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Considerations in the Development of a Scientific Social Work*

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A key issue in social work's struggle to develop a legitimate and distinct knowledge base is the development of a scientific model suited to the needs and objectives of the profession. Although various approaches have been proposed, they have tended to dichotomize the issues into one of science versus nonscience. In response to this situation, this paper presents an integrative approach to the development of a scientific social work. In addition, it is argued that values can (and should) be an integral part of a scientific approach and that they are legitimate criteria for the evaluation of social theories.

During the last 25 years there has been increasing interest in the application of scientific principles and research methodology to social welfare policy and social work practice. Faced with a world of diminishing resources, accountability demands, competitive professional groups, and client advocacy, social workers have attempted to secure their legitimacy by increasing the "scientific" dimension of their profession (e.g., Bloom, 1978; Fischer, 1981; Karger, 1983). Through this same period, social work's adherence to a set of values has continued as a principal source of direction and guidance for those identifying with the profession. While both science (as represented by social research) and social values are of great significance to social work, they have often been portrayed as incompatible or discussed as distinct and separate. This distinction is illustrated in the long tradition of seeking a balance between science and art in social work practice (Greenwood, 1955; Gyarfas, 1969; Thomas, 1967).

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Within this tradition, science is assumed to be the source of true knowledge and art the expression of skill and judgment.

In this paper we attempt to transcend this division by conceptualizing science as a cultural product (cf. Habermas, 1981; Kuhn, 1970). From this perspective, social work research is viewed as an expression of cultural, historical, and political factors. Consequently, an important task in the development of a scientific social work is the explication and analysis of its underlying presuppositions and value positions. Based on this analysis, the compatibility between a particular scientific approach and the objectives and values of social work can be assessed and alternative conceptualizations considered.

A second manifestation of the attempt to develop a scientific social work is seen in the debates between proponents of traditional research and those advocating alternative approaches (e.g., Heinemann, 1981; Heinemann-Pieper, 1985; Hudson, 1982). While these debates have helped clarify the contrasting arguments, the respective positions tend to be exclusionary rather than integrative and the major points of contention simplified to a choice between a scientific or nonscientifically based profession (See Mullen, 1985, for an exception). For instance, Wodarski states, "The salient issue is whether social work practice should be based upon data or upon a philosophy of life" (Wodarski, 1981, p. viii).

In our view, reducing these issues to an "either/or" question creates an artificial bifurcation which obscures the important contributions of different forms of social science inquiry. Furthermore, the failure to recognize these multiple "ways of knowing" seriously retards the advancement of knowledge development in social work.

Social work and science are social endeavors influenced and shaped by historical, cultural and political forces. Both interpret, legitimize and implement certain values reflected in societal ethos. Although science does not have an explicit value-promoting agenda, it tends to support and preserve the status quo (Raskin & Bernstein, 1987). In contrast, social work is integrally value-based and the expression of these values are a defining feature of its mission. Moreover, rather than maintaining the status quo, social work values encourage societal change to pro-

mote greater individual freedom and social justice. If science is to serve the needs of the profession (rather than the other way around) there must be an accommodation to the important value positions of social work.

The relationship between science and society is reciprocal. The assumptions, theories, and methods of scientific systems have important implications for societal beliefs, values and practices. In other words, science not only reflects the world, but creates it. This balanced view can be incorporated into a social work science by recognizing these implications as legitimate, evaluative criteria. The example below illustrates this point.

Research on Handicapped Children

The traditional conceptual model utilized in research on handicapped children defines their abilities in terms of their deviation from the norms of able-bodied persons (Gleidman and Roth, 1980). This deviance model leads to developmental research which focuses on how handicapped children differ from their able-bodied counterparts, i.e., what they cannot do. Such research produces data that "confirm" the deviation of these children and the "abnormal" way they are developing.

An alternative approach, more consistent with social justice, would be to view development from the perspective of the handicapped child. That is, to see development in terms of the child's unique capacities to adapt to different situations and expectancies. To the extent that certain handicapped persons share similar adaptive strategies, it may be possible to formulate a developmental theory of these individuals. This theory would be based on the perspectives, capabilities and adaptations of disabled persons themselves rather than in terms of their deviation from a criterion group which popularly and scientifically has been legitimized as normative. Moreover, a theory which recognizes the legitimacy of different processes and forms of adaptation (as opposed to seeing one as a deviation from the other) is more likely to stress the capabilities and talents of persons rather than their so-called limitations.

The difference between the two models in the above example is primarily conceptual rather than empirical. In fact, the same empirical data could be used to support proponents of both

perspectives. This is possible because the meaning of such data is the result of cultural, moral and political assumptions which cognitively precede the very statement of the research problem and, therefore, usually remain implicit.

Although the truthfulness of these theories may be ambiguous, their social justice implications offer more clearcut choices. A deviance model of handicap produces practitioners who view the handicapped child as a small deviant and implement strategies designed to reduce this deviation (Gleidman and Roth, 1980). To the extent that these strategies are unrelated to the developmental path of the child, her liberty is reduced. In contrast, a theory of handicap grounded in the experiences of disabled individuals and consistent with social work values recognizes the uniqueness of these persons as well as their right to have the same basic choices as others.

It is important to note that generating scientific support for this alternative view would also require expanding our conceptualization of legitimate methods. The research strategy would have to allow, or even encourage, the active involvement of the disabled person in the research process as well as extensive dialogue among all research participants (i.e., subjects and investigators).

Science as Human Product

Science constitutes a systematic attempt to explain human experience. It is an entirely human activity. Science does not arise from nothing, but from what G. H. Mead termed "the world that is there," (cited in Kaplan, 1964, p. 86) a world already colored by a complex web of assumptions, beliefs and values, and by a particular structure of consciousness. Consequently, scientific truths will change not only because of direct advances in the scientific enterprise, but also because of changes in historical, cultural, and moral understandings.

All models of science are based on a set of taken-for-granted assumptions, or ideologies, about the nature of "things" (ontology) and the criteria by which these things may be known (epistemology). These assumptions, which precede any and every scientific undertaking, tend to be immune to validation by the very epistemological criteria which the scientific model pro-

poses. However, while the very ubiquity of these assumptions render them somewhat transparent to the practicing researcher, their impact can be far reaching.

At least two types of assumptions form the context of social research: substantive assumptions and methodological assumptions. Substantive assumptions consist of implicit beliefs about the general phenomena of interest (e.g., human behavior). They provide researchers with a cognitive map of the content area under investigation. Accordingly, this map helps researchers to ask meaningful questions, discriminate data from "noise," interpret data, and discuss findings. For example, a study of male-female differences may be based on several assumptions about masculinity and femininity (their relationship to various psychological dimensions) that predispose researchers to ask questions and draw conclusions which confirm cultural stereotypes (e.g., Morawski, 1985).

Methodological assumptions are a system of rules for conducting a legitimate (i.e., scientific) study. They constitute an operational manual of methods consistent with the substantive assumptions. Thus, in addition to knowing what questions to ask, researchers know how to ask the questions (e.g., make inquiries in a way that does not reveal to subjects the true nature of the research). Similarly, guidelines are provided on the proper form of data, methods of data collection, and how to decide if findings meet acceptable criteria.

The abstract substantive and methodological assumptions which undergird social research and limit and shape its scope are not restricted to a specific model or method of inquiry. They are an inescapable starting point for diverse forms of inquiry and have important implications for the development of knowledge.

First, the scope and complexity of these world views (paradigms or metatheories) make their "objective" evaluation (in the sense of simply pointing to data in agreement or disagreement with them) impossible. Indeed, even what constitutes "data" is dependent on theory. Additional nonepistemological criteria such as the promotion of social justice are required (Witkin & Gottschalk, 1988).

Second, science is always interdependent with other areas

of knowledge. At the very least, any view of science must include some notion about the relationship of science to nonscientific knowledge. These judgments are based in significant part on existing core values and beliefs within a particular social-historical context. For example, calling astrological explanation of human behavior unscientific, means that the evidential criteria of astrology do not pass the speaker's test of a "legitimate" science (e.g., empirical data). This is not something which is proven but accepted. In fact, until recently astrology was viewed as a legitimate form of science. That our contemporary criticisms benefit from the vantage point of historical and anthropological hindsight makes our current science no less susceptible to changes in future generations.

If science is interdependent with other areas of knowledge, then it follows that the assessment of scientific beliefs must include their relationships to these other areas (Laudan, 1977). Thus, while the current empirical status of a theory may be invoked as one measure of its scientific adequacy (i.e., its truth), it is equally rational to assess the theory in terms of its consistency with important and widely held "nonscientific" doctrines. For example, despite the claims of researchers who point to racial differences in I.Q. scores as the basis of a theory of the genetically-based, intellectual inferiority of one racial group relative to another, such claims may be rejected justifiably not only on methodological and substantive grounds, but because of their inconsistency with crucial moral, religious and legal understandings in contemporary Western society.

Those who would lay claim to the preeminence of scientific "truth" in the case of I.Q. tests are making a political rather than a scientific claim, i.e., these scientific procedures and their results should be evaluated socially as more important than contemporary concerns of social justice. This is a value laden choice; it is an act of legitimizing the preeminence of technique over informed judgment (Bittner, 1983).

The eighteenth century philosopher Leibniz formulated the dictum, *nihil est sine ratione*, there is nothing without reason. Inspired by this dictum, modern empirical science has set itself the task of exploring the why, the calculable cause, of everything. An increasingly utilitarian and pragmatic Western world

has largely excluded from its scientific understandings all concern for purpose and meaning, a realm traditionally assigned to poets and novelists, not scientists (Kundera, 1985). To the extent that this limitation is placed upon social science, and most especially social work research, it constitutes a denial of the value-based, humanistic underpinnings of the profession.

Physical Science and Social Science

Important differences exist between the physical and social sciences with respect to the phenomena investigated and the effects of different research strategies on the results obtained. Unlike the relatively immutable properties of most physical phenomena, (e.g., the molecular structure of wood) human social life seems to be characterized by *potentialities*. That is, the meanings of such behavior are always numerous and equivocal. As a result, the nature of the social reality which emerges is significantly determined by the focus and methods of the investigation. For example, a significant issue in marital research is how to partition and analyze a couple's interaction (Rogers, Millar, and Bavelas, 1985). Researchers studying the same couple but focusing on different units of analysis (e.g., individual utterances versus dyadic interchanges, or sentences versus "thought units") define the interaction differently and may come up with disparate results.

Put another way, a great deal of social science research generates the phenomena it claims to discover. It does this by imposing a particular conceptualization or structure on an ambiguous array of potential activities. These activities create the experiences discovered in investigations. Even such basic categorical distinctions as internal-external can only be shown to exist logically rather than empirically (Weick, 1977). Assigning objects to such categories (e.g., an organization and its environment) represents only one way of organizing experience, other ways may be equally possible.

The communication theorist, Paul Watzlawick (1976) has pointed out that shuffling a deck of cards and turning them face up one by one will reveal a pattern which, in most cases, will be considered "random". If, after a thorough reshuffling, the cards should appear in the order of ace through king according

to their respective suits, one might suspect that some illegitimate tinkering has occurred to produce this obviously nonrandom pattern. Upon reflection, however, it becomes obvious that this particular ordering is no more or less probable than any other ordering of the 52 cards. The only difference is in the special meaning assigned to the ace through king ordering. Similarly, observing and partitioning a pattern of behavior and calling it nonrandom (e.g., abnormal) is, in part, a function of the meanings ascribed by the researcher and his or her method of investigation.

Failure to recognize the equivocalness of social reality leads social scientists into treating their categorizations as real and studying the properties of the entities created by their partition. A false sense of discovery may result due to the scientists' "underestimation of the ways in which individuals contribute to the worlds they think they see" (Weick, 1977, p. 278). This position becomes restrictive if it leads to a lack of inquiry about the existence of the categorization itself and the nonpursuit of alternatives.

A number of related implications of this view have relevance for this discussion. First, determining the truth or falsity of propositions about human behavior is problematic. In fact it may be that an overemphasis on right and wrong has hampered our understanding of science in general (Laudan, 1977). Since social phenomena are in part generated, rather than discovered, by researchers, even competing theories can usually offer supporting data for their respective positions. Where differences in such findings seem to exist, they can often be reinterpreted by an alternative theory to mean something other than what the original researcher intended (Gergen and Gergen, 1982) or the research problem itself may be viewed as nonexistent or trivial.

Another reason for ambiguity about the truth status of competing theories is that complex social behavior appears to be multiply determined as well as subject to multiple interpretations. For instance, confirming the presence of variable *x* in an individual who seems depressed may not rule out the possible presence of numerous other factors, some of which may be necessary for *x* to have any impact on the individual's affective state. Social scientists have been quick to recognize this situation,

producing numerous studies which support their particular hypothesized determinants of behavior. Taken to its logical extreme, we would finally arrive at the point of concluding that everything is related to everything else which, of course, tells us nothing.

Recognition of science as a social product leads to the acknowledgement of truth as socially constructed. Differentiating among competing theories therefore requires an awareness and judgment of their differential moral and ethical implications, of what is good and what is right (Rawls, 1971).

Developing a Social Work Science

The strong commitment of the profession to a basic set of core values (Gottschalk, 1974) forms an important contextual dimension against which social work research must be assessed. The data rarely "speak for themselves." Rather, their meaning and significance include a reference to values (Kaplan, 1964) as well as a complex of culturally, historically and socially determined cognitive traditions.

Social workers are frequently faced with situations that require action based on moral and ethical principles. Should adult children have the right to withhold essential medical treatment from dying parents? Is it right for a social service program to have restrictive eligibility criteria? Under what circumstances should parental rights be abrogated? Questions such as these are important for the practicing social worker as well as the future course of social welfare policy. If the only legitimate approach to these questions is through a narrowly defined methodology, then these issues are likely to be distorted or ignored as being outside the purview of legitimate science.

It has long been argued that value neutrality in social science is a myth (Gouldner, 1963). Similarly, it has been our contention that social science theory and methodology contain and support ethical and ideological assumptions which have important social implications. This does not mean, however, that since values cannot be scientifically validated "anything goes". Truth may not be the only criterion that should be considered in evaluating our theories and hypotheses, but it should certainly not be discarded as an important yardstick (Homans, 1978). Furthermore,

the communal nature of science requires that certain norms and assessment criteria be employed to communicate information and ideas.

A more sensible approach, in our opinion, is to broaden the context within which various forms of science can conduct legitimate inquiry. A starting point might be to explicitly recognize the value implications of different perspectives. Thus instead of futilely attempting to suppress values, the social work scientist can "confront more openly and honestly the valuational implications of his or her work" (Gergen, 1978, p. 1365).

What must be added to all perspectives is an explication of the ideologies implied or expressed by the models they employ (Gottschalk and Witkin, 1988). Understanding these ideologies, their impact on core social work values and the investigation of new and revised forms of inquiry can help move the profession towards a meaningful science and the development of a relevant knowledge base.

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