IN SCHOOLS OF MEDICINE
Problems, Prospects and a Program

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Although new departures in professional technology may result from error or misapprehension, those innovations that do not answer the problems set for them are soon enough discarded. Although it is perhaps too early to tell conclusively, it would seem that the application of social science knowledge to the field of medicine is an addition to the medical armamentarium that will long survive. We assert this to be true despite many of the difficulties that will be enumerated below.

This paper will review some of the reasons for the introduction of social science into medicine, some of the difficulties social scientists have encountered, particularly in the course of teaching medical students, and the specific program in behavioral science recently introduced in the Faculty of Medicine at the University of Toronto.

The following report comprises an amalgam of the separate and collective experiences of the three authors during the course of their involvement with the program in behavioral science at the University of Toronto. Many of the concrete references to problems encountered in teaching social science in schools of medicine have been gleaned by the authors from conversations with social scientists, physicians and students at more than a

dozen schools in the United States and Canada. Notwithstanding the sometimes impressionistic basis of the conclusions cited here, the reader conversant with the area will detect both echoes and motifs sounded in the past by Williams,[1] Simmons and Davis,[2] Freeman, Levine and Reeder,[3] Bloom, *et al.*,[4] Roth,[5] Jaco,[6] Stainbrook and Wexler,[7] Hyman,[8] French,[9] Goss and Reader[10] and Anderson[11] among others.

SOCIAL SCIENCE AND MEDICINE

In a field with the long history, rich tradition and high status of medicine, it is no easy matter for a relatively untried and unproven approach to the explanation of behavior to win fast acceptance. That social sciences have become as well entrenched in medical settings as they now are, and in so short a period of time, is indicative not so much of the essential generosity of the host discipline, but of the need of contemporary medicine to mediate recent social changes that have particularly upset the traditional doctor-patient relation. In addition, the inability of what has aptly been called the "medical model" to orient contemporary medicine to a preventive stance has stimulated an interest in learning about the social and psychologic correlates and precursors of illness. Social science seems to offer the means by which medicine may adopt a more preventive posture through the explanation of social conditions within which and, perhaps, because of which various disease entities occur and flourish. In addition, by broadening medical perspectives to extend beyond the laboratory and microscope, social science may be able to shed some light on the relation between medical practitioners and patients as well as the encounters of physicians among themselves.[12]

One of the fundamental transformations in medicine in recent years that has caused perhaps the greatest concern and, therefore, interest in the applicability of social science knowledge to medical practice, is the deterioration of the doctor-patient relation somewhat characteristic of the early decades of

this century. Several factors, including medicine's own success in disease control, have led to this change.

First, large-scale social mobility, both vertical and horizontal (over large geographic distances) has transformed society into a veritable case of Brownian movement. Unlike countless previous generations in which communities were stable and people lived their lives from birth to death within relatively limited social and geographic confines, the pattern today is for movement and change. If a "territorial imperative" exists it would appear to require that men ultimately go everywhere and see everything. This relatively new pattern, however, has undermined the classical relation between doctor and patient. In the ideal medical pattern of the late nineteenth and early twentieth centuries, doctors knew most of their patients, their families, their crises, their aspirations, their defeats and often their beginnings and frequently their ends. This was at least the pattern in smaller communities or in middle-class practices, and has perhaps been idealized out of all proportion to its actual occurrence. Whether the picture drawn is entirely true or not, it may be seen that where conditions of social stability and intimate knowledge prevailed, the doctor was more than merely the dispenser of pills or the man who set fractures. He was, at least for those who were fortunate enough to receive the full dose of medical care, a social intimate and, because of his privileged knowledge and acquaintance with the whole life-span and social setting of these patients, frequently a confessor, advisor and spiritual mentor. Often his superior education made him the instigator of ambitions in youth and a window on the wider world. The growth of social mobility and the accompanying swelling of the cities have virtually destroyed that old relation. The doctor simply does not know many of his patients well and many of his patients do not know him. As a consequence, a valuable social relation has been lost to the community.

The fault, however, does not lie with large-scale changes in societal conditions alone. Medicine too, ironically, has con-

tributed to the deterioration of the classical doctor-patient relation by virtue of its own success. This success has been marked especially by the development of antibiotic capabilities as well as the development of specialization as a result of deepening knowledge in all areas of medicine. The enormous increase in purely medical knowledge enables the doctor, in many cases, to serve his patients by means of drugs rather than by commiseration and human concern. Drugs have radically transformed the special social relation that frequently prevailed between the afflicted and the quasi-knowledgeable. Today the pharmacist and other health workers have appropriated much of the middle ground and the physician is thereby relieved of much of his previous role. This has, of course, permitted the physician to treat more patients, but in a more impersonal way. There is, however, a felt-loss here and many persons who remember medical practice in its earlier form are bewildered at recent developments. Parents who can recall that when they were children the doctor visited them when they became sick in the middle of the night, are now bemused and sometimes outraged when they can do no better than speak to an answering service when their own children are sick in the early morning hours. This has generated no small degree of antagonism between the public and physicians, upon whom the public feels the right to call in time of crisis. A reciprocal feature of that hostility has evoked in medical men a concern that they have perhaps truly lost touch with their clientele, and the invocation of social science may be something like an emergency call at the midnight hour.

Medical specialization marked by truly impressive success in virtually all areas and nourished by stunning breakthroughs in several of the basic sciences, has also depleted the ranks of the general practitioners who might have been available to respond to the patients' need for more than a scribbled note to the pharmacist. In the attempt to reinstill in students the desire to practice so-called "family medicine," medical schools have

turned to social science for insights into the family and community that are to be the setting for the revitalized general practitioner.

Further, social science is expected by some in the medical profession to provide the "humanistic coefficient" that will permit doctors to reintegrate the disparate pieces and to see the whole man instead of merely his organs or his disease. This assumes, of course, that social science is the chief means by which a holistic perspective of man can be obtained and successfully transmitted to physicians.

Finally, the development of social conscience in the area of health care, as a consequence of social demand, has placed the need for adequate health care for every citizen virtually on a par with the requirements for education, potable water and police and fire protection. This has greatly enlarged the base of the population that is thought to be entitled to high-quality medical care. The new quantitative pressure for a qualitative good has added urgency to the question of providing high-quality health services to all citizens. In this regard, the social sciences have been sought out in an effort to elucidate the political, economic and social ramifications of these developments for medicine as an occupation and the organization of medical practice.

Although the bulk of the efforts by social scientists in medical settings generally reflects the medical perspective on the questions it is important to ask, often enough sociologists (in particular) have defined their own problem areas. The social scientist is increasingly often rejecting the role of either sympathetic friend or hired hand devoted to the solution of the problems set for it by its employer. Thus, social scientists have investigated such diverse areas as the economics of health care, the social sources of diagnostic and surgical fads in medicine, failures of empathy on the part of physicians in the doctor-patient relation, perceptual and behavioral limitations of physicians in situations where they must deal with lower class patients and so forth. In addition to numerous instances of

successful ancillary support or active collaboration, in some sense sociology and medicine have collided, and many physicians, already sore and sensitive from their encounter with the public at large, reject as irrelevant or erroneous the data proffered by sociologists.[13] This has not particularly smoothed the way of the sociologist as he conducts research in the medical area, but it has, if anything, reinforced his desire to examine the medical profession more critically. As students of the professions and of professional practice (not only including medicine), sociologists feel theirs is a legitimate undertaking when they investigate the shortcomings of medicine. In many instances, however, this was not what medicine had in mind when it invited the social scientist to introduce the humanistic coefficient.

TEACHING SOCIAL SCIENCE IN SCHOOLS OF MEDICINE

Apart from the many research investigations of medically related social topics conducted by a variety of social scientists, the most significant involvement of social science in medicine is in the teaching programs of a growing number of medical schools. The extent of these programs varies considerably, as does the status of social science in these settings, and their ultimate impact is still difficult to ascertain. This part of the paper will discuss some of the problems faced by social scientists who teach in schools of medicine. Such problems there are in plentitude, as will be seen below. They fall under four major headings: (1) curriculum and format; (2) students; (3) social scientists; and (4) organization of social science in schools of medicine. More fundamental than any of these four, however, is the issue of interprofessional relations.

Despite the perhaps laudable calls for the integration of all knowledge and the development of interdisciplinary perspectives, the realities of academic and professional specialization and departmentalization often preclude the successful harmonizing of disparate professional knowledge and interests. It has

been suggested, with good reason, that problems of interprofessional collaboration are likely to be accentuated between social scientists and members of the department of medicine.[14] Yet, often enough, the "narcissism of minor differences" (in Freud's phrase) hampers satisfactory collaboration between social scientists and their nearest potential allies in medical settings, namely psychiatrists.[15–18]

What Veblen called "trained incapacity" appears to characterize each of the professions as it attempts to practice with, or in the context of, another profession. Where the professions have relatively equal status, the problems are minimized, although they still exist, as witness the failures of numerous interdisciplinary programs within the social sciences themselves where the status differences between disciplines are minimal. Where the professions are unequally evaluated, either in the academic community or in society at large, as, for example, medicine and sociology, additional problems complicate the search for a viable pattern of organization and integration of effort.[19–22] In particular, two foci of difficulty emerge as a result.

First, the higher-status medical profession is understandably guarded and in some respects explicitly loath to accept the critical insights and perspectives on itself contributed by a profession with lower status and with claims to be a science, which are frequently unsubstantiated.[23, 24] Second, the social scientists in search of both identity and recognition are themselves loath to retreat a step from their claimed ability to contribute a satisfactory answer to a pressing social problem, nor to surrender an iota of autonomy in their relations with the medical profession despite the fact, recognized by most, that medicine has higher status in society and may, therefore, legitimately preempt the major share of deference.[25] This complexity of interprofessional relations must be seen as the backdrop against which the four more localized problems mentioned above have their effects.

Curriculum and Format

Subject matter. Even if the schools of medicine that have taken the lead in inviting social scientists to teach in their basic programs have had a clear idea of what it is they wanted of social science they have failed to communicate that idea. Or if it has not been a failure of communication, social scientists have probably paid little heed to what it is the administrations of schools of medicine have desired. One might just as easily surmise, after perusing the idealistic statements of medical school administrators about the need for social science in their teaching programs, that courses in literature and philosophy might fill the bill just as well as lectures on the dynamics of social class, the nature of professions or theories of formal organization. A close investigation of what medical schools often have in mind would show that their needs might also just as easily have been satisfied by a curriculum of social work rather than social science. This point was made nearly two decades ago by Anderson.[26] Social work at least has the advantage of a clinical approach, which truly does set the person into focus as a discrete entity. And social work does draw upon a number of the disciplines in social science as fundamental resources. Social science on the other hand, particularly sociology, attempts to be a generalizing science, which abstracts from the clinical setting and often couches its findings in statistical format.

French has described some of the pedagogic differences between sociology and social work that exactly reflect the different foci of these two disciplines.[27] Although it is true that medical education is distributed into both basic science and clinical types of pedagogy, it is not entirely clear in which way social science should be taught. Indeed, arguments are voiced on both sides of the question, and the issue will be considered again below. Yet, the decision as to timing and method of pedagogy may well constrain the selection of the type of social science personnel who would be most appropriate for realizing the stated aims of the school.

If resident social scientists and medical school administrators are often, if unwittingly, at variance in regard to both subject matter and method of teaching, the differences are more easily glossed over than those between social scientists and medical students. Becker and his colleagues depicted very well the traumatic contingencies of the medical student's career.[28] In particular, students are concerned with what will be relevant to them in medical practice. They have little patience for abstractions or for theory, especially when this theory does not stem from one of the usual medical disciplines, or, sad to say, is weak and untested.

In their cumulative experience in visiting medical schools in the years 1968–1970, the authors heard no more plaintive plea from students than that social scientists provide concrete information on "what to do" in certain types of social situations with patients of given social backgrounds and personality characteristics. This sounds, of course, very much like the pandemic cry for "relevance" in institutes of higher education. Yet, though some might scoff at such pleas in standard liberal arts settings (from which most social scientists are recruited into medical contexts), the serious concerns of professionals who must engage in direct practice of their acquired knowledge cannot easily be dismissed. Glock has analyzed the contrary perspectives of social scientists and their frequently action-oriented clients.[29] In particular, while clients usually want "prescriptive" conclusions, social scientists are better at supplying "evaluation" or "diagnosis" of the problem.

If added to this is the fact that in contemporary social science much of the theory is of an unproven, speculative character, further ground is provided for student disenchantment.[30–32] Often what parades as theory is merely descriptive generalization based on inadequate samples or hypotheses in a language foreign to medical students. Thus, what social science has to offer is often unacceptable to students because it does not bear directly on the medical practice toward which they aspire and concerning which they have doubts as to their own abilities. Or,

frequently, the very weakness of the theoretic and empirical underpinnings of the social scientists' statements are such as to cause many rigorously trained medical students to scoff. Although they recognize the legitimacy of the problems that are broached, the students often reject the social science offering as inadequate. And in many cases the social scientist can do nothing but agree. A commendable candor, however, is no substitute for firm knowledge that is ready for application.

Methods of teaching. Spinning theories of education is one of the more popular preoccupations of men. Plato had a theory of education and a plethora of such theories exists today. Yet, currently no one adequately understands how to convey social science materials to medical students with maximum impact. It is apparently an accepted generality in all areas of the university that flexibility and a maximum of student choice is desirable. In schools of medicine electives have achieved an unwonted significance, in some schools preempting the traditional curriculum.

In terms of specific teaching methods, social science programs at schools of medicine in North America have run the gamut of methods in the attempt to introduce social science materials. At the various schools of medicine visited by the authors, didactic lectures, small group seminars, community involvement projects, assignments to families, various and sundry combinations of these and other approaches have been tried, revised, abandoned, forgotten and proposed again. Each of these methods has its advantages and disadvantages. The general tendency in all areas of education, professional as well as liberal arts, is to abandon the lecture method. Students claim that both boredom and impatience impede their learning and that much of what they hear they can also read. Seminars in small groups have often been tried to facilitate the more intimate exposure of particular problems and to allow students to voice their own views—another need that has become prominent in recent years. As anyone who has conducted a seminar is well aware, the usual pattern is for a minority of students to dominate the ses-

sion either because of real interest or because they are high on verbal ability or because they desire prominence. The remainder of the students is usually frozen out and it is doubtful that they learn much from sessions in which they remain silent.

Community involvement projects such as visits to hospitals, clinics, service institutions of various kinds such as courts, prisons and social agencies were reported as promising in the degree to which the community facilities have themselves been receptive to the students' presence. Merely herding 20 or 30 students through an institution with occasional informative comments or speeches by the professional staff tends to be of minimal success. The community experience seems to be most enlightening where students can operate on a one-to-one basis or perhaps in pairs vis-à-vis active professional practitioners, with the opportunity to ask questions about what they observe.

Community visit programs have often been coupled with subsequent sessions of a seminar format in which students are expected to report and discuss their field experiences. These often fail because the community experience has been complete in-and-of itself, and because the leaders of the seminar are unacquainted with exactly what was observed in the field setting. Inasmuch as the best of these programs provides the maximum opportunity for individual experience in the community setting, manpower unavailability makes it impossible for seminar leaders to be present in the setting with each of their students.

Finally, in several settings the family-assignment program a number of schools have tried as a fundamental pedagogic strategy has appeared to work brilliantly for a few students, poorly for most and disastrously for the remainder. The reasons for this are not hard to establish. First, it is difficult to find an interesting family for every student; that is, a family that will present the student with sufficient problems and areas of interest to enable him to learn about medically relevant family dynamics. Second, the student is often ill-prepared for his assignment to the family. He is uncertain of his role either as medical advisor, for which he feels inadequate, or as social ob-

server, in which case he feels either technically unqualified or, morally, as if he were snooping. Third, the integration of knowledge derived in the family setting is often attempted in seminars. Students, with the help of preceptors, either social scientists or physicians, are supposed to bring to the attention of the seminar any problems that relate to their particular families and their own orientation to the family. Many students interviewed by the authors at schools where family assignment was tried said that these seminars are largely failures. Some reasons for the failure of seminars have been outlined above. In addition, the student without adequate preparation in observation and in relation to the family simply has no problem to report. Furthermore, in large medical school classes the logistic problem of finding families, assigning students and administering such programs is often mammoth and constitutes a serious obstacle to the success of such an approach. Bloom has also raised questions about the exact format of both family assignment programs as well as the pedagogic structure of more general social science materials.[33]

Timing. When shall social science be introduced into the medical curriculum? A lively debate in the study of attitude formation centers around the issue of "primacy versus recency." Shall the medical student be exposed to social science in his first year of medicine as a part of his training in basic science, or shall he receive social science training in his later or clinical years?[34–36] It is possible to cite advantages on both sides, but most programs have opted for the first year. If primacy in this matter is not actually pedagogically valid, it does tend to serve another function. Students have long complained that they never see human beings, alive or sick, in their first year of medicine and that laboratory work is excessive. Social science provides something of a relief from the heavy dose of anatomy, histology, physiology and so forth.

On the other hand, excellent reasons may be cited for the presentation of social science materials in the clinical years when medical students are in a form of quasi-practice and the

relevance of social science theories and findings would be more apparent. However, the experiences reported by members of near-disciplines to social science such as psychiatry caution against this. Programs in psychiatry in the clinical years have found themselves losing out in competition to medicine and surgery in particular, even when psychiatry has an officially scheduled time in the curriculum. For reasons that may or may not be valid, in more than one medical setting students who are not specifically preparing for specialization in psychiatry prefer to spend time on the medical ward or in the gallery of the operating theatre. The problem of timing, however, may be critical with regard to social science in medical practice. Given that social science materials are peripheral to begin with, and require extraordinarily facilitative conditions for their absorption, one of which might be the felt need on the part of the medical student for materials that would assist him in actual practice—as would be the case in his clinical years—it might very well be that many of the problems involved in the teaching of social science in schools of medicine could be obviated if the social science program were introduced during the later course of medical schooling. Optimum, of course, is a continuing program of social science over the entire span of the medical curriculum.

Students

Disciplinary imperialism. Every profession seeks to understand as much of the entire world and its phenomena as it can master by means of its theory. This might be called *disciplinary imperialism,* and it characterizes all disciplines. Medical students are, of course, selected from among the better students who have studied biologic and physical science. Their disciplinary imperialism is to assert that physical and biologic theories are much more potent as explanations of social and psychologic phenomena than is social science theory. This is frequently expressed by (overt) cynicism toward the claims of social science, particularly with regard to whether disciplines

such as sociology, for example, are, indeed, science. Social science theory and empirical findings thus are often received with scant attention and hypercritical inspection. What passes for brilliant surmise in medicine may be thought of as merely dilettante guess-work in sociology. Medical experiments involving fewer than 20 patients are seen as solid steps forward in the march of medical science; studies of several hundred subjects in sociology may be dismissed as *ad hoc* and unedifying. No doubt, student alienation from social science operates as an inverse function of the relevance of the material times the reliability of the findings. Social scientists in medical settings are somewhat more constrained to provide relevance and reliability than are their colleagues in liberal arts settings, but, then, professional demands are different from scholarly ones.

Boys in white. The study of medical education by Becker and Geer,[37] reveals the desperation that often desiccates the dedication with which medical students begin their training. The requirements of the medical curriculum are usually so stringent, the uncertainty as to one's own competence to master the overwhelming body of material is so great, and the consequences of failure are so threatening, that medical students are perhaps a breed apart in the high component of anxiety that attends their professional training. All of these pressures are not calculated to induce medical students to turn their gaze away from the central concern of their training, which is to learn, as Becker and Geer point out, what the medical faculty wants them to know. In most instances this does not especially include the modicum of social science in the curriculum. Although many on the faculty pay lip service to the social science program, it is, in many instances, little more than that, and even this moderate support may be undermined by a casual, disparaging remark tossed off unwittingly by the professor of medicine. A strange ambivalence must be remarked here, for social science is not introduced into the medical curriculum unless strong political support exists for it. Yet, once it is *in situ* it may be ignored or mildly disparaged.

Personal immaturity. Medical students are recruited from an intellectually able sector of the population, which has certain implications for the degree of personal and psychologic maturity of the students upon entering medical school. Often they may be younger than those who have had equal amounts of prior education. This is the result of their greater intellectual ability and the likelihood that they have skipped over earlier grades. This mark of intellect is indeed to their credit, but it may also leave them a year and sometimes two years behind in emotional and psychologic maturity. Their record of academic success coupled with this relative emotional immaturity may tend to predispose them to continue their studies in those areas where they have been successful, namely the rigorous sciences. Upon exposure to areas in which their own insecurities may be tapped, for example, interpersonal relations, they understandably tend to reject what is offered, unless the individual has a particular need to gain greater understanding of himself. It is highly likely, however, that the pressures of medical training, especially in the first medical years, preclude the acquisition of such self-knowledge and, therefore, perpetuate for some time the pre-adult orientations with which many students enter their medical training. The social scientist, therefore, is often attempting to foster an understanding and to convey knowledge in areas in which students may be unreceptive.

Middle-class origins. The worldwide social revolution currently underway, no less revolutionary in the developed nations of the West than elsewhere, threatens the stratification systems of many of the advanced societies. With particular reference to medicine, the issue crystallizes around questions as the proportionate allocation of resources for medical care to the different social classes, the proportions of students from different social classes in medical school and so forth. The facts are clear with regard to the second question: medical students are recruited from the middle class. This may be understandable in terms of high educational aspirations coupled with the opportunity to realize those aspirations in the middle class, but it also

creates certain problems in the delivery of health care when patients are not middle class. In all areas where lower-class ethnic groups must be served by medicine one finds considerable breakdown of communication and of empathy from the physician to his patients. Hollingshead and Redlich, in their classic study,[38] report the difficulties of the middle-class psychiatrist in relating to the working-class patient. The evidence is also substantial that death itself does not give way before social class prejudice or social class ignorance.[39] The sociologist often relies on social class studies as his best indicator of the need to augment the merely medical model with social science perspectives. Yet, especially in the area of social class, the data and the conclusions run squarely against the middle-class biases of the students to whom the material is presented. A pedagogic dilemma is confronted here: should one expose middle-class medical students to actual conditions in lower-class communities so as to dispel the ignorance that prevails and, therefore, facilitate the provision of health care to lower-class members of society? Or will the effect of such exposure be to cause the middle-class students to reject even more the alien environment?

Furthermore, the manner of organization of health care in the United States and Canada is but one way in which medical care can be provided. Unless the social scientist is merely an apologist for the status quo, he cannot assume *a priori* that the current fee-for-services pattern of medical practice is the optimum for society. Therefore, he will present the spectrum of possible forms of organization of medicine, which is in keeping with the social scientist's duty to expose and analyze the viability of various solutions to social need. The implied lack of acceptance of the prevailing form of economic organization of medical practice, however, often runs counter to the implicit notions held by the students of middle-class origin, many of whom are at least as much oriented toward the practice of medicine as a financially and socially (in the status sense) rewarding career as they are to social service. Freeman, Levine and Reeder raise the problem of the social scientist even more

pointedly in this regard. "What is his line of action when he finds he is not well received in the host setting, or even worse, where he finds that the objectives of his medical colleagues are unpalatable to his personal, social and political outlook?"[40]

Social Scientists

The quality of the social scientist. Just as the very best students in the physical sciences usually go on to physics and chemistry rather than engineering, so, too, among social scientists the best students do not usually devote much time to applied efforts. Of course, this is not to say that the problems are not important in the social science of medicine, but rather that the bigger questions in social science tend to reside elsewhere. Thus, the quality of the social scientist who is available for practice in medical settings, in whatever capacity, is often less than the best that social science itself has to offer. This does not mean that social scientists who are concerned with medicine are incompetent as a class, as much as it does not mean that engineers are incompetent as a class. Thus, both medical students and medical faculty, who are among the most able professionals and preprofessionals in the nation, come into contact with social scientists who are not the very best that social science itself has to offer. This disjunction of expertise, talent and intellect in the medical-social science relation does not redound to the credit or credibility of social science in the medical setting. Inasmuch as the authors of this article are themselves social scientists, they desire these considerations to be understood as analytic candor rather than professional self-disparagement. In this appraisal of the difficulties faced by social scientists in the medical setting it would be plainly disingenuous to omit any problems that stem from deficiencies on the social science side.

Cross-appointments. One way not only to recruit a better cadre of social scientists to perform in the medical setting but also insure that the social scientist retains a strong professional identity is by means of cross-appointments between arts and

science departments and the medical school. By means of such joint appointments it is usually possible to recruit a higher caliber social scientist. He will also retain contact with his own profession and his own professional colleagues and therefore continually refreshen his social science perspective.[41] The cross-appointment is not, of course, without its problems. Such prosaic details as the location and quality of the two offices; which shall be the major office; how to divide one's time, are not easily resolved to the advantage of everyone concerned.

If the social scientist is himself afflicted with a problem of identity, then it is likely that he will spend most of his time and make most of his contacts with his own professional colleagues rather than involving himself with the medical side of his position. The optimum solution here is the cross-appointment in the man himself; in other words, a hybrid such as the doctor-sociologist or the psychologist-physician. The rarity of such creatures attests to the unnatural selection that is involved here. It has been suggested by some that to resolve the dilemma of the quality of the social scientist it is worth any price to get a good one even for a relatively low level involvement or low time commitment from an arts and science department on a cross-appointment rather than to obtain the full-time services of a mediocre one.

Teaching style. The social scientist may be a student of charisma, but that is no guarantee that he himself is charismatic. Given that he is an exotic being in the medical setting he must, to some extent, compensate for his lack of legitimation in the eyes of his medical students by winning their attention and interest on other than purely substantive grounds. A dull and pedantic delivery may not be desirable in arts and science setting, but it will usually pass; in medical school it is regarded as intolerable. The students learn a simple expedient in regard to the dull lecturer, particularly if he is not speaking on something of central relevance to them: they simply do not attend. Social scientists in medical schools reported to us occasional

absenteeism rates that would provoke apoplexy in deans of liberal arts. Those who recruit social scientists to teach in medical settings must keep the teaching factor prominent.

Organization of Social Science in Schools of Medicine

Which social science predominates. Five or six disciplines would qualify under the rubric of social science. To the dean of the school of medicine they may be all of a piece, but they differ greatly among themselves, as each would be willing to protest at great length. The whole course of the career of social science in a particular school of medicine is substantially affected by which social scientist is hired first, because his recommendations for future hiring will set the tone of the new department. Thus, it is possible to develop a physiologic emphasis in the guise of behavioral science, a psychologic emphasis, a clinical psychologic emphasis, a sociologic emphasis, an economic or political science emphasis and so forth. Where the mandate of the program particularly stresses the development of interdisciplinary interests the host of problems arises related to interdisciplinary study. Although the school of medicine has no concern with these problems they still bear on what the content of the curriculum will be and what overall orientation in social science will be promoted.

Type of affiliation. Some additional effects on the social science program will result from the manner in which social scientists are affiliated with the school of medicine. Perhaps, at best, they may be constituted as a separate department within the school of medicine. This is desirable from the social scientist's point of view, although it is a rare form of organization. Most often, social scientists have become members of existing departments of psychiatry, or community medicine or preventive medicine, or pediatrics. Some of these, however, have relatively less prestige in the medical school and thus burden the social scientist with a status handicap at the very outset.[42] Sometimes social scientists are merely visitors brought in from arts and science departments for occasional lectures or for part-time

service in one or another of the above-mentioned medical school departments. It is not easy to ascertain exactly what effect each of these forms of affiliation will have on the transmission of social science orientations, but it is likely that some effects on the morale, identity and motivations of the social scientist will result from one form of affiliation or another.

Teaching social science in schools of medicine is fraught with many pitfalls and difficulties. Nonetheless, it is likely that social science programs in schools of medicine will be increased and strengthened in coming years.

BEHAVIORAL SCIENCE PROGRAM AT THE UNIVERSITY OF TORONTO

The difficulties of teaching social science in medical settings have, of course, greater or lesser relevance to specific programs in schools of medicine in the United States and Canada depending on the variable features of the program actually instituted. A level of program efficiency may be attained beyond which the marginal utility of improvement is, for most locations, excessive. Thus, all programs are to some degree limited by resources, personnel and the receptivity of the environment.

The program with which the authors are most familiar is their own at the University of Toronto, although among them they have visited more than a dozen different schools of medicine and discussed the problems of teaching social science with medical staff, social scientists and medical students. These conversations provided substantial insights that led to the development of the particular program at Toronto during the years 1968–1969, and its initiation with a class of 178 medical students in September, 1969. During the interval between its inception and the present time, this program has attained departmental status in the medical faculty and established links through cross appointments with several other departments and teaching hospitals. What follows is some discussion of the rationale of the program and a description of its organization and operation.

The introduction to the curriculum of the Department of Behavioral Science at the University of Toronto contains the following statement:

> While the programme outlined below does not emerge deductively from some prior set of assumptions about the theoretical content of behavioural science, several important strands of theoretical interest are inherent. These include: professionalization and the acquisition of professional perspectives; the patient as a role partner in the medical setting; sociocultural and psychological perspectives on the aetiology of specific disease entities; social and psychological aspects of growth and development through the life span; boundary problems between medicine and the mores. These do not exhaust the domain of issues, but they include a significant number of the ones that might be raised in the time available.

To implement this prospectus, the following personnel have been involved in the program:

Full-time or major appointments

Three sociologists with cross-appointments in the Department of Sociology

One sociologist full-time in Behavioral Science

One psychologist with cross-appointment in the Department of Psychology

One psychologist half-time in Behavioural Science

Part-time Appointments (1970–1971)

Four psychologists with hospital and/or research institute affiliations

Six physicians with clinical and/or research affiliations

Four instructors (e.g., mechanic engineering, economies)

Three sociology and/or psychology graduate students as seminar leaders

Program Content

A review of existing programs, consultation with medical personnel and a careful gleaning of social science materials produced the following thematic areas for inclusion as content:

Social, cultural and psychological influences in illness. This material includes the various studies of ethnic and cultural differences in the definitions and interpretation of pain, illness, medicine, therapy, patient compliance. Additional materials treat social factors in the practice of medicine, such as the diffusion and acceptance of diagnostic and treatment procedures among physicians. Further, students are exposed to social class and ethnic community environments different from their own. Two sections of this unit are devoted to specific disease entities that reveal strong social epidemiologic vectors, namely cardiovascular disease and mental illness. The purpose of this unit is to encourage students to be aware of factors affecting the whole spectrum of medical care, including both patients and physicians, that stem from social and cultural arrangements rather than from the biophysical organism.

Communication and interviewing. In this section of the course students observe doctor-patient interviews and obtain interviewing experience themselves in both simulated and real situations. In the simulated interview situations each student role-plays both doctor and patient and observes and rates other students in their role-playing efforts as physicians. This unit provides a practical introduction to the problems of establishing rapport with a patient, techniques of eliciting information, probing for social and psychologic factors in illness and obtaining a full case history. This unit provides some basis for the more intensive training in interviewing obtained in the later medical years.

Growth and development. This section of the course deals with a number of critical phases of the life cycle beginning with birth and infancy, touching on adolescence and the middle years and ending with old age. The heaviest concentration of material is on the early years with some concern for physical, intellectual and social development. These materials articulate with later work in pediatrics and psychiatry. The materials dealing with later phases of the life cycle are geared either toward an understanding of age-related problems of personality,

career, marital relations and so forth, as these may lead to symptomatology or breakdown. A preventive approach is stressed here.

Personal crises. In this unit a number of personal crises such as drug addiction, suicide and death are examined in terms of the psychologic and social aspects associated with onset, alleviation or prevention of these ailments and episodes. These problems touch on a number of issues that expose the interface between medicine and society. Ethical and moral issues that trouble both the physician and the community are brought into focus in the presentation of this material.

Professional and organizational settings of medical practice. In this section of the program a number of professional and organizational aspects of medical practice are presented. In particular, the relation is analyzed between doctors and the other specialists in the domain of medical care. Doctor-nurse relationships in the hospital are a special focus of interest here. In addition some theoretical understanding is provided of the hospital as a system in which such factors as centralization of authority, formalization of rules, specialization of functions and stratification of rewards interact to produce an organized context for medical care. The increasingly significant role of the hospital in the pattern of initial patient contact is examined. This unit provides students with an understanding of the various professional and organizational links and contexts that will surround, support and limit their practice of medicine.

Organization of health services. Alternative patterns of medical care to the fee-for-services system are analyzed in this unit. The economics and politics of medicine are considered here, and the doctor as a member of society with both social responsibilities and prerogatives is examined. Factors related to the selection of individual conditions of practice, such as specialization versus general practice are also discussed and weighed.

Although the content just discussed by no means covers every possible topic in the social science domain that is relevant to

medicine, undoubtedly many topics are included that would be likely to appear in any program.

Program Format

Because of the paucity of proven teaching models in behavioral science, initial efforts in constructing a curriculum were devoted not only to a consideration of what content might be appropriate but also to an examination of the most effective way of introducing such a program. This was done in part by means of a critical review of existing programs elsewhere. The syllabi of 15 to 20 programs were reviewed.

A recurrent theme that emerged from virtually all discussions and considerations of existing programs involved the style in which the social science material is presented. Medical students expect prodigies of pedagogic expertise from social scientists and actively resent it if the material is not presented in a provocative fashion. Moreover, many students who have already taken introductory courses in sociology, psychology and cultural anthropology are interested only in materials from these disciplines that have a clear medical relevance and go well beyond the elementary level. This implied the necessity to spell out the implications of basic principles for specific health problems that are actually faced by physicians.

Furthermore, other programs had evolved a somewhat critical stance toward the medical profession and it was clear that such an attitude created resentment and hostility on the part of medical students, struggling with their own burgeoning identity as doctors. It was important, therefore, that constructive examples be used in teaching and that implicit attacks on the medical profession be avoided.

In the light of the movement for structural change on university campuses, it was apparent that students had not always been consulted as often and as seriously as they would have liked. Consequently, some programs were far removed from students' major interests and concerns. Involvement of medical

students in the planning and ongoing evaluation of the course was clearly an essential component of any program.

Finally, review of existing programs strongly suggested that those were best received that provided students with maximum contact with physicians, patients and professional practice settings, such as hospitals and doctors' offices. This finding provided the underlying rationale for the format of the Toronto program.

The format of the course has been arranged so that the 85-hour program is divided into two interdigitated segments. The first of these is devoted to 35 more-or-less-formalized opportunities for learning, and includes lectures, panel discussions (in which physicians and others discuss issues of concern to medical practice and the profession) and field trips to locations in neighborhoods of Toronto in which there is an opportunity to experience differences in attitudes toward physicians, understanding of health needs and pathways to medical care. In one of these field assignments, for example, students are given an opportunity to observe medical consultations and examinations in an outpatient setting. Students observe physicians as they elicit information from the patient regarding his health, and the conditions that facilitate or retard the patient's ability to communicate about his medical problems. In this session, the students are asked to note what barriers to treatment and mood changes the patient may experience during the course of the consultation, particularly at critical points such as diagnosis, requirements for additional diagnostic procedures, prognosis, prescription of drugs and regimen. Relevant social and cultural data about patients are recorded.

With this observational data in hand, students then conduct follow-up interviews a few days later with the same patients in their homes. They explore the level of comprehension of the diagnosis, the degree of compliance with the doctor's prescribed regimen and observe the social, psychologic and material conditions that facilitate or prevent following the doctor's orders.

Other field trips in which students are assigned to specific

medical settings either individually or in teams include a number of hours at a hospital emergency ward, a visit and exposure to critical aspects of a hospital, a survey of an ethnic neighborhood, a direct patient-contact experience at a children's hospital and at a geriatric institution.

In line with the drift away from didactic lectures, a number of the more conjectural or controversial issues are presented by a number of speakers in panel discussions moderated by a member of the Behavioral Science staff. Even when lectures are presented by a social scientist they are frequently augmented by an additional presentation by a physician who can reinforce the general principles by citations from his own practice.

The remainder of the 85-hour program is based on the principle of electives, recognizing the variations to be found among students in premedical backgrounds, current interests and choices of future careers in medicine. These topics, as they are called, were designed to offer a deeper analysis of issues that have been merely introduced to students in the general curriculum, and were planned on an interdisciplinary basis, focusing on the interplay between biologic, behavioral and clinical perspectives. In many cases, leadership of the topics is shared by a physician and a social scientist.

Students were asked to select from a list of 16 topics, the one that most interested them. The list of topics offered covers a broad range of interests, including the psychophysiology of pain, drug use in North America, chronic illness and rehabilitation, the economics of health and modern hospital design. Many of the topics provide opportunities for out-of-classroom experiences such as visits to doctors' offices, to hospitals and clinics and to community agencies. The maximum number of students in any one group is restricted to 20, and many have fewer members, thus encouraging close interaction between students and faculty.

In summary, the Behavioral Science curriculum at University of Toronto is based on the following considerations:

1. *Medical orientation:* The program is geared to the dy-

namics of medical practice and, specifically, to the role of the medical practitioner. In concrete terms, such an orientation requires consideration of the ingredients of the doctor-patient relation, the role of the doctor in relation to the organization of health care, plus emphasis on cultural factors such as social class and ethnic background that affect perception of and reaction to illness and the medical setting.

2. *Contact with patients:* Students anticipate early contact with patients, and look to Behavioral Science as a pathway for this type of experience. This implies that the program should provide structured opportunities for medical students to interact with patients directly and to observe and discuss case presentations.

3. *Opportunities to observe physicians at work:* Practicing physicians are incorporated into the program to point up the value placed upon a behavioral perspective by physicians. Involvement of physicians in the program also affords students an important opportunity to observe physicians interacting with patients and discussing their cases.

4. *Teaching approach:* In concrete terms this involves moving away from the traditional lecture system and from blocks of highly organized materials. The approach selected incorporates intensive, small group discussions; field laboratories where students actively participate in the collection of data they analyze and interpret; and case presentations in panel forums where students can begin to perceive the ingredients of the social perspective on medical practice.

5. *Course evaluation:* The need for evaluation of the course. Students are asked to discuss their perception of the strengths and weaknesses of the course at the end of each semester and are encouraged to discuss their suggestions with staff members of the department.

Electives offered by Behavioral Science faculty in such varied areas as drugs and society, interpersonal interaction, child development, community health organization and so forth make pos-

sible more intensive exploration of subjects of particular interest to both faculty and students.

In conclusion it may be said that social science has been granted an unusually important opportunity in the medical setting to translate its viewpoint and understanding into a social contribution of the first magnitude. Despite the difficulties enumerated, there is every hope that the joint aims of medicine and social science in this area will be realized.

A serious question, however, is whether science has the answers to the questions medicine is asking. On the social science side, interest in medicine will no doubt continue inasmuch as the medical profession, its hospital settings, its doctor-patient relations, its epidemiologic and social class aspects provide a broad spectrum of questions that are sociologically relevant. The possibility also exists of making a contribution to the public weal.

REFERENCES

[1] Williams, R. H., The Strategy of Sociomedical Research, *in* Freeman, H. E., Levine, S. and Reeder, L. G. (Editors), HANDBOOK OF MEDICAL SOCIOLOGY, Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1963.

[2] Simmons, O. G. and Davis, J. A., Interdisciplinary Collaboration in Mental Illness Research, *American Journal of Sociology,* 63, 297–303, 1957.

[3] Freeman, H. E., Levine, S. and Reeder, L. G., Present Status of Medical Sociology, *in* Freeman, Levine and Reeder, *op. cit.*

[4] Bloom, S. W., *et al.,* The Sociologist as Medical Educator, *American Sociological Review,* 2, 95–101, 1960.

[5] Roth, J. A., Management Bias in Social Science Study of Medical Treatment, *Human Organization,* 21, 47–50, 1962.

[6] Jaco, E. G., Problems and Prospects of the Social Sciences in Medical Education, *Journal of Health and Human Behavior,* 1, 30–31, 1960.

[7] Stainbrook, E. and Wexler, M., The Place of the Behavioral Sciences in the Medical School, *Psychiatry,* 19, 263–269, 1956.

[8] Hyman, M. D., Medicine, *in* Lazarsfeld, P. F., Sewell, W. H. and Wilensky, H. L., THE USES OF SOCIOLOGY, New York, Basic Books, Inc., Publishers, 1967.

[9] French, D. G., The Behavioral Sciences and the Professions, *Public Health Reports,* 71, 507, 1956.

[10] Goss, M. E. W. and Reader, G., Collaboration between Sociologists and Physicians, *Social Problems,* 55, 87, 1956.

[11] Anderson, O. W., The Sociologist and Medicine: Generalization from a Teaching and Research Experience in a Medical School, *Social Forces,* 31, 38–42, 1952.

[12] Bloom, *et al., op. cit.*

[13] Stainbrook and Wexler, *op. cit.*

[14] Hyman, *op. cit.*

[15] Simmons and Davis, *op. cit.*

[16] Williams, *op. cit.*

[17] Russell Sage Foundation, Direction to Solutions of Collaboration, *Russell Sage Foundation Annual Report, 1958–59,* 1959.

[18] Freeman, Levine and Reeder, *op. cit.*

[19] Williams, *op. cit.*

[20] Roth, *op. cit.*

[21] Goss, M. E. W., Influence and Authority Among Physicians, *American Sociological Review,* 26, 39–50, 1961.

[22] Reader, G., Contributions of Sociology to Medicine, *in* Freeman, Levine and Reeder, *op. cit.*

[23] Stainbrook and Wexler, *op. cit.*

[24] The Preclinical Teaching of Psychiatry, Group for the Advancement of Psychiatry Report No. 54, 1962.

[25] Williams, *op. cit.*

[26] Anderson, *op. cit.*

[27] French, *op. cit.*

[28] Becker, H., *et al.,* BOYS IN WHITE, Chicago, University of Chicago Press, 1961.

[29] Glock, C. Y., Applied Research: Some Conditions for its Utilization, *in Case Studies in Bringing Behavioral Science into Use,* Stanford, University Institute for Communication Research, 1961.

[30] Stainbrook and Wexler, *op. cit.*

[31] Group for the Advancement of Psychiatry Report No. 54, *op. cit.*

[32] Hyman, *op. cit.*

[33] Bloom, *et al., op. cit.*

[34] Jaco, *op. cit.*

[35] Committee on Medical Education of the American Psychiatric Association, An Outline for a Curriculum for Teaching Psychiatry in Medical Schools, *Journal of Medical Education,* 31, 118–119, 1956.

[36] Bloom, S. W., The Role of the Sociologist in Medical Education, *Journal of Medical Education,* 34, 670–675, 1959.

[37] Becker, *et. al., op. cit.*

[38] Hollingshead, A. B. and Redlich, F. C., SOCIAL CLASS AND MENTAL ILLNESS, New York, John Wiley and Sons, Inc., 1958.

[39] Sudnow, D., Dead on Arrival, *Trans-action,* 36–43, 1967.

[40] Freeman, Levine and Reeder, *op. cit.*

[41] Williams, *op. cit.*

[42] Hyman, *op. cit.*