To the Graduate Council:

I am submitting herewith a thesis written by Mary Durkin entitled "Behavior Therapy as a Paradigmatic Scientific Revolution." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Sociology.

Neal Shover

Neal Shover, Major Professor

We have read this thesis and recommend its acceptance:

J. Michael Bobbs

Thomas C. Heed

Accepted for the Council:

Hilton A. Smith

Vice Chancellor
Graduate Studies and Research

BEHAVIOR THERAPY AS A PARADIGMATIC SCIENTIFIC REVOLUTION

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ABSTRACT

In the last decade, the areas of psychiatry and clinical psychology have witnessed the emergence of a distinctive new approach to clinical problems termed behavior therapy. This approach has experienced rapid acceptance and widespread application in clinical, educational, and rehabilitative settings. A significant amount of psychological and psychiatric literature devoted to this approach is now available, and there exists a definite and growing community of behaviorally-oriented specialists.

The purpose of this investigation was to examine the emergence of behavior therapy in relation to the model of scientific development through paradigm revolution presented by Thomas S. Kuhn in his essay, The Structure of Scientific Revolutions (1970). A test for correspondence was conducted utilizing a framework of descriptive generalizations derived from Kuhn's work. In addition, a generalization was formulated to encompass the role of societal factors in paradigmatic scientific revolutions.

The data for this test of correspondence was obtained through a qualitative thematic analysis of a "snowball" sample of the literature in clinical psychology and psychiatry. The derived material was classified and analyzed in relation to established thematic categories.

It was found that the emergence of behavior therapy exhibits a definite correspondence to a paradigmatic scientific revolution as described by Kuhn. In addition, societal factors were indicated to be influential in this particular scientific revolution.

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INTRODUCTION AND PROBLEM

Within the last decade psychological experimentation and therapy have merged in the increasing application of and interest in an approach to psychiatry and clinical psychology termed behavior therapy.[1] In a general sense, the behavioral approach to therapy focuses on the modification of interactions between person and environment. More specifically, it emphasizes the systematic application of experimentally derived behavior-analysis or learning principles to affect observable changes in this interaction process. Behavior therapy thus represents a radical departure from traditional evocative psychotherapy which emphasizes the analysis or understanding of the character structure or unconscious conflicts presumed to underlie the behavior pattern (APA Task Force, 1974).

The beginnings of behavior therapy go back to Pavlov's animal experiments at the turn of the century and to later animal experimenters such as Wolpe and Skinner. Deriving its initial impetus from experimental psychology, it has essentially remained an attempt to apply the findings and methods from this discipline to disorders of human behavior. While its emergence as a comprehensive approach to therapy is a relatively

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[1]Behavior therapy is often synonymously termed behavior modification or conditioning therapy. Currently, however, these alternate terms are used in reference to the application of operant or classical conditioning which, though dominant in the approach, do not encompass all the techniques that are applied. The term "behavior therapy" is recognized as subsuming all the various techniques employed in the behavioral approach, and for this reason, it will be the denotation used in this work.

recent phenomena, there is widespread acceptance and application of behavior therpay at the present time in diverse settings, by various agents and agencies, and with an expanding range of behaviors. The publication of rapidly increasing numbers of books and research papers and the appearance of four new journals devoted to behavior therapy testify to the vigorous activity and the growing interest in the approach.

Assuming that behavior therapy is a distinctive new way of viewing and changing human behavior that has experienced a relatively sudden acceptance and popularity within psychology and in our society, it seems valid to infer a certain revolutionary character to its emergence in therapeutic psychology. Indeed, Griffith and Mullins (1972), Kantor (1969), and Miller (1969) have characterized it as such. To apply the label of "revolution" to developments or discoveries in the scientific fields, however, is to necessarily trespass in the domain of Thomas Kuhn who has presented a specific discussion of such phenomena in his essay, The Structure of Scientific Revolutions (1962). This essay offers a distinctively new perspective by which to understand the development of any scientific discipline. According to Kuhn, the communal life of science parallels the life-cycle of the political community. In science, just as in political states, development often involves transition by way of revolution. Science does not develop through a process of accretion, but rather through periodic rejection of a prevailing paradigm or guiding framework and acceptance of a new paradigm. Because these paradigms represent incompatible modes of practicing science,

Kuhn terms this phenomenon a paradigmatic scientific revolution.[2]

It is the objective of this study to examine behavior therapy as a paradigmatic scientific revolution. Kuhn presents his theory of scientific development in expository form, however, and as a theory it consists more of a set of descriptive generalizations than ordered propositions. This renders the strict empirical testing of the theory in the case of behavior therapy impossible. In view of this, this study will consist of a test for correspondence between descriptive generalizations derived from Kuhn's work and the processes of the emergence of behavior therapy.

A thematic analysis of the literature currently available on behavior therapy and clinical psychology and psychiatry in general yields the material which serves as the "data" for this test of correspondence. After critical evaluation of this material in relation to criteria suggested by the generalizations, conclusions are drawn concerning the validity of designating behavior therapy as a paradigmatic scientific revolution.

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[2]The second edition of Kuhn's book appeared in 1970 and included a postscript addition along with the original essay. The postscript clarified and enlarged Kuhn's discussion on some points, but the fundamental thesis of the work remained the same. References to Kuhn's work in this paper are all based on the 1970 edition.

CHAPTER 1

A REVIEW OF THE LITERATURE

The Sociological Study of Science

A test for correspondence between Kuhn's theory of scientific development and the emergence of behavior therapy in psychology is primarily a study in the sociology of science. Although Kuhn's work has obvious implications for the history and philosophy of science as well, it is beyond the scope of this study to treat the issues raised by his thesis for these areas. It suffices to note that he departs radically from traditional views in the history and philosophy of science, and that his work has evoked substantial criticism and controversy within these disciplines (see Lakatos and Musgrave, 1970). It is as a model for the sociological study of science that Kuhn's theory is of central interest for this investigation, and thus, this aspect will form the focal point for the discussion in this chapter.

Until relatively recently, the sociology of science was subsumed under the specialized area of sociological inquiry termed "the sociology of knowledge." An overview of this area is prerequisite to an understanding of the sociological study of science as a subfield of a more comprehensive perspective. Since its emergence in 1925 (Berger and Luckmann, 1966: 8), the sociology of knowledge has been marked by various definitions, enormous differences in scope and limitations, proliferation of concepts, and diverse methods of validation. Studies in the area have dealt with knowledge in all forms--ideas, ideologies,

science, philosophy, ethical beliefs, and technology among others (Merton, 1957: 460). In general, the primary concern of the sociology of knowledge is the relation between knowledge, however broadly defined, and the environing social structure (Merton, 1957: 440). The basic problem is the extent to which thought or knowledge reflects or is independent of proposed determinative social factors (Berger and Luckmann, 1966: 4).

The "inventor" of the sociology of knowledge, Scheler, argued in the 1920's that social factors determine the presence but not the content of ideas, and that, therefore, the sociology of knowledge is limited to the study of the selection or acceptance of ideas or other forms of knowledge. The content of this knowledge is not in itself accessible to sociological analysis (Berger and Luckmann, 1966: 7). Following Scheler, Mannheim formulated the sociology of knowledge into a more narrowly sociological context. Social factors, according to Mannheim, determine not only the selection or acceptance of ideation but its content as well, however, he exempted mathematics and parts of the natural sciences from this influence (Berger and Luckmann, 1966: 9; Mannheim, 1954: 239-43). Merton (1957) and Parsons (1961) present critical overviews of the sociology of knowledge, but few developments or formulations have gone far beyond criticizing or modifying Mannheim's basic thesis. A notable exception is the work of Berger and Luckmann (1966) which is an effort to redefine the scope of the sociology of knowledge. Their premise is that the concern with the history of ideas or theoretical thought constitutes only a part of the larger problem of

the area. Everything that "passes for knowledge" in society, including common sense or what people know as reality in everyday life, is the concern of the sociology of knowledge. Hence, inquiry must be made into the "social construction of reality (Berger and Luckmann, 1966: 14.)"

One concept germane to the sociology of knowledge assumes particular significance in light of the contents of this study, namely, ideology. The term generally refers to "a set of closely related beliefs or ideas, or even attitudes, characteristic of a group or community (Plamenatz, 1970: 15)." Ravetz (1971: 40) defines an ideology as including a definition of reality and a set of values which serve to guide and to justify the activities and attitudes of a group or community. Ideologies, shared by a group of people and concerned with matters important to it, are also functional in that they impart a sense of cohesiveness to the collectivity (Plamenatz, 1970). Of course, beliefs that are true can also be functional in these ways, so, as Plamenatz (1970: 31) indicates, beliefs are "ideological" when they serve these functions and are accepted regardless of whether or not they satisfy the criteria of truth. Awareness of ideology comes when another group's beliefs are viewed as untrue by virtue of their determination by its life situation (Merton, 1957: 492). A general formulation of the concept of ideology in which no thought of any group, including one's own, is regarded as immune to the ideologizing influence of social context or life situation renders the sociological study of ideologies identical to the sociology of knowledge (Berger and Luckmann, 1966: 9; Merton, 1957: 493).

The sociological analysis of ideologies involves the relation of belief sets to specific socio-temporal settings. Gusfield (1970) indicates the importance of ideological analysis in understanding the inability of one group to accept, or even to grasp, the intellectual significance and legitimacy of the ideas of another collectivity. Of necessity this situation must be analyzed in terms of the socio-temporal situations of the respective groups, that is, in terms of their "paradigm of experience (Gusfield, 1970: 398)." An ideology is itself incapable of simple testing and scientific control. Investigation and solution of problems will necessarily be done within the framework of that ideology in which the problem is first conceived and assessed. The informational categories produced and the argumentation conducted will be determined by that ideology, thus limiting the range of possible decisions to be reached (Ravetz, 1971: 341).

Although Kuhn (1970) does not explicitly cast his discussion of the controversies accompanying scientific revolution in terms of ideology, the concept is implicit in his thesis. Early in his essay he claims that it is not failure of one or another method that differentiates various schools of scientific thought but, rather, their incommensurable ways of seeing the world and practicing science within it. According to Kuhn, observation and experience can and do restrict the range of admissable scientific belief, but they cannot determine the body of such belief. What Kuhn terms "an arbitrary element, compounded of personal and historical accident," is always a formative element of the set of beliefs espoused by a given scientific community (Kuhn, 1970: 4). In

addition, Kuhn notes that a particular set of shared values interacts with the particular experiences shared by a community of specialists to ensure that most members will ultimately find one set of arguments rather than another decisive (1970: 200). Members of different scientific schools must often come to recognize each other as participants in different language communities (1970: 202). Obviously, in these passages at least, Kuhn is touching upon the concept of ideology, and so it is deemed essential to cast a portion of this study in its terms as well.

The framework of analysis of the sociology of knowledge is readily applicable to science, assuming it is one of society's sources of knowledge. The sociology of science specifically deals with the social environment of that particular kind of knowledge derived from, and tested by, controlled experimentation or observation (Merton, 1957: 531). Due to its parallelism with the sociology of knowledge, the sociology of science has tended to focus on science solely as a contributor of knowledge to society. In this perspective, the social conditions and values of society which permit the emergence and performance of scientific activity, and the effects of the application of the knowledge which is derived from this activity are emphasized. Until recently, the area has lacked an emphasis on science as a unique system of behavior worthy of investigation in its own right (Storer, 1966: 6-7). Barber's work, Science and the Social Order (1952), marked the first major attempt to outline the specific field of the sociology of science with an orientation divergent from the prior sociology of

knowledge perspective. According to Barber, to gain a systematic comprehension of science it must be considered as a social activity, that is, as a "special kind of thought and behavior which is realized in different ways and degrees in different historical societies (Barber, 1952: 4)." Merton (1957) also claims that the proper subject matter of the sociology of science is the dynamic interdependence between science, as an ongoing social activity, and the environing social structure. The stated objective of his inquiries in this area is to trace and functionally analyze the varied modes of interdependence of science and the social structure, treating science as a social institution diversely related to other institutions (Merton, 1957: 533). Viewing science in this perspective it is possible to see, not only its interdependence with different parts of society, but the social characteristics and contexts of its process, its social problems, and its social control as well (Barber, 1952; Barber and Hirsch, 1962).

These considerations indicate that within the sociology of science there is increasing scrutiny of science as more than a contributor of knowledge. Science, in the emerging sociological sense, is a complex of interrelated patterns of interaction guided by a shared body of norms and values, which is influenced by the characteristics of its social environment and distinguishable from other types of social activity (Storer, 1966: 4). It is a system or institution which parallels other systems and institutions of society and is often joined in reciprocal relationships with them.

Ben-David (1971) sets forth a comprehensive classificatory scheme for the literature of the sociology of science which will be utilized to define the place of this particular study within this area of inquiry. According to Ben-David (1971), the theoretical works and studies in the sociology of science may be dichotomized on the basis of whether they posit that social conditions, internal or external to the scientific community, influence only the behavior of scientists and scientific activity or that these conditions, in addition, determine the basic content, concepts, and logical structure of science. This literature may be further differentiated according to whether an interactional or institutional approach is taken in the selection of the relevant variables for either proposed relationship.[3] These basic distinctions will be retained for use in this study for they are indicative of the several directions encompassed in the general framework of analysis which will be employed. In order to clarify the nature of this framework, it is necessary to enlarge on the distinctions made by Ben-David.

The major portion of work utilizing the interactional approach has concentrated on the behavior of scientists and scientific activity and has rarely focused on the contents, concepts, or logical structure of science. In this approach, science is regarded as the work of a community, in the sociological sense, and the growth of scientific knowledge and the changes in scientific interest are related solely

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[3]"Interactional approach" as employed by Ben-David (1971) is not to be confused with "interactionist" or "symbolic interactionist" perspective in sociology.

to the activities of this community (Ben-David, 1971: 5). Kuhn's essay, The Structure of Scientific Revolutions (1970), exemplifies the interactional approach to scientific activity. Although he views the scientific community as a social institution or system of social behavior encapsulating norms, values, and organizational forms, Kuhn also sees it as basically insulated from external social influence. He merely points out the possible role of technological advance and external social, economic, and intellectual conditions in the development of science. Apparently, Kuhn feels that the consideration of such factors is simply beyond the scope of his thesis for he does indicate that their incorporation would add "an analytic dimension of first rate importance for the understanding of scientific advance (1970: x)."

The institutional approach, on the other hand, has concentrated to a large extent on the contents, concepts, and logical structure of science (Ben-David, 1971: 6). One current of thought in this approach is that there is a systematic relationship between the conceptual structure of prevailing philosophies and the variables of the social situation and also between those philosophies and the conceptual and theoretical contents of science. Another trend of thought in this approach is the view that external factors influence science by heightening the visibility of certain subjects or problems and, thus, providing impetus for research in certain areas (Crane, 1969a; Hagstrom, 1965). Finally, there is the perspective that the economy and science are related through the mediation of specific technologies.

The economy makes the work for technology, and technology poses problems or suggests solutions for science (Hagstrom, 1965: Ravetz, 1971).

Ben-David (1971) is critical of these formulations and suggests that the possibilities for an interactional or institutional sociology of the conceptual and theoretical contents and logical structure of science are extremely limited. Therefore, in his work, The Scientist's Role in Society (1971), he attempts to present an institutional sociology of scientific activity--an endeavor reflected in the work of Barber (1952) and Storer (1966) as well.

Since Kuhn's theory of scientific development has been selected as the basic model for the analysis, this study will primarily emphasize the interactional approach to the sociology of scientific activity. It will not, however, be entirely constrained by Kuhn's model. This study will depart from the strict interactional approach embodied in the basic model through the inclusion of variables indicative of the institutional approach to the sociology of science. An attempt will be made to analyze the influence of such variables on both the scientific activity as well as the conceptual and theoretical contents of the science under investigation. The influence of interactional variables on the content, concepts, and logical structure of this science will not be dealt with in this study. An explication of Kuhn's theory appears to be a necessary antecedent to the specification of the generalizations which will constitute the actual framework to be employed in the analysis.

The Kuhnian View of Scientific Development

Kuhn's central thesis in The Structure of Scientific Revolutions (1970) is that science develops through transition from one paradigm to another via revolution and not through a process of accretion or linear accumulation of facts. Fundamental to Kuhn's image of scientific development are four concepts: paradigm, normal science, crisis, and revolution. Although Kuhn retreats from the use of the term paradigm in the postscript addition to the second edition of his book (1970) and substitutes "disciplinary matrix" in its place, its meaning and place in his theory remain basically the same. A paradigm includes symbolic generalizations, commitment to specific beliefs, shared values, and exemplars i.e. concrete problem solutions that serve as examples (1970: 181-187). Phillips (1973: 103) sees Kuhn's notion of a paradigm as indicating the existence of a coherent unified viewpoint, a kind of Weltanschauung, which determines the way a science's practitioners view the world and practice their craft. It is, then, a common frame of reference that provides a basic focus of orientation by shaping a sense of where a discipline's problems lie, what its appropriate tools and methods are, and what constitutes its acceptable solutions (40). Paradigms, however, may be prior to, more binding, and more complete than any set of rules for research that could be abstracted from them (46). Without a paradigm, all problems, all methods and tools, all facts, and all criteria for acceptance of solutions appear equally relevant (15). A discipline's acquisition of a paradigm is usually

accompanied by recognition and placement in the larger scientific community, development of specialized journals and societies, and elaboration into specialized sub-disciplines (19).

Normal science is practiced within and shaped by a particular paradigm; it is the actualization of the promise of a paradigm (24). Normal scientific activity is basically "mop-up work" in which the members of the paradigm-based community focus on the determination of significant facts, the matching of facts with theory, and the articulation of theory relevant to the prevailing paradigm (34). The aim of normal science is not the uncovering of major substantive novelties. Indeed, it sacrifices novelty for precision and new developments for detailed explanation. Normal science is directed primarily toward "puzzle-solving" in which the puzzles are both restricted by paradigm-dependent conceptual, theoretical, methodological, and instrumental rules and assured of a solution (37). Such science progresses rapidly because it is not distracted by alternative frames of reference or puzzles which do not "fit" the prevailing paradigm (37, 76). Since it is highly cumulative, extends the scope and precision of the paradigm, and leads to a detail of information, normal scientific activity is also, however, a particularly effective way of inducing paradigm change i.e. revolution (52, 65).

According to Kuhn, scientific revolutions are often preceded by awareness of anomaly, that is, recognition of a violation of the paradigm-dependent expectations of normal science or a failure of the puzzles to come out right (63). Masterman provides an excellent description of

the concept: "Anomaly is an untruth, a should-be-soluble-but-is-unsoluble problem, a germane but unwelcome result, a contradiction, an absurdity resulting when the paradigm is pushed too far (1970: 82)." Anomaly can only be recognized against the background provided by the paradigm (65), and, therefore, the process and progress of normal science make the occurrence of anomaly ever more likely. Even when anomalies of major dimension do arise, however, they are treated initially only as counterinstances that demand adjustment on the part of the prevailing paradigm (77). A modification of the existing paradigm may accommodate anomaly (78), but if it persists as normal science progresses, if it calls into question explicit and fundamental generalizations of the paradigm, or if it inhibits particularly important practical applications, it may evoke a "crisis" state within the discipline (82). Crises need not be generated by the work of the community that experiences them; new instruments or new laws may develop in one specialty and their assimilation may create crisis in another (181). In any case, confronted with crisis, the nature of normal scientific activity changes. The anomaly attracts increasing attention, and the discipline is defined increasingly in its terms. More modifications of the paradigm are suggested from disparate directions, and the paradigm itself and its rules become loosened and blurred (83-84). This proliferation of competing articulations of the paradigm and willingness "to try anything," as well as expression of explicit discontent, recourse to philosophy, and debate over fundamentals characterize the transition from normal to extraordinary research (91).

Extraordinary science entails a distinctive break from the linear development of normal science; it is a return to a state much like that prior to acceptance of any one paradigm (101). The paradigm that has lead to crisis, however, is not renounced unless an alternate one is available and ready to assume its place for without a paradigm, science cannot proceed. The rejection of the old paradigm occurs simultaneously with the acceptance of a new paradigm; otherwise, it is a rejection of science itself (79).

Scientific revolutions then are those non-cumulative developmental episodes in which an older paradigm is replaced in whole or in part by an incompatible new one (92). Those who contribute most centrally to the fabrication of the new paradigm are likely to be relatively young and/or new to the discipline; that is, scientists whose training and careers have escaped the rigidities of the traditional paradigmatic framework (90). The more mature, although perhaps contributing to the recognition of anomaly, are much more constrained by the previous model and will possibly be the prime source of resistance to the new paradigm (64, 90).

The acceptance of a new paradigm is a "revolution" not only because it is incompatible with its predecessor (97), but also because there is no established conceptual framework that will encompass and mediate between the two (146). While there may be recourse to the higher order "rules" of science, such as simplicity, accuracy, or fruitfulness, these still function as values which may be applied differently by those who adhere to them (199). Simple proof is insufficient as well since

the adherents of the two paradigms use their separate paradigms in that paradigm's defense, and neither paradigm solves all the problems confronting the discipline (94, 148). In addition, acceptance of a new paradigm often redefines the discipline itself. There is a shift in the nature of perceived problems, the standards for the selection of problems, and the criteria for acceptance of solutions (103). Finally, the switch to a new paradigm involves a change in world-view. The world that engages a scientist is the result of a combination of a particular scientific tradition, with its vocabulary and grammar, and an environment. After a revolution the scientist must be re-educated in terms of a new image of the world incommensurable with the one he or she previously inhabited (112). This shift in perception is analogous to a switch in visual gestalt--the pieces may be the same, but the totality takes on an entirely new order (85). Rather than being an interpreter, the scientist who embraces a new paradigm may confront the same constellation of objects as before but find them transformed into a different package of experience that will thereafter be linked to the new paradigm but not to the old (122-123). Thus, communication across the revolutionary divide is inevitably partial, and the acceptance of a new paradigm is more akin to a conversion experience than a product of logical debate and decision (149).

Frequently, revolutions narrow the scope of the community's professional concerns, increase its specialization, and attenuate its communication with other groups (170). Of course, the converts to a new paradigm have no alternative but to view the revolution as progress; to

see it as anything less than progress would be to render the basis for their conversion illegitimate. To a great extent the term "science" is reserved for those fields that do progress in obvious ways (160). Progress in the achievement of truth, however, is not necessarily inherent in the succession of paradigms. There is progress only in the sense that one paradigm is more satisfactory than another for solving problems (206). There is a virtual guarantee that the number of problems solved and the precision of solutions will grow (170). The decision to accept the new paradigm is based primarily on its future promise for greater problem solving ability in a changed environment (157-58).

Revolutions in the history of a science tend to remain relatively "invisible" due to the fact that when the textbooks of the discipline are re-written in terms of the new paradigm, the history is re-written as well. The discipline's history is seen through the new paradigm, and so the main current of research and theory which led most directly to it is emphasized. The role and very existence of the revolution that produced the new paradigm is inevitably disguised (137). Science comes once again to seem largely cumulative (138). Thus it is that Kuhn offers a distinctively new perspective by which to understand the development of any scientific discipline.

Kuhn's theory has been a source of debate, controversy, and criticism since its initial publication in 1962. Masterman (1970) points out the lack of clarity and precision in his usage of the term paradigm. Shapere (1964) and Scheffler (1967) among others criticize

the alleged relativism and abandonment of objectivity implied by Kuhn's view of scientific development. Kuhn's notion of "incommensurable" paradigms and his absolute separation of revolutionary from normal science are questioned by Toulmin (1970) and Feyerabend (1970), respectively, Kuhn has dealt with these various criticisms in a post-script addition to the 1970 edition of his book, and in two essays in Lakatos and Musgrave's volume, Criticism and the Growth of Knowledge (1970) which is devoted to the debate over his thesis. While he retreats somewhat from his earlier views in replying to these critics, his theory of scientific development remains a distinctive view of the subject. Friedrichs claims that Kuhn's general thesis "stands in the highest tradition of the sociology of knowledge and its youthful progeny, the sociology of science (1970: 10)." It is the task of this study to indicate the degree to which it serves as a model for the particular science of psychology or, more specifically, therapeutic psychology.

The Theory as a Model for Behavior Therapy

Burnham (1968) applies Kuhn's theory of scientific development via paradigmatic revolution to the earlier period of Watson's behaviorism and, assuming that contemporary behavior therapy is part of the same historic paradigm, the plausibility of application to the behavior therapy of the sixties and seventies is apparent. Krasner (1972) explicitly claims that behavior therapy is a revolutionary paradigm in the Kuhnian sense, especially in light of its social implications, its historical origins, and its contrast with the paradigm it opposes.

A similar argument is also presented by Katahn and Koplin (1968) and Colby (1964). These authors, however, have characterized behavior therapy as a Kuhnian scientific revolution on the basis of rather global comparisons and analogies. The literature lacks a specific delineation of Kuhn's descriptive generalizations concerning scientific revolutions in order to establish a basis for an explicit correspondence test in the case of behavior therapy. It is suggested that this study will fill this gap in the literature through its analysis of the behavior therapy movement in relation to descriptive generalizations derived from Kuhn's theory. For the purpose of this study it is necessary to scrutinize his theory and to limit the derivation of descriptive generalizations to that portion of his work pertaining to paradigmatic scientific revolutions per se. Consideration of the pre-paradigm stage and the normal scientific activity of therapeutic psychology is beyond the scope of this study and will not be dealt with here.

According to Kuhn, the following generalizations are descriptive of processes that differentiate a "paradigmatic scientific revolution" from other conceptions of change and revolution in science:

> A state of crisis generated by the awareness of persistent, fundamental, inhibiting anomaly in a paradigm-bound scientific field is the usual prelude to a paradigmatic scientific revolution (Kuhn, 1970: 52-76).
>
> The beginning of a paradigmatic scientific revolution in a scientific field is marked by the shift from normal scientific research to extraordinary research (Kuhn, 1970: 82-91).
>
> Debates concerning the paradigms involved in a scientific revolution are incomplete in terms of logical contact due to the incommensurable nature of competing paradigms (Kuhn, 1970: 94, 103-10, 148-50).

> The outcome of a paradigmatic scientific revolution is progress, not in the ontological sense, but in the area of problem-solving ability in a changed environment (Kuhn, 1970: 169-73, 205-6).

The following generalization is not descriptive of a paradigmatic scientific revolution but is stated here to indicate the inclusion of this dimension for the purpose of transcending Kuhn's theory through the incorporation of the institutional approach to the sociology of science:

> Though intrinsically scientific, a paradigmatic revolution is both an indicator and a consequence of change in external social, economic, and intellectual conditions of society.

Methodology

The actual research involved in this study does not meet the criteria of a rigorous content analysis but is rather a qualitative thematic analysis of the literature of psychological therapy in general and behavior therapy in particular. The research was conducted in view of a thematic categorization implicit in the descriptive generalizations derived from Kuhn's work and the one formulated by the author. On the basis of the generalizations concerning a state of crisis and a shift to extraordinary research within a scientific field the following categorical themes were established: proliferation of articulations of the psychoanalytic paradigm; utilization of various methods; expressions of explicit discontent with the paradigm, debates over fundamentals within the paradigm; and, philosophical arguments concerning the paradigm. In light of the generalization dealing with debates between

paradigms, a category was established to contain the exchanges between traditional psychotherapists and behavior therapists in order that one such exchange would appear as a viable candidate for extensive individual analysis. The final descriptive generalizations provided the basis for a category to encompass the institutional factors which have influenced therapeutic psychology. This category was subdivided according to whether the factors influenced only the scientific activity of the community of therapists or, in addition, appeared to be determinative of the conceptual and theoretical contents of their science.

A technique of "snowball" sampling of the literature on behavior therapy and psychological therapy and psychology in general was employed in this research. By noting the literature which was cited frequently within a few basic sources selected at the start of the investigation (described below), it was possible to continue research until sufficient material was available to render an adequate and unbiased representation of each thematic category. Several sources, through their provision of extensive lists of references or selected bibliographies, yielded multiple sources for further research. The technique of sampling utilized accounts for the varying nature of the literature eventually uncovered. The author was often led by way of citation to books and articles that, by title, would appear to lie outside the relevant domain of literature for this study.

It should be noted that the literature on various aspects of therapy, behavioral and otherwise, is extensive at this time and expanding at a rapid rate. A complete review of the literature would have

required extensive time and was deemed unnecessary and impractical for this study. A decision was made to focus on theoretical works since they were more likely to address themselves to the issues of concern in this study. Since a large part of the psychological therapy literature is devoted to empirical investigation in the form of case studies and reports, this decision accorded a limited amount of direction to the sampling. It was necessary, however, to specifically consult various empirical sources to obtain material required for a comprehensive definition of behavior therapy.

Due to the author's limited competence in the area of psychology in general and behavior therapy in particular, a preliminary step in the proposed investigation was the acquisition of a basic understanding of the subject of the study. The general or introductory material of such randomly selected books on behavior therapy as Ullmann and Krasner's Case Studies In Behavior Modification (1965), Franks' Behavior Therapy: Appraisal and Status (1969), and Bandura's Principles of Behavior Modification (1969), served as valuable overviews of the behavior therapy paradigm, its contrast to the psychoanalytic paradigm, and its relation to the general field of psychology. The selection of the fundamental sources for the actual research was based on varying criteria and, at times, involved arbitrary decisions on the part of the author in relation to the number and nature of sources chosen. These initial sources, the reasons for their selection, and a review of the structure of the preliminary research are presented here to allow for replication and to guide further investigation of the problem.

The first source utilized for research was Morrow's Behavior Therapy Bibliography: 1950-1969 (1971). This work is the only such comprehensive list of references on all aspects of behavior therapy available and introduced the major authors and works in the area. A few basic sources were derived from Morrow's selective listing of books devoted to behavior therapy. In addition to the aforementioned volumes by Ullmann and Krasner (1969), Franks (1969) and Bandura (1969) which were found to be among Morrow's selections, these included Schaefer and Martin's Behavioral Therapy (1969), Wolpe's The Practice of Behavior Therapy (1969), Eysenck's Behavior Therapy and the Neuroses (1960), Ullmann and Krasner's A Psychological Approach to Abnormal Behavior (1969), and Krasner and Ullmann's Research in Behavior Modification: New Developments and Implications (1965). In addition, the literature cited in Morrow's bibliography indicated that a major portion of the articles dealing with behavior therapy appeared in four journals: Behavior Research and Therapy, Behavior Therapy, Journal of Applied Behavior Analysis, and Journal of Behavior Therapy and Experimental Psychiatry.

Since this bibliography was limited to publications appearing between 1950 and 1969, it was considered necessary to select a few additional, more current, basic sources for research. On the basis of its recent publication and professional society sponsorship, the American Psychiatric Association's task force report, Behavior Therapy in Psychiatry (1974), was also utilized as a primary source for information as well as current references on behavior therapy. In addition, a source

which proved to be especially prolific in respect to yielding references was Krasner's (1971) review of behavior therapy in the Annual Review of Psychology. This article was the first review specifically focused on behavior therapy per se to appear in the Annual Review and was thus comprehensive in nature, providing a substantial bibliography of over 400 sources on all aspects of behavior therapy. Unlike the other reviews found in the Annual Review, the literature cited was not limited to a certain time period and encompassed books and articles which have appeared since the emergence of behaviorism in the 1920's as well as works published after Morrow's compilation.

In order to obtain an adequate and unbiased sample of the literature, some basic sources not directly oriented to the behavioral approach were selected, including sources on psychology in general and psychoanalysis in particular. A few general texts and readers on the history and theories of psychology provided basic information on and references for psychoanalytically oriented works. These general texts were randomly selected and included Herrnstein and Boring's A Source Book in the History of Psychology (1965), Krantz's Schools of Psychology (1969), Lunden's Theories and Systems of Psychology (1972), Beloff's Psychological Sciences (1973), and Gilgen's Contemporary Scientific Psychology (1970). In addition, the reviews of psychotherapy which appeared in the Annual Review of Psychology were sampled by alternate years since 1955 for both content and relevant references on traditional psychoanalysis. Due to the preponderance of empirically oriented references in these reviews, however, this survey yielded relatively few additional sources.

On the basis of their citation in relevant contexts of the general texts as well as their appearance in the Annual Review, Marmor's Modern Psychoanalysis (1968) and Waelder's Basic Theories of Psychoanalysis (1960) were selected as additional primary sources for this phase of research.

The "snowball" sampling undertaken from these basic sources often involved recourse to various psychological journals as well as texts in the area. In addition, several specific journals were systematically sampled. Since the journals devoted to behavior therapy or psychoanalysis consist almost exclusively of reports of empirical research and case studies, it was decided that more germane and fruitful material might be located by surveying journals not committed to any one theoretical viewpoint. In view of this, the American Journal of Psychiatry, American Psychologist, Journal of Consulting and Clinical Psychology, and Psychological Bulletin were selected for review rather than journals specifically designated as behavioral or psychoanalytic in editorial policy. This survey was limited to the volumes of these journals published from 1964 to 1973. A review of the table of contents of each volume, or the cumulative index when available, was made, and articles were sampled on the basis of whether their title was indicative of discussion potentially germane to an established thematic category.

This concludes the discussion of the methodology employed in this study. Due to the technique of sampling utilized, it is only possible to sketch out the initial stages of the research. The bibliography of this work will provide the reader with a complete review of the sources eventually derived through sampling. It is obvious that subsequent

investigators of this problem might be led in a disparate direction from this author by employing these same basic sources. It is maintained, however, that the somewhat unconstrained nature of this method of research does not indicate an attempt to produce results in accordance with one or another conclusion. Rather, it provided the opportunity to derive adequate material to conduct the analysis sufficiently and to negate the biases inherent in a more limited review of literature. Before proceeding with the analysis of the results of this research, however, it is necessary to examine the object of inquiry--behavior therapy--in order to clarify its nature and to establish its status as a subject worthy of investigation.

CHAPTER II

THE BEHAVIOR THERAPY PARADIGM

Behavior Therapy: A Science of Human Behavior

Although behavior therapy is the product of the convergence of multiple streams of development, some of which trace back to the late nineteenth century, as an approach to psychiatry and clinical psychology in the decades of the sixties and seventies it constitutes a distinctive new way of viewing and changing human behavior (Krasner, 1971: 488-91). The behavioral approach to therapy is best defined in contrast to the psychoanalytic approach or evocative psychotherapy which has been the dominant therapy in American and, to a great extent, European psychiatry and clinical psychology for the past sixty years (Wolpe, Salter, and Reyna, 1964: 3). The divergence between behavior therapy and evocative psychotherapy is most clearly seen in the conceptualizations of abnormal or deviant behavior which each espouses (Krasner, 1971).

In accordance with its basis in a medical model, the psychoanalytic approach views abnormal behavior as a manifestation of an underlying psychic disturbance, that is, as a symptom of a disease. In most cases the symptom is regarded as evidence of repression; its nature is determined by the defense mechanisms developed by the individual to deal with this repression (Eysenck, 1960: 12). Change in such behavior, therefore, must be achieved indirectly by altering the intrapsychic organization of the individual. To treat only the symptom would lead to

the elaboration of new ones (Beloff, 1973: 141). Thus, evocative psychotherapy requires a personal therapist-client relationship and involves abstract therapist-directed techniques of symptom interpretation, transference, and insightful understanding (Eysenck, 1960: 12; Sloane, 1969: 877).

Behavior therapy, derived from a sociopsychological model, regards all behavior as learned in the interaction of the individual with his or her environment. Abnormal or deviant behavior is the particular result of inadequate or maladaptive learning and is determined by individual differences in conditionability, autonomic lability, and environmental circumstances (Burns and Worsley, 1970: 2; Eysenck, 1960: 12; Ullmann and Krasner, 1969: 244). Change in such behavior involves simple unlearning and relearning and not psychic reorganization; it is not a disease problem but rather a social one (Krasner, 1972: 55). Alteration of behavior can be direct, foregoing personal relations, and primarily utilizing the explicit application of learning principles derived from experimentation (APA Task Force, 1974: 1). While not all the techniques employed in behavior therapy have a recognized basis in learning theory, there is a unifying factor in their essential derivation from experimentally established procedures and principles which have in common all of the attributes of scientific investigation, including control of variables, presentation of data, replicability, and a probabilistic view of behavior (Krasner, 1971: 488).[4]

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[4]For a review of these principles, see the APA Task Force Report on Behavior Therapy (1974), Bandura (1969), Krasner (1971) or Skinner (1938).

Behavior therapy is not unique in seeking to derive techniques and procedures from experimentation, but it is distinct in the manner by which clinical data are collected, analyzed, and employed throughout therapy (Brady, 1973: xv). Emphasis is initially placed on the "behavioral analysis" which seeks to identify and describe the abnormal behavior or problem in as explicit, objective, precise, and, ideally, quantifiable terms as possible. Antecedents and consequents of the behavior are concomitantly described to determine the circumstances under which the behavior occurs and is maintained. Directly observable and measurable phenomena, rather than inferred unconscious complexes or mental states, are the focus in this part of the behavioral analysis. The treatment plan, based on the behavioral analysis, specifies goals and systematically manipulates the behavioral and environmental variables assessed as being functionally related to the problem. The treatment process itself remains empirical in the sense that the validity of the behavioral analysis and the treatment plan are continually reassessed in terms of therapeutic progress. The same objective, quantifiable terms that characterized the initial behavioral analysis are employed in order to obtain a nonsubjective verification of the extent to which goals have been achieved. Thus, behavior therapy is an experimental approach to the treatment of the individual patient (APA Task Force, 1974: 5-6; Brady, 1973: xv-xvi; Ford and Urban, 1967: 339).

There are areas of overlap between the traditions of psychoanalytic therapy and behavior therapy. Bachrach (1964: 65) cites a deterministic

view of behavior, an emphasis on understanding the history of the individual and his or her learning experiences, and the relation of past events to current behavior as points of agreement between the two. Bandura (1969) and Sloane (1969) indicate that all forms of therapy effect behavioral change through either deliberate or unwitting application of learning principles and manipulation of controlling variables. In addition, Sloane (1969) claims that in all varieties of therapy the therapist-patient relationship and dialogue is an important factor in the ultimate effectiveness of the technique. A similar argument is put forth by Meyer and Chesser (1970: 25), who indicate that suggestion, persuasion, and encouragement are variables shared by most methods of treatment. Notterman (1970) also attempts to "bridge" psychoanalytic and behavior therapy through an analysis of concepts which, though nominally different, are common to both approaches. Abrogating these proposed convergences, however, is a basic difference in emphasis, description, and procedure which severely limits the possibility of assimilation (APA Task Force, 1974: 41; Breger and McGaugh, 1965: 349, Notterman, 1970: 288). The proposal to incorporate the best of both approaches in the practice of therapy comes mainly from psychoanalytic practitioners (Birk, 1970: Feather and Rhoads, 1972; Marmor, 1971), however, even the American Psychiatric Association's "Task Force on Behavior Therapy" (1974) cites group therapy, family therapy, and sex therapy as areas of mutual interest where there exists the potential and need for the utilization of both traditions (APA Task Force, 1974: 39-41).

The Methodology of Behavior Therapy

The following section briefly describes some methods or techniques which are commonly used in behavior therapy treatment programs. Cogent criticisms of behavior therapy and its techniques are cited following the review. Since new techniques and modifications of established ones are constantly being developed, this summary should not be considered exhaustive.

Systematic Desensitization

Systematic desensitization involves a gradual, progressive exposure to feared situations in order to eliminate or reduce maladaptive anxiety and avoidance behavior (APA Task Force, 1974: 8). According to Wolpe (1958: 234-35), who developed the technique, if a response antagonistic to anxiety can be made to occur in the presence of anxiety-evoking stimuli, the bond between these stimuli and the anxiety will be weakened. The treatment program begins by ordering the individual's fears or anxiety-arousing stimuli in a hierarchy and teaching him or her a relaxation technique. In a deeply relaxed state, the individual imagines a weak anxiety-arousing stimulus and continues to do so until it loses its ability to evoke anxiety. The individual moves up the hierarchy until the most anxiety-arousing stimuli are imagined without concomitant tension or discomfort (APA Task Force, 1974: 9; Krasner, 1971: 500-1). Systematic desensitization is used in a wide variety of cases and problem areas. Successful application has been made in

cases of frigidity (Lazarus, 1963), insomnia (Geer and Katkin, 1966), and exhibitionism (Bond and Hutchison, 1960).

Implosive Therapy or Flooding

Implosive therapy or flooding is "treatment by inward explosion (London, 1964: 103.)" Rather than a graded hierarchy presentation of anxiety-arousing stimuli with relaxation, the items that would be on the top of the hierarchy--the most frightening and, hence, maximally anxiety-arousing--are presented or imagined first. The individual is required to remain in the feared situation and experience all the anxiety engendered and is prevented from escaping the situation by means of any avoidance response (Meyer and Chesser, 1970: 109-10). By having the individual confront the anxiety-arousing stimuli at a high level of intensity for prolonged periods of time, it is assumed that the anxiety response will extinguish (see Stampfl and Lewis, 1967). There have been few published reports of implosive treatment. Hogan (1966) gives an account of short term treatment of psychotic patients. Hogan and Kirchner (1967) treated 21 students who were phobic of rats with one session of implosive therapy.

Positive Reinforcement

Positive reinforcement, derived primarily from the operant conditioning studies of Skinner, refers to those techniques that involve the systematic presentation of positive consequences to influence behavior. Emphasis is on contingent reinforcement to strengthen specific behaviors (Krasner, 1971: 492). The method of

positive reinforcement has been widely applied in verbal conditioning with a simple reward consisting of smiling, nodding, repeating remarks, or simple verbal utterances made contingent upon appropriate verbal responses (Bandura, 1969; Kanfer, 1968). Anorexia nervosa, failure to ingest adequate food to maintain health, has been successfully treated by making social rewards, such as the use of a radio or the granting of companionship, contingent on eating, and withdrawing these rewards when the patient fails to eat (Bachrach, Erwin, Mohr, 1965). Staats (1965) demonstrates the effectiveness of incentive systems in promoting children to engage in complex learning activities with sustained interest over an extended period of time.

Token Economy

The token economy technique is basically a "work-payment incentive program (APA Task Force, 1974: 12)." This system utilizes various procedures including positive reinforcement in the form of tokens to develop and maintain appropriate behaviors and the withholding of such reinforcement to decrease the frequency of inappropriate behavior. The tokens are exchangeable for certain desired privileges and material rewards (APA Task Force, 1974: 1). Developed by Ayllon and Azrin (1968), the token economy system was used initially exclusively in closed ward psychiatric treatment centers, but it has now been widely adopted in classrooms, especially with disadvantaged, hyperactive, and retarded children (O'Leary and Drabman, 1971) and in the management of delinquents and individuals with character disorders (Cohen and Filipczak, 1971).

Aversion Therapy

Bandura (1969) categorizes aversion therapy into (1) the use of negative reinforcers, (2) the removal of positive reinforcers, and (3) the application of aversive contingency systems. Aversive methods are primarily employed with behaviors which appear to be maintained because their natural consequences are reinforcing for the individual, such as addictions, or with those having long-term consequences detrimental to the individual, such as self-destructive or self-injurious behaviors (APA Task Force, 1974: 14).

In the use of negative reinforcers, an aversive reinforcer is paired with a stimulus that precedes the behavior or it may follow specific responses (Bandura, 1969). Recent research on alcoholism has employed electric shock as a negative reinforcer in an attempt to help problem drinkers achieve a level of moderate social drinking (Lovibond, 1970). Feldman and MacCulloch (1965) illustrates aversive control methods in treatment of sexual deviations. The presentation of negative reinforcers following a specific response has been used primarily to control self-injurious or destructive behavior. In these cases it is often accompanied by positive reinforcement of responses that would compete with self-destruction (Risley, 1968).

Assuming that behavior is maintained by reinforcement, removal of reinforcement should change that response. The removal of reinforcement for maladaptive behavior should decrease its frequency and thus allow the emission of new behavior. This aversive technique is commonly

known as extinction, and an example of its application in the case of a child's temper tantrum is illustrated in a study by Williams (1959).

The utilization of aversive contingency systems amounts to "control by threat." A contingency contract is established which specifies a punishing event if an individual performs a certain behavior. Arranging in advance explicit contractual contingencies which clearly define the limits of permissable and punishable behaviors is thought to reduce the emotional effects of punishment by establishing it as a legitimate and predictable consequence of behavior rather than an arbitrary and vindictive one (Bandura, 1969: 317). Aversive contingency systems have been extensively employed by Goldiamond (1965) in both the experimental production of stuttering behavior and its elimination. In general, the effects of all forms of aversion therapy seem to generalize very little, and it has been suggested that it is perhaps most effective when used in combination with other procedures (APA Task Force, 1974).

Modeling

Modeling, synonymously termed imitation, vicarious learning, identification, or role playing, has become an integral technique of behavior therapy for the acquisition and modification of behaviors (Krasner, 1971: 508). It is assumed that the behaviors of others may serve as discriminative stimuli or models to match or imitate for an individual; new behaviors may be facilitated in their emergence by observing another person (Ullmann and Krasner, 1969; 256). Bandura,

Blanchard, and Ritter's (1969) work on snake phobias is a vivid example of response modeling.

Negative Practice

Sometimes termed paradoxical intention or satiation, negative practice is used principally in the treatment of high frequency repetitive behavior (APA Task Force, 1974: 22). It is assumed that repeatedly practicing a tic, stammer, or other undesirable habit in massed trials produces reactive inhibition or fatigue, and that response becomes painful to make. To avoid this aversive situation, the individual will eliminate this response from his or her repertoire. Yates' (1958) work on tics associated with Gilles de la Tourette's syndrome exemplifies the successful application of this technique.

Control of Autonomic Functions

A recent development in behavior therapy concerns the use of biofeedback techniques to alter physiological functions for therapeutic purposes. Individuals are given informative feedback about the state of one of their physiological response systems and are reinforced for changing the level of response of that system in the direction requested (APA Task Force: 1974: 50). Lang (1970) gives a comprehensive review of the research of autonomic control and credits Shearn (1962) with the first demonstration of the operant conditioning of heart rate acceleration. Shapiro et.al. (1969) claims that blood pressure may be brought under control via feedback and reinforcement. Kamiya (1968) demonstrates control of brain wave patterns with the same method.

Behavior therapy has generated substantial criticism from within psychology as well as from sources outside the discipline. One of the more common criticismsof the approach and its techniques centers on the alleged limitations of this form of therapy. It is claimed that behavior therapy is only concerned with symptom removal (Rachman, 1963ai 12), it only deals with simple behaviors (Breger and McGaugh, 1965: London, 1964; Portes, 1971a), it is useful only for phobias (Grossberg, 1964: 812); Meyer and Chesser, 1970: 80), and it misses important data about individuals by being relatively ahistorical (Meyer and Chesser, 1970: 79). Behavior therapy is criticized theoretically on the grounds that there is a spurious relationship between laboratory findings and clinical applications based on analogy (London, 1972: 916; Sherman and Baer, 1969), and that there is no modern "learning theory" upon which it is supposed to be based (Breger and McGaugh, 1965: 340; London, 1972: 916; Staats, 1970: 194). It is also asserted that behavior therapy has not demonstrated its effectiveness (Breger and McGaugh, 1965: 338) and is nothing more than a collection of case studies (Ford and Urban, 1967: 353). Others claim that any effectiveness it does demonstrate is due to the interpersonal therapist-client relationship or the role of suggestion in effecting "cure (Klein et.al., 1969: 264)." In addition, there is a wide range of humanistic criticism of the approach addressing its alleged mechanistic, manipulative, and controlling aspects (London, 1964; Portes, 1971a; Rogers and Skinner, 1956). Finally, there are philosophical objections to the possibility of a science of human behavior on the basis that human behavior is not amenable to causal

description and treatment since each human being is unique (Schaefer and Martin, 1969: 9).

The History and Diffusion of Behavior Therapy

Historians of psychology trace the philosophical foundations of behavior therapy as far back as Descartes and his views on animal activity (Beloff, 1973: 130; Herrnstein and Boring, 1965: 619), Comte and his founding of positivism (Herrnstein, 1969: 55; Schultz, 1969: 193), LeMettrie and his doctrine of materialism (Lunden, 1972: 146), and Darwin and his theory of evolution (Kantor, 1969: 359). The animal learning and conditioning laboratory studies of Pavlov and Bechterev in the Soviet Union and Morgan, Loeb, and Thorndike in the United States in the late nineteenth and early twentieth centuries were important contributions to later experimental developments in the approach (APA Task Force, 1974: 2; Ullmann and Krasner, 1969: 178), however, Watson was the first to indicate the psychological and social implications of these philosophical and experimental trends in the early twentieth century with his article, "Psychology as the Behaviorist Views It (1913)." This publication and a subsequent book (1914) by Watson fostered a behavioristic revolution by pronouncing that psychology should limit itself to the observation of the actual objective behavior of people and animals and by denying the scientific usefulness of mind and consciousness (Burnham, 1968; Herrnstein, 1969; 51; Marx and Hillix, 1963: 169, Schultz, 1969: 186).

The explicit convergence of these various conceptual and experimental developments was demonstrated by Watson and Rayner (1920) and Jones (1924) in their work with phobias in humans. In the years immediately following these applications a considerable body of theory, practice, and research in the behavioristic orientation was formulated (Krasner, 1971: 489; Ullmann and Krasner, 1969: 178-80). One group of behaviorally oriented investigators (Holt, Weiss, Hunter, Tolman) focused on animal studies, while a second group (Burnham, Dunlap, Hollingsworth) adapted behavioristic methods to clinical problems. It was Guthrie (1935), however, who clearly espoused a useful form of behaviorism which is very similar in language and concepts to the formulation of abnormal behavior presented by behavior therapists today (Ullmann and Krasner, 1969: 175-76). Another early contributor was Hull, who attempted to develop quantitative laws of human behavior. Spence and Miller, students of Hull, did extensive research on the stimulus-response-reinforcement interpretation of learning (Ullmann and Krasner, 1969: 177). Miller extended Hull's general point of view to approach-avoidance conflict behavior, to social behavior, and to psychotherapy (Dollard and Miller, 1950). In retrospect, the publication of Skinner's book, The Behavior of Organisms (1938) represents a major landmark in the behavioral approach since much of the current work in behavior therapy with its experimental basis and objective approach is an extension of his early efforts (Ullmann and Krasner, 1969: 176).

Despite the early impetus to full-scale development of the behavioral approach and the significant advances made in this effort,

there was a hiatus of over forty years before it emerged as a comprehensive and systematic approach to clinical problems in the form of behavior therapy (Burns and Worsley, 1970: 3; Kushner, 1970: 26; Ullmann and Krasner, 1969: 180). Attempts to link experimental and clinical psychology appeared after World War II (see Dollard and Miller, 1950; Shoben, 1949) but did not develop into a new approach to therapy. Skinner's Science and Human Behavior (1953) and Wolpe's Psychotherapy by Reciprocal Inhibition (1958) represent the significant initial attempts to apply laboratory research to the development of new methods of therapy (Ullmann and Krasner, 1969: 181). The actual term "behavior therapy" did not become current until 1960 with the publication of Eysenck's Behavior Therapy and the Neuroses, even though it had been used prior to that by Lindsley, Skinner, and Solomon in 1953 and Lazarus in 1958 (Beloff, 1973: 142). The cause of this lag in development has been variously assigned to the over-riding impact of Freudian evocative psychotherapy, the absence of clinical psychology as it is known today, and the encapsulation of the approach in academic and research establishments rather than medical settings (Kushner, 1970: 27; Ullmann and Krasner, 1969: 180).

Although a pattern of expansion in the application and popularity of behavior therapy began in the late fifties, the last decade has witnessed the most significant and vigorous growth. There have been several efforts to document the rapid development of behavior therapy. Goodall (1972), utilizing data on professional personnel mobility and research center establishment, has traced the diffusion of applied

behavior therapists. He concluded that most have moved through a network of 16 major centers, mainly in the Midwest and far West. Over the years, 17 of the 42 leading behavior therapists have taught and conducted research at the University of Washington in Seattle. The University of Kansas, Indiana University, Harvard University, and Southern Illinois University have also been significant centers for instruction and research in behavior therapy. Goodall cites the University of Kansas and Western Michigan University as leaders in the field. Although Washington has lost some of its outstanding behavior therapists, it remains an active center, along with the State University of New York at Stony Brook, the University of Oregon, and the University of Hawaii. Some centers have been chiefly doctorate-producers; in fact, half of the leading applied behavior therapists came from just five schools--Washington, Harvard, Indiana, Columbia, and Minnesota. Some centers owe their high status to the work of one or two leading individuals, such as Bijou at the University of Illinois, Azrin at Southern Illinois, Bandura at Stanford, Wetzel at Arizona, and Madsen at Florida State. Goodall looks to Drake University in Des Moines and the University of Utah in Salt Lake City for leadership in the development of behavior therapy in the future (Goodall, 1972: 58-59).

Brady (1973) counted the number of behavior therapy articles that appeared in four clinical journals for the period 1951 to 1970. The journals selected were the American Journal of Psychiatry, British Journal of Psychiatry, Journal of Abnormal Psychology, and Journal of Consulting and Clinical Psychology which are not editorially committed to

one theoretical or psychotherapeutic point of view. His findings indicate a very rapid rate of growth in behavior therapy literature. While there was an average of one behavior therapy article in these journals in 1951, the average was 17 such articles in 1970, with the Journal of Abnormal Psychology exhibiting the most significant increase i.e. 32 behavior therapy articles. These findings are even more salient in view of the fact that four new journals devoted entirely to behavior therapy were established during the last eight years of the designated period. Behavior Research and Therapy was started in 1963, the Journal of Applied Behavior Analysis in 1968, and Behavior Therapy and the Journal of Behavior Therapy and Experimental Psychiatry in 1970. During 1970, these four journals published 182 articles on behavior therapy (APA Task Force, 1974: vii). It can be assumed that these journals claimed many articles which would have otherwise been published in the journals surveyed.

A most striking growth index of the behavior therapy movement is the percentage increase in membership in Division 25 (Experimental Analysis of Behavior) of the American Psychiatric Association. Where the greatest percentage gain in members was 37 percent between 1966 and 1968 for all other APA divisions, Division 25 increased by 110 percent, indicating a rank of sixteenth out of 29 divisions (Krantz, 1971: 92-93).

Stolz's (1973) research shows that the Clinical Research Branch of the National Institute of Mental Health, which has a general interest in supporting research projects in psychotherapy, has shifted its

priorities from research predominantly in psychotherapy to research specifically in behavior therapy. While behavioral projects were 32 percent of the 61 projects supported by this section in 1967, they were 54 percent of the 29 active grants subsidized by that section in 1971. Including all research grants, NIMH support of behavior therapy research was somewhat more than three million dollars in fiscal year 1972 (Stolz, 1973: 510).

Another indicator of behavior therapy's phenomenal growth is illustrated by Yen's (1971) survey of a random sample of schools offering doctoral level training in psychology. He found that 84 percent of the schools sampled have courses in behavior therapy. Post-doctoral training in behavior therapy was also available at several universities. The same survey indicated that only 19 percent of undergraduate colleges offered a course in behavior therapy, but it appears likely that related material is included in courses of general psychology or abnormal psychology (see APA Task Force, 1974: 52).[5]

Currently, there is widespread acceptance and application of behavior therapy in diverse settings--mental hospitals, prisons, schools, homes--by various professional as well as non-professional personnel--psychiatrists, psychologists, social workers, teachers, nurses, parents--and with diverse behaviors--phobias, neuroses, addictions, sexual disorders, stuttering, cigarette smoking (see Eysenck, 1960; Neuringer and

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[5]See the Appendix for similar research conducted by this author.

Michael, 1970; Rachman and Teasdale, 1969; Ullmann and Krasner, 1965). It is not uncommon to discover articles dealing with aspects of behavior therapy in the popular press of recent years as well. The future will see the research base of behavior therapy become more extensive, solid, and refined as sophistication in design and equipment increases (Krasner, 1971: 529). New techniques such as teaching machines and hypnosis could become integral parts of the approach (Ullmann and Krasner, 1965: 62-63). Behavior therapy may extend inside the human being as the relation of autonomic functioning with the behavior change process continues to be developed. It already has definite direction toward the social environment with its incipient potential for social, utopian, and environmental planning and institutional and ecological change (Krasner, 1972: 55). Goodall (1972) indicates that the next phase of the behavior therapy movement will be analogous to social engineering as it extends to functional analysis of whole social systems similar to that now done in schools, hospital wards, and homes. This research will be the basis for broad social intervention and planning which is preventive in nature (Krasner, 1971, 518). New social environments which inhibit the development of major social problems by incorporating appropriate contingencies, role models, and incentives are the envisioned ultimate products of this growing emphasis on prevention (Bandura, 1969: 109). This development will necessarily link behavior therapy to fields such as economics, sociology, and political science which involve social and economic observations and planning (Krasner,

1971:518). Homans (1969: 4) argues that the propositions of behavioral psychology are the general explanatory propositions of all social sciences.

Obviously, these prospects hold implications for the training of clinical psychologists, psychiatrists, and other professionals in the mental health field. If behavior therapy does develop into an encompassing approach to social planning, these people will become active agents of social change. In addition, the trend toward using non-professional personnel will increase due to the need for more manpower (Burns and Worsley, 1970: 6). Ullmann and Krasner (1969: 60) envision a profession of psychotechnicians trained specifically in the application of behavior therapy techniques.

Behavior Therapy: A Kuhnian Paradigm

According to Kuhn (1970), most sciences experience a similar period early in their histories, when competing schools of thought divide the field of study. The acceptance of a paradigm, however, greatly reduces the number of schools, ordinarily to one, and a more efficient mode of scientific practice begins. The history of psychology is marked by the emergence of different schools of thought and their subsequent decline; in fact, it is one of its most striking characteristics (Beloff, 1973; Marx and Hillix, 1963; Schultz, 1969). The period between 1890 and World War II has been termed the "Age of Schools" or the "Age of Systems" in psychology, however, this label remains

applicable today for great diversity still exists within the field (Breger and McGaugh, 1965: 338; Krantz, 1971: 86).

The terms "school" and "system," though often used synonymously, carry quite different implications if rigorously defined. A system has been defined by McGeoch as "a coherent and inclusive, yet flexible organization and interpretation of the facts and special theories of the subject (1933: 2);" alternately it is defined by Lichtenstein as "a framework or scaffolding which permits the scientist to arrange his data in an orderly or meaningful way (1967: 223)." While a system then is a logically interrelated set of concepts, a school denotes the affiliation of a group to a particular system (Krantz, 1971). The association is ideological in nature, though it may also be geographical, and is unique in time; that is, systems are in a sense ahistorical while schools are unique historical configurations (Marx, 1970: 3). Systems, in a sense, require schools in order to develop and perpetuate themselves, but the concept of "school" often has a pejorative connotation for it seems to suggest characteristics beyond simple affiliation to a particular system. Traits such as dogmatism, selective attention, and ignorance and derogation of the work of others are often inferred when the designation of school is attached to a group (Ford and Urban, 1967: 338; Krantz, 1971: 86).

It is perhaps questionable whether psychology has ever had a system in McGeoch's sense of the term, that is, an organization of fact and theory. According to Marx and Hillix (1963: 46), psychology manifests programs or, at best, informal theories, and its systems are

general and broad in scope. The important point is that multiple systems, however loosely defined, and schools exist in psychology at the present time (see Beloff, 1973; Krantz, 1969). Several authors concur in the designation of behavior therapy as a school of psychological thought (Ford and Urban, 1967; Krantz, 1971; Schultz, 1969), but it is still only one example of a system/school which can be extracted from the particular area of therapeutic psychology alone. In fact, psychological therapy, although an endeavor with a long history, exhibits numerous schools and has been particularly marked by cycles and "fads (see Brady, 1973; Lunden, 1972: 179; Risley, 1972: 37; Sloane, 1969)."

The continued existence of schools in the discipline of psychology yields a basis for the assertion that the area is still in the pre-paradigmatic stage of development (Gilgen, 1970: 4), and thus, that the discussion of paradigmatic revolutions in relation to psychology is not strictly applicable. It is vital, therefore, to delineate a distinction Kuhn himself makes in relation to this point. According to Kuhn, both normal science and revolutions are community-based activities (1970: 179). A community consists of the practitioners of a scientific specialty who have undergone similar educations and professional initiations and absorbed the same technical literature; each community has a subject matter of its own. Kuhn notes the existence of schools in the sciences and refers to them as "communities which approach the same subject matter from incompatible viewpoints (1970: 177.)" A paradigm governs a group of practitioners not a subject matter, and so <u>even the schools of the pre-paradigm period share paradigms</u>. Study of paradigm

directed or paradigm shattering research must begin with the location of the responsible group or groups, for paradigms exist by virtue of the existence of such groups (Kuhn, 1970: 179-80). In view of this, psychology is better defined as a multiple paradigm science than a pre-paradigm science. Multiple paradigm science is amenable to study with Kuhn's theory if each subfield is treated as a separate field (Masterman, 1970: 74). In light of the material presented in this chapter, it can be justifiably assumed that behavior therapy constitutes a separate school or scientific community which manifests a paradigm. Therefore, it is amenable to a test of its correspondence with Kuhn's theory of paradigmatic scientific revolutions.

CHAPTER III

PARADIGM IN CRISIS

The primary emphasis of this chapter is on the common antecedents to paradigmatic revolutions within a scientific discipline or community, namely, a state of crisis and a shift from normal to extraordinary research. The crisis state is usually somewhat prior to the shift to extraordinary research, but the two phenomena manifest similar characteristics and actually become inextricably intertwined once crisis has emerged (see Kuhn, 1970). For heuristic purposes, crisis and extraordinary research are somewhat arbitrarily separated in this chapter. The overlap in their characteristics and the coincidence of their existence will be apparent, however, for Kuhn himself offers no explicit demarcation of their boundaries. The division set forth herein is based on the author's interpretation of a subtle distinction between the two which is implicit in Kuhn's work (1970: 90-91). Since the purpose of this study is to examine the emergence of behavior therapy as a paradigmatic revolution, the objective of this chapter is to determine if the usual precursors of such revolutions occurred within the particular scientific discipline of psychology and the community of clinical psychologists and psychiatrists. Thus, the material presented in this chapter forms the basis for testing the correspondence of the first two descriptive generalizations derived from Kuhn's essay to the case under investigation.

A State of Crisis

A state of crisis, generated by the awareness of persistent, fundamental, inhibiting anomaly in a paradigm-bound scientific field is the usual prelude to a paradigmatic scientific revolution. As defined previously, a paradigm is a set of conceptual, theoretical, instrumental and methodological commitments which provide a model or frame of reference for work in a particular scientific community. When it is recognized that a paradigm is failing with its own traditional problems, that is, when anomalies are discerned, a crisis develops in the field. According to Kuhn, a crisis is a period of pronounced professional insecurity generated by the blurring of the prevailing paradigm and the loosening of the rules for normal research. The ensuing proliferation of divergent articulations of the paradigm and willingness to "try anything" lead to the loss of the former agreement on what actually constitutes the guiding paradigm.

For the past sixty years the great majority of psychotherapists have claimed commitment to the psychoanalytic paradigm (Wolpe, 1963: 23). This paradigm actually consists of three things. It is considered to be (1) a method of investigation of thoughts and feelings of which the subject is presumably unaware, (2) a theory of human personality, and (3) a technique of therapy (Marmor, 1968; Ullmann and Krasner, 1969: 44-53). It is mainly as a technique of therapy that the psychoanalytic paradigm is of concern here, however, its other aspects will enter the discussion at relevant junctures. In essence, the psychoanalytic

paradigm is derived from the theories and practices of Freud, his successors and his modifiers, including Sullivan and the Neo-Freudians (Breger and McGaugh, 1965: 349; Wolpe, 1963: 23). Although Freud's psychoanalysis is considered to be the progenitor of all modern types of evocative psychotherapy, evocative therapists still vary considerably both in the degree of and reasons for their divorcement from his initial formulation (London, 1964). Loewenstein (1968) claims that most forms of evocative psychotherapy differ technically from psychoanalysis in rationale as well as in practical use even though the dividing line is tenuous at times. He agrees, however, that virtually all its contemporary forms draw to some degree upon Freud's psychoanalysis either as a method or as a body of knowledge. According to Taylor (1962: 784), all the evocative psychotherapies, reduced to their essentials, represent only two basic orientations i.e. the classical psychoanalytic and the psychodynamic. The classical psychoanalytic approach, still closely aligned with Freud, focuses solely on unconscious complexes, while the psychodynamic orientation utilizes the available knowledge of human motivation, mental adjustments and maladjustments, and psychogenic disorders as well. There is a basic similarity among all evocative psychotherapies which resides in the fact that the motivating force for the problematic behavior is always seen as lying within the individual. Since the locus is internal, a basic change in the internal conditions or personality of the subject must be evoked (see Chapter II).

According to Kuhn, the persistence of anomaly in a given scientific field is a generator of crisis. Awareness of anomaly within the

psychoanalytic paradigm seems to have been significantly aroused upon the publication in 1952 of Eysenck's article, "The Effects of Psychotherapy." Numerous mentions of this article appear in the literature of clinical psychology and psychiatry, citing it as a significant impetus to a spirit of revisionism and a progenitor of a marked polarization of attitudes concerning psychoanalysis (see Bergin and Garfield, 1971; Ford and Urban, 1967; Miller and Halleck, 1963; Schofield, 1964; Ullmann and Krasner, 1969). Eysenck's article essentially addressed the issue of the effectiveness of traditional psychotherapy while underscoring the limited scientific foundations of its theory and practice as well as the lack of scientific inquiry directed toward its evaluation. Since this initial publication, Eysenck has made additional detailed statistical studies of various forms of evocative psychotherapy and concludes that "all methods fail to improve on the recovery rate obtained through ordinary life experiences and nonspecific treatment (1961: 721)." Miller and Halleck (1963: 708) indicates that several other investigators have reported a similar lack of effectiveness with traditional psychotherapy. Schlein (1957), for instance, reports no demonstrable differences in patients seen transiently with those seen for long continuous periods of therapy. Cross (1964: 416), after reviewing evaluation studies of traditional psychotherapy using control groups, concludes that while psychoanalysis is probably the most popular single area of specialization within psychology, its efficacy has not been scientifically demonstrated beyond reasonable doubt. The difficulty of obtaining satisfactory data concerning the efficacy of clinical

psychoanalysis is cited by Prelinger (1972), Ullmann and Krasner (1969), and Ford and Urban (1967) among others as being a major specific source of disillusionment with the psychoanalytic paradigm. The issue of the highly doubtful evidence for the effectiveness of psychoanalysis has frequently appeared in the yearly reviews of psychotherapy which appear in the Annual Review of Psychology (see Meehl, 1955; Winder, 1957; Luborsky, 1959; Seeman, 1961; Colby, 1964). Thus, it appears evident that there is recognition of anomaly in the community of clinical psychologists and psychiatrists. There is a persistent awareness that the psychoanalytic paradigm is failing at a fundamental level, the level of therapeutic effectiveness. If the psychoanalytic paradigm is truly in a crisis state in the Kuhnian sense of the concept, however, its basic essence should be somewhat obscured by proliferous articulations and modifications of it as a theory and technique of therapy. The psychoanalytic-paradigm-based community should exhibit confusion and disagreement over the proper framework for conducting their research and practice.

It was between the World Wars that the psychoanalytic paradigm, described as one of various personality theories, found its way into the textbooks of psychology (Prelinger, 1972). The rapidly increasing demand for psychiatric services after World War II and the development of clinical psychology as it is known today produced a need for theoretical foundations for psychological diagnosis and therapy as well as an interest in applying the rigorous standards of science to psychotherapy (see Grossberg, 1964). In an overeager response to the situation, the

psychoanalytic paradigm was oftentimes misapplied, according to Prelinger (1972: 90), and formulated into a variety of "wild" approaches to psychoanalysis. Fromm (1970) also notes this early tendency on the part of practitioners to misuse analytic theory. As of 1959, Harper was able to delineate 36 separate systems of basic methodological postulates of evocative psychotherapy that had achieved some identifiable stability. Even restricting it to individually oriented forms, eliminating group methods, and collapsing the distinctively Freudian derivatives into one category, these 36 systems are reducible to yet a dozen different methods of evocative psychotherapy (see Schofield, 1964: 95). Moreover, Schofield (1964) asserts that there is little indication of even a modest movement toward a general theory or uniformity of technique.

Rogers (1963) indicates that the divisions within the fold of psychoanalysis occur at the most basic levels; that is there are profound differences in therapeutic goals, criteria of success and failure in therapy, and proposed future directions of the paradigm. He concludes that this fractionation and "state of chaos" indicates the declining phase of the analytic movement. Colby (1964), as well, readily applies the "chaos" label to evocative psychotherapy. He credits the increasing use of tape recordings for making evident the great diversity in technique rampant within the paradigm and shattering the myth of a single, agreed-upon, perfect therapeutic method. In a similar assessment of the situation, Luborsky and Strupp (1962), commenting on the proceedings of a 1961 American Psychological Association conference on measurement of therapeutic progress, suggest that

everyone contributing to the conference seemed to be going in a disparate direction with little regard or enthusiasm for others' systems of measurement. In addition, it is increasingly apparent that psychoanalytically trained therapists are broadening their activities to include brief or short-term therapy, crisis-oriented therapy, group therapy, family therapy, psychodrama, and marathon therapy. The use of drugs, hypnosis, vitamins, and sensory deprivation as adjuncts to evocative therapy is also prevalent (see Ford and Urban, 1967; Strupp, 1968; Ullmann and Krasner, 1969: 250-51; Wolberg, 1968). Ullmann and Krasner (1969) views the development of these supplementary and alternative procedures as indicative of a certain uneasiness or skepticism about the psychoanalytic paradigm. Likewise, it can be argued that they manifest a classic symptom of crisis in therapeutic psychology. The psychoanalytic paradigm is losing its shared acceptance and is being articulated in various versions and modified forms.

Relaxation of insistence on using or perfecting only the traditional methods of a scientific field or "willingness to try anything," as Kuhn terms it, is also symptomatic of crisis. It can be assumed that a fair amount of informal experimentation has occurred concomitant with the aforementioned extensions. At another level, psychoanalysis is being urged to become more open as a system and to increase its contact and receptivity in relation to other disciplines (see Grinker, 1968: 37). Kubie states that "it may be predicted that in the long run the application of principles based on models derived from modern electronic engineering, information theory, communications

engineering, mathematical machinery, digital and analogic computers, and electronic devices in general, will clarify much that at present is confused in psychoanalytic theory, concepts, and terminology (1963: 334)." Colby (1964) similarly points out the potential of computer models of cognition, personality, and neurosis in psychotherapy. Advocation of methods not characteristically psychoanalytical was made explicit earlier by Stanton (1959) and Pumpian-Mindlin (1952).

A Shift to Extraordinary Research

The beginning of a paradigmatic scientific revolution in a scientific field is marked by the shift from normal scientific research to extraordinary research. The proliferation of competing articulations and the "willingness to try anything" that mark the crisis state are also indicative of the shift from normal to extraordinary research as well. In addition, the shift to extraordinary research is characterized by debate over fundamentals, expression of explicit discontent, and recourse to philosophy within the discipline or community.

Illustrative of a debate over fundamentals that assails the psychoanalytic paradigm is the controversy concerning its status as a science. Even its first appearances as a theory in the psychological textbooks after World War I were accompanied by criticisms of its lack of scientific, especially experimental, verification of its propositions and the redundancy and anthropomorphic quality of its concepts (Prelinger, 1972: 90). Earlier psychoanalysts, whose motivations were primarily therapeutic and who were untrained in the use of experimental methods

in the investigation of psychoanalytic phenomena, tended to disparage the use of such methods (Loewenthal, 1968). Even at this time, however, some attempts were made to verify psychoanalytic propositions with the techniques of social science (see Sears, 1943), but the results were inconclusive and unconvincing (Prelinger, 1972: 90; Wolpe, 1963). Although experiments continue to be done, it is generally agreed that they quantitatively represent a very small fraction of the work in experimental psychology and are beset by significant limitations (see Ford and Urban, 1967; Loewenthal, 1968; Prelinger, 1972; Wolpe, 1963). The complexity of psychoanalytic constructs and the relative difficulty of transforming them into simple operational definitions for purposes of experimental manipulation are limitations cited by Prelinger (1972). Beyond these, Kubie (1953) indicates the deficiencies with respect to the gathering of primary data, the lack of quantitative methods of validation, the absence of control groups, and limitations in specific instruments for measuring many of the processes involved in psychoanalysis. Garner (1954) argues, for instance, that the elements of the analyst-patient relationship such as transference, free association, and empathy defy scientific description and evaluation.

Numerous other statements both pro and con have been made in relation to the question of psychoanalysis as a science. Bromberg (1958) asserts that, because it has no background of sound postulates upon which hypotheses can be erected and from which confirmable and predictable events or results follow, psychoanalysis does not hold up well as a science, Earlier, Hilgard (1952) labeled psychoanalysis as "bad science"

on the basis of its preponderance of articles dealing with clinical studies rather than research. Similarly, Wolpe (1963), citing the fact that none of the major psychoanalytic propositions have passed any empirical tests, concludes that, after 60 years of influence, psychoanalysis is nothing more than speculation. In this conclusion, Wolpe is supported by Eysenck (1965) who characterizes psychoanalysis as more like a religious belief than a science which is vulnerable to empirical falsification. Indeed, Ellis (1963) claims that it verges on mysticism with its recourse to far-fetched interpretations and satisfaction with an alleged scientific nature. In an explicit denial of the scientific status of the psychoanalytic paradigm, Colby claims that it is not even an applied science and, by its very nature, can never become one; it is rather "a practical art, a craft in which an artisan relies on an incomplete, fragmentary body of knowledge and empirically established rules which have been passed on through the years (1964: 348)." Strupp (1968: 335) concurs that psychotherapy is destined to remain a clinical art. Gitelson (1964), on the other hand, believes that psychoanalysis is the basic science of psychiatry and, further, that psychiatry can only progress by using the psychoanalytic method. Grinker (1968) indicates that many clinical psychologists and psychiatrists still adhere to this belief and will vigorously contend that research, hypothesis finding, and proof in their area can be accomplished only by using the psychoanalytic method.

Another fundamental debate concerns the validity of the concept "mental illness" as conceived by traditional psychotherapists. At

issue is whether medical analogies apply to human behavior. Szasz, in his book, The Myth of Mental Illness (1961) questions the entire conception of "mental illness" as a medical problem. He suggests that many of the concepts currently labeled illness should be classified as examples of the struggle with the problems of living. Similarly, Hollingshead and Redlich (1958) reconsiders and questions the conception of neurosis as a relatively well-defined entity, and Masserman (1955) suggests that the psychotic may be the individual who refuses to believe the delusions which allow other people to live in comfort. Serious critiques of the whole concept of illness, neurosis, psychosis, and diagnosis have also been presented by Bailey (1956) and Salter (1952). A similar area of contention is the question of whether there is a basis for the concept of the unconscious in the fundamental hypotheses of psychiatric therapies (see Miller and Halleck, 1963). Eysenck (1965) has criticized the concept of unconscious motivation and finds it unnecessary to explain human behavior or success in psychotherapy. In addition, the idea of the unconscious and psychic determinism has been questioned by Allport (1960) and Bandura (1969), and vigorously criticized by psychiatrists Cleckley and Thigpen (1955) and Masserman (1955). A number of philosphers have entered the controversy (see Miller and Halleck, 1963: 707) and existential theorists, such as Rogers (1951), propose a different perspective on human behavior which need not be dependent upon unconscious motivations. Thus, there are several fundamental debates occurring within the psychoanalytic paradigm. As noted, these debates often turn into philosophical arguments or call

upon philosophical concepts to assert a viewpoint. Pure recourse to philosophy on these issues is exemplified by Hook (1959) and Waelder (1962).

The expressions of explicit discontent with the psychoanalytic paradigm focus on several different areas of concern to the community. Strupp (1968: 334) indicates that feelings of dissatisfaction are voiced not only by unsympathetic or uninformed critics, but also by prominent therapists and theorists. Indeed, Shakow (1962) points out that in the early 1960's there was evidence of a growing dissatisfaction and disenchantment with psychoanalysis even on the part of persons fundamentally sympathetic to it. Even prior to that time, however, certain psychoanalysts had criticized the methodological slovenliness and looseness of thinking rampant among contributors to psychoanalytic knowledge (see Glover, 1952). Futhermore, criticism from those outside the psychoanalytic movement concerning the ambiguity and imprecision with which the theories were formulated and the scientifically unacceptable character of the evidence advanced in their support appeared in the early 1950's as well (see Eysenck, 1952, 1953; Salter, 1952). Shakow (1962) believes that the relatively recent negative reactions are due to the relative absence of research and scholarly activity around psychoanalysis proper. The same view is shared by Strupp (1968) who also cites the deficiency of incisive advances in the technology of psychotherapy during the last quarter of a century. Colby (1964) and Bergin and Garfield (1971) similarly point to the lack of emergence of new psychoanalytic concepts and techniques and suggest that research has had

little or no effect on the practice of psychoanalysis. Moreover, these authors claim, even the research contributions utilize only standard available methods which yield no surprising or helpful answers to psychoanalytic practitioners. Colby (1964) faults the paradigm here and not the methods. He posits that the psychoanalytic paradigm seems to be "drying up" as a source of new ideas for therapy. This belief is reiterated by Ford and Urban (1967) in their conclusion that the innovative stream has gone out of the psychoanalytic movement. Critics assert that this stagnation is evidenced by the psychoanalytic literature which is allegedly repetitive, duplicative, inundated with trivia, and replete with semantic confusion (Colby, 1964; Ford and Urban, 1967; Marmor, 1968). Prelinger (1972: 96) sums up this source of dissatisfaction by asserting that analytic theory is "the oldest existing essentially unchanged scientific theory" and noting that few other sciences rely on propositions nearly seventy years old.

There has been abundant criticism of the alleged "cultish" nature of psychoanalytic practitioners as well (Ellis, 1963). Prelinger (1972) indicates that psychoanalytically oriented psychologists are not in the mainstream of American psychology and are, in essence, estranged from their colleagues. He characterizes the community as beset by a sense of stagnation, if not sterility, of its field. Strupp (1968) accuses organized psychoanalysis of withdrawing to an "ivory tower" from which it contemplates increasingly esoteric problems. According to Fromm (1971), it is retreating into conformism and a search for respectability. This type of isolation is viewed as a significantly inhibiting influence

which has impeded development and fruitful inquiry (Ellis, 1963; Fromm, 1970; Glover, 1952; Shakow, 1965; Strupp, 1968). As an essentially closed system, the psychoanalytic paradigm is relatively invulnerable to criticism. Ullmann and Krasner (1969) points out that the community has an explanation for the very act of criticism; that is, only believers in the theory or those who have undergone successful psychoanalysis are in a position to even discuss its theory or practice.

Discontent focused on more practical issues has also come to the fore. The question of the efficacy of psychoanalysis has already been discussed, but it is noteworthy that this remains a vital issue through the years (see Bandura, 1969; Eysenck, 1965; Richard, 1971; Ullmann and Krasner, 1969). The expense and time involved in psychoanalysis are additional factors which come under attack. Since it is not content with mere symptomatic relief but rather seeks basic changes in psychic organization, complete psychoanalysis does involve a matter of considerable time and money for the subject (Fromm, 1970; Ullmann and Krasner, 1969). Obviously, this restricts the total number of clients it is even possible to treat (Richard, 1971: 3). An inherent waste of time and money is evidenced by the drop-out rate in psychoanalysis, estimated to be as high as 30 to 60 percent (Bandura, 1969: 53). These figures may be indicative of the client selectivity intrinsic to psychoanalytic therapy. Since it requires the establishment of verbal communication, it is severely limited as a technique of therapy with small children, severe retardates, or disturbed psychotics among others (Richard, 1971: 2). It has been argued that psychoanalysis is most beneficial, or only

beneficial, to self-selected highly suggestible persons (Bandura, 1969) or YAVIS (young, attractive, verbal, intelligent subjects) as Krasner (1971) terms them. Another client-related criticism concerns the evidence that the classical psychoanalytic relationship tends to foster rather then resolve the core problem (Marmor, 1968). Stuart (1970) claims that failure and/or deterioration may be experienced by patients who undergo psychotherapy. Termed iatrogenic illnesses, these treatment caused negative effects are not necessarily the result of malpractice, but rather a by-product of the serious attempt to treat the patient via psychoanalysis. Many classical analysts believe that a regressive reaction is a basic prerequisite to good analytic therapy; no psychoanalytic procedure is adequate if it does not produce a "transference neurosis" in the subject (Marmor, 1968). Finally, there is the consideration of the long period of time necessary to train a psychoanalyst. Psychoanalytic therapy requires extensive and highly expensive training (Bandura, 1969; Ullmann and Krasner, 1969), and yet, at the same time, it is admitted that the psychoanalytic method is difficult, if not impossible, to teach. As a form of interaction, many of its subtleties cannot be encompassed in a course (Richard, 1971: 4).

On the basis of the material presented in this chapter, it seems valid to conclude that the psychoanalytic paradigm manifests symptoms of a crisis and a shift to extraordinary research as described by Kuhn. While it may be argued that, to some degree at least, some of these characteristics have surrounded the psychoanalytic paradigm since the time of its emergence with Freud, a review of the literature cited

herein suggests that these symptoms have been most pronounced and commented upon in the past two decades. It should be noted that one of the main emphases of Kuhn's (1970: 77) thesis is that testing or rejection of a prevailing paradigm only occurs after the emergence of an alternate candidate which could presumably take its place. The new paradigm may emerge in embryonic form before a crisis has developed or been recognized. In the absence of crisis, however, it may be virtually ignored. Reviewing the history of behavior therapy as presented in Chapter II of this work, it is evident that the basic principles of this approach have actually been available for some time. It may be, as Kanfer and Phillips (1969) have suggested, that it is against the background of the inconsistency and contradiction in theory, practice, and beliefs of the psychoanalytic paradigm that behavior therapy finds a more rapid acceptance than might have occurred during a time of satisfaction with the prevailing paradigm. Krasner (1971) believes that behavior therapy grew, in large part, out of this internal dissatisfaction with traditional psychoanalysis. It is in this movement away from the traditional paradigm that the development of an alternate form--behavior therapy--can perhaps be viewed as a paradigmatic scientific revolution. As Kuhn expresses it: "Failure of existing rules is the prelude to a search for new ones (1970: 69)." On the other hand, there is an argument to be made for the emergence of behavior therapy as an independent stimulator of crisis and extraordinary research within the psychoanalytic paradigm. Prelinger (1972), for example, views the waning interest in and the decreased utilization of psychoanalysis as

results of the over-riding impact of behaviorism. Since Kuhn (1970: 181) does indicate that developments in one area may create crisis in another, there appear to be grounds for both interpretations. This issue will be discussed in a different context later in this work. It suffices for now to simply indicate the possibility of these two varying interpretations. In any case, the emergence of behavior therapy is thus far suggestive of a Kuhnian paradigmatic scientific revolution.

Only a portion of the comprehensive sociology of science approach which forms the overall framework for this investigation has been incorporated in this chapter. The discussion has focused on interactional variables and has been limited specifically to Kuhn's model. This emphasis should not obscure the possible role of institutional variables in the suggested crisis of the psychoanalytic paradigm. Indeed, Kuhn (1970) speculates on the potential significance of such variables in determining the timing, the ease of recognition, and the specific locus of crisis. To maintain coherence, however, the analysis aligned with institutional variables is withheld here to be presented in a later chapter. This format of presentation is adopted due to the probability that the same institutional variables have relevance for, or influence on, all aspects of the structure of scientific revolutions; thus, this format avoids redundant discussion. Moreover, since the stated objective of this study is to test Kuhn's model in the case of behavior therapy, it appears valid to exclude such variables at this time as their inclusion might obscure his fundamental thesis.

CHAPTER IV

PARADIGM CONFLICT

In Kuhn's (1970) discussion of the resolution of revolutions, the focus is on the process by which a new candidate for paradigm replaces its predecessor and the possible reasons for this abandonment of one tradition of normal research in favor of another. As noted previously, the rejection of one paradigm occurs only after the emergence and recognition of crisis, and then, only after this crisis and the concomitant shift to extraordinary research produce a ready and viable alternative. The "testing" involved in paradigm replacement i.e. paradigmatic revolution, however, is not simply the comparison of each paradigm with nature in order to ascertain which "fits" the facts better. Rather, the "testing" occurs as part of the clash between the two rival paradigms as they compete for dominance within the particular scientific community. This competition is best exemplified by the debates which ensue upon the emergence of a new candidate for paradigm. Kuhn argues that there is nothing about the laws of science which can resolve on logical grounds the issue of paradigm rejection and acceptance which is involved in these debates. For individuals, competition is terminated, not by deliberation and interpretation, but by a relatively sudden and unstructured event; that is, it is a conversion experience, occurring all at once or not at all. The reason for this lies in the incommensurability of the pre- and postrevolutionary normal scientific traditions. The standards and definition of the scientific field, as well as the

conceptual and methodological vocabulary and apparatus, change and assume different relationships with one another. There is no scientifically or empirically neutral system of language or concepts which can mediate between the proponents of competing paradigms; each is arguing from his or her own paradigm-based tradition. The inevitable result is misunderstanding between the two competing communities. Moreover, the supporters of each paradigm in a very important sense "see" the domain so differently that arguments pass through the other point of view and do not even make meaningful contact. Thus, debates between paradigms are more persuasion than anything else; argument and counterargument are conducted in a situation in which there can be no proof.

These considerations render it apparent that paradigm clashes in the Kuhnian sense are tantamount to ideological conflicts. An ideology, as noted previously, is a set of interrelated beliefs or ideas characteristic of a group or community which serves to hold it together, promote its interests, and justify the activities and attitudes distinctive of its members (Plamenatz, 1970). The importance of ideological analysis in understanding the nature of such debates as are the subject of this discussion has already been considered (see Chapter I). The concept is particularly germane in the specific case under investigation here.

Plamenatz (1970) suggests that ideology, although overtly descriptive and explanatory, is primarily persuasive; it is a persuasive belief that a community or group resorts to on occasions of a given kind. This is the obvious point of overlap between Kuhn's idea of a paradigm clash and the concept of ideological conflict. Of course,

ideologies may be different but still compatible; that is, the aims of each may differ, but neither inhibits the other. If conditions are such that the gains of the one lessen those of the other, however, there is likely to be conflict (Plamenatz, 1970). In addition, the fact that ideologies serve to promote group interests is salient here. A collectivity sharing similar interests is also apt to possess similar beliefs about matters relating to these interests. Furthermore, these interests and beliefs predispose the collectivity to accept some new beliefs rather than others about these matters.

In the case of the emergence of behavior therapy as a rival paradigm to the psychoanalytic approach, a significant amount of controversy and debate has occurred within the community of therapists. Evocative psychotherapy and behavior therapy have developed separately out of completely different traditions. Psychoanalysis, deriving its theoretical framework largely from the ideas of Freud and his disciples, evolved through the efforts of clinicians, mostly psychiatrists, to help troubled patients. Behavior therapy, on the other hand, has developed more or less systematically from theory and experiments by psychologists with much of the basic research done by experimental psychologists working with animals. Behavior therapy tries to remain firmly rooted in experimental data (APA Task Force, 1974: 5). It is important to interject another consideration at this point; that is, analytic practitioners not only believe in psychoanalysis, it is their vocation and means of earning a living. They have invested years of professional training and commitment in their particular techniques. The majority have undergone

psychoanalysis themselves. Obviously, they have a substantial interest in maintaining the dominance of their paradigm. Of course, a somewhat similar argument can be stated for the adherents of the behavior therapy paradigm (Neuringer and Michael, 1970; Rachman, 1963). In fact, London (1972) claims that behavior therapy has always been more ideology than theory. As an ideology, it serves as a basis for commitment or a rallying point for talking about disorder and treatment in a certain framework, and acting on it within a particular set of technical operations. As ideology, therefore, it serves strictly professional purposes.

Obviously, very few people could be well trained and experienced in both traditions and so, both behavior therapists and evocative psychotherapists often hold naive conceptions of the other's position. Salzman (1972), Marmor (1968) and other psychoanalysts have criticized behavior therapists for attacking in the sixties and seventies the psychoanalytic thinking of the twenties. Similarly, behavior therapists have criticized analytic therapists for their attack on the oversimplified and strict view which characterized the early behaviorists (see Lazarus, 1972). It has been asserted that, on the whole, both behavior therapists and psychoanalysts have been unwilling to inform themselves sufficiently to be able to consider the observations presented by the other approach (APA Task Force, 1974). It is equally possible to assume, however, that the difficulty of drawing definitive conclusions from the debates conducted between the two traditions is due to the fact that the arguments of each are paradigm-based and these paradigms are incommensurable. At

the same time, neither paradigm is entirely satisfactory of convincing within its domain of applicability at this time (see Katahn and Koplin, 1968).

In view of these considerations, a relatively recent exchange regarding behavior therapy between Breger and McGaugh (1965, 1967) and Rachman and Eysenck (1966) conducted in the Psychological Bulletin will be analyzed. This particular debate was chosen for analysis on the basis of several citations in the literature as an excellent explication of some of the major issues involved in the controversy surrounding the behavior therapy paradigm (see Ford and Urban, 1967; Richard, 1971; Strupp, 1968; Wolpe, 1969). This analysis is presented for the purpose of examining the third descriptive generalization which was derived from Kuhn's essay: Debates concerning the paradigms involved in a scientific revolution are incomplete in terms of logical contact due to the incommensurable nature of competing paradigms.

According to Kuhn, the single most prevalent claim advanced by the proponents of a new paradigm is that it can solve the problems which led the old paradigm to a state of crisis, but this is usually insufficient and uncompelling by itself. Additional claims, appealing to the sense of the appropriate or aesthetic, may be implicit in the debate and exert some influence. The debate, however, is primarily over the question of which paradigm should guide future research on the problems which neither paradigm can yet assert to completely resolve. In addition, it is characteristic of paradigm clahses that each antagonist describes the opponent's position in the most extreme form in

order to formulate effective counterarguments. Neither side will grant all the non-empirical assumptions that the other needs to make its case. At the same time, each insists that the other's criticisms are based upon inadequate understanding of his or her own preferred theoretical framework as well as a lack of knowledge concerning the relevant supporting data. At a more abstract level, the two camps often conceptualize the goals or problems of their scientific field in divergent ways (Kuhn, 1970: 94-100, 148-59).

The initial impetus to debate was Breger and McGaugh's article, "Critique and Reformulation of 'Learning-Theory' Approaches to Psychotherapy and Neurosis," which appeared in 1965. In this article, Breger and McGaugh critically review the "learning theory" interpretations of neuroses and the behavioral treatment techniques based on these interpretations. The authors assert that the particular learning principles advocated by behavior therapists are obsolete and unable to account for evidence from laboratory studies of learning. The primary foci of criticism are (1) the behaviorists' emphasis on the peripheral response, (2) the use of classical and operant conditioning as explanatory principles, (3) the alleged circularity of the concept of reinforcement, and (4) the allegedly inadequate conception of neurosis in terms of discrete symptoms. In addition, the authors conduct an independent examination of the claims of effectiveness of behavioral techniques. In general, they argue against accepting these claims at face value because of the lack of control over sampling, the potential observer biases, and the absence of control over the variety of activities

actually involved in behavior therapy. In conclusion, Breger and McGaugh offer their reformulation of the learning process which focuses on the acquisition and storage of information and emphasizes the role of internal processes.

In the rebuttal to the arguments set forth by Breger and McGaugh (1965), Rachman and Eysenck (1966) begin with an explicit refusal to take issue with the reformulation proposed by these authors, rejecting it as being fragmentary, vague, and unconstructive. In reply to their opponents' assertion of the deficiencies of the learing theories used by behavior therapists, Rachman and Eysenck cite various "laws of learning" which have been employed in constructing treatment techniques and generating and assessing specific hypotheses. Generally, the authors argue that Breger and McGaugh's criticisms are unspecific, misguided, and based on "doubtful assertions," distortion, and contradictory information. Emphasized is their failure to cite numerous studies and arguments which support the effectiveness and promise of behavior therapy. The authors continue by discussing the alleged doubtful assertions and factual errors made by their opponents and citing the literature which presumably discounts their assertions and corrects their factual errors. In conclusion, Rachman and Eysenck claim that nothing in the material presented by Breger and McGaugh modifies their fundamental position or throws doubt on its accuracy.

A subsequent reply by Breger and McGaugh (1967) to Rachman and Eysenck's 1966 article constitutes the final statement of this particular debate. Once again, emphasis is on the differentiation of

learning theory, the practice of behavior therapy, and the effectiveness of treatment. Breger and McGaugh claim that their antagonists' reply to their original article presents no new evidence which remedies the inadequacies of the learning theory espoused by the behavior therapy group. Denying the claim that behavior therapy techniques are based on learning theory, the authors cite the prior existence of the techniques as well as the great dissimilarity between what goes on in behavior therapy and in most learning experiments. After a review of the additional references provided by Rachman and Eysenck, Breger and McGaugh conclude that they are either not relevant to the issues under discussion or are fully subject to the biases discussed in their original paper.

This debate between Breger and McGaugh (1965, 1967) and Rachman and Eysenck (1966) suggests that Kuhn's generalizations concerning exchanges between rival paradigms are applicable in the case of the emergence of behavior therapy for several reasons. First of all, there appears to be a difference in emphasis between the two opponents which renders the arguments of each somewhat irrelevant to the other. The divergence centers on the relative weight that internal information processing events play in theoretical accounts of behavior, as contrasted with a strict emphasis upon objective description of environmental events. This necessarily leads to incommensurable viewpoints on methodology. Furthermore, their conceptualizations of the problems and goals of therapy are different. For Breger and McGaugh (1965, 1967) the goal is the construction of a conceptual model of internal processes

and structures or the specification of an internal mechanism that controls overt behavior with an emphasis on "understanding" and "explanation." Rachman and Eysenck's (1966) ultimate aims are experimental control over the subject and specification of the effective environmental events which determine overt behavior with an emphasis on rigorous criteria of control and predictive efficiency. Thus, the opposing viewpoints appear to be incommensurable.

Other more definite characteristics of a paradigm clash are evident here as well. Foremost is that both sides in the debate to indeed assert that the other's criticisms are based upon inadequate understanding of their own theoretical framework and a lack of knowledge in regard to the relevant supporting data. Rachman and Eysenck (1966) are prolific in this respect. For instance, they assert that Breger and McGaugh's "lack of specificity makes their ex cathedra condemnation meaningless (166), [they] distort the nature of behavior therapy (166), their assertions appear to be based on ignorance of the relevant evidence (167)," and that "they provide inadequate substantiation for such a far-reaching condemnation of a whole branch of study (168)." Breger and McGaugh (1967) pursue this line of argument as well: "It is clear that Rachman and Eysenck are as careless and misinformed about the references they cite as they are about the important issues in the field of learning .... The theoretical treatment of issues in the field of learning remains naive and misleading (172)."

It is evident that Breger and McGaugh (1965, 1967) will not yield in their insistence that behavior therapy is inadequately based

in learning theory, thus refusing to recognize a basic assumption of behavior therapy. On the other hand, Rachman and Eysenck (1966), as noted previously, refuse to even recognize, much less comment upon, Breger and McGaugh's (1965) reformulation of the learning process. Thus, both sides choose to defend their paradigm using solely that paradigm. Finally, since neither side can claim complete success with their paradigm, the debate reduces to persuasive argument. Both opponents call upon the future "promise" of their own theoretical position for therapeutic endeavors. Breger and McGaugh state: "We believe these conceptions...are sufficiently supported by recent research to warrant serious attention. Although [they] may not lead immediately to the development of effective psychotherapeutic techniques..., they may, at least, provide a first step in that direction (1965: 357)." In a similar fashion, Rachman and Eysenck claim: "The currently available evidence will...convince all but the most biased that the methods of behavior therapy are indeed effective. There is an immense amount of developmental work and experimentation which remains to be done, but a degree of optimism is not misplaced (1966: 167)."

A related debate concerned with many of the same issues surrounding behavior therapy was conducted more recently by Portes (1971a, 1971b) and Eysenck (1971) in the Journal of Clinical and Consulting Psychology. By virtue of its similarity to the debate previously discussed, this exchange will not be analyzed here. It suffices to indicate that in addition to treating many of the same points of controversy, it manifests analogous characteristics of paradigm clash. At another level, Rogers

and Skinner (1956) have exchanged comments on behaviorism or, more specifically, behavior control psychology, which are directed more to the ethical or humanitarian issues surrounding the paradigm. The humanist Rogers and the behaviorist Skinner outline distinct courses which the users of psychological knowledge might follow. A definite difference in the way these opponents view the world and the role of humans within it is apparent.

Many individuals have attempted to criticize behavior therapy, and many a dialogue of rebuttal and counterrebuttal has ensued. In fact, Wiest (1967) and Weitzman (1967) have added their comments to the debate analyzed previously. According to Franks (1969), the controversies are generally centered on one of four basic issues, namely, the alleged dehumanizing implications of behavior therapy, its simplistic approach and denial of deep unconscious mechanisms, the insufficiency of learning-theory explanations in accounting for the complexities of therapy (e.g. Breger and McGaugh, 1965), and the scientific and methodological limitations and other deficiencies of current work in the behavioral approach. The often polemical attacks from each side on these issues tends to obscure rather than clarify the matters of concern. Krantz (1971), commenting on the debates between the proponents and opponents of behavior therapy, points out that each side can rightly claim success in that each produces effective cure by their own criteria. Since the antagonists often begin with divergent goals, different criteria, and incompatible terms of reference, they inevitably fail to communicate.

As evidenced in this chapter, even when crisis has undermined professional security and a new candidate for paradigm has emerged, there is still resistance to its acceptance. As Kuhn expresses it: "The balance of argument and counterargument can sometimes be very close indeed (1970: 157)." To triumph, a paradigm must have supporters who will develop persuasive arguments in its defense, but according to Kuhn, "no single argument can or should persuade all members of a scientific community (1970: 158)." What occurs is rather a progressive shift in the distribution of professional allegiances. The reluctance to accept a new paradigm is often diminished by the recognition of its ability to resolve the anomaly which lead to crisis and its capacity to preserve the most concrete parts of past achievement. Kuhn claims that "later scientific theories are better than earlier ones for solving puzzles in the often quite different environments to which they are applied (1970: 206)." In this sense, new paradigms indicate "progress." This is a departure from the traditional notion of progress upheld by philosophers of science which includes the idea that successive paradigms also come closer to, or approximate more, the truth. It is the task of the next chapter to explore Kuhn's conception of progress in relation to the emergence of behavior therapy.

CHAPTER V

BEHAVIOR THERAPY: PROGRESS IN A NEW ENVIRONMENT

The outcome of a paradigmatic scientific revolution is progress, not in the ontological sense, but in the area of problem-solving ability in a changed environment. It is assumed that the problem which all therapeutic endeavors center upon is the effective alleviation of the emotional disturbance or maladaptive behavior which accounts for an individual seeking or being brought to treatment. Despite the variety of theories and methods employed and the inherent disagreement over what constitutes "effective alleviation," it seems valid to consider this relatively simple statement as summarizing the problem which ultimately assumes importance in all therapies. In view of this, a claim of greater ability to solve the therapeutic problem on the part of behavior therapy would constitute a basis for regarding its emergence as "progress" in the Kuhnian sense.

According to Wolpe (1969), the research that has established that 40 percent or more of neurotic patients improve markedly with conventional therapy has been the basis for the unrelenting belief on the part of the psychoanalytic community that its methods are indeed effective. Displacement of the psychoanalytic paradigm, therefore, would require evidence of a substantially more effective approach to the problem. That behavior therapy is significantly more effective than the previous psychoanalytic paradigm in solving therapy problems has come to be reiterated time and time again in the literature and supported by

what could be termed "amazing" data. Eysenck (1952, 1960, 1963, 1965) has probably been most influential in stimulating recognition of the relative ineffectiveness of traditional psychotherapy in contrast with the results obtained with behavior therapy. Wolpe (1969) as well presents an impressive array of both controlled and uncontrolled studies which demonstrate the effectiveness and efficiency of the behavioral approach. The improvement rates in these studies commonly exceed 72 percent and the number of sessions spent in therapy overwhelmingly supports behavior therapy. Bradfield's (1970) research specifically illustrates the contrast which is manifested in Wolpe's selections and other research reports of a similar nature. He found that where psychoanalysis reported a 50 percent rate of "cure" or "apparently improved" with an average of 600 to 700 sessions, behavior therapy indicated a 90 percent rate with an average of 30 sessions. A number of other studies and summaries of comparative research reporting similar results are available in the literature (see Bergin and Garfield, 1971; Franks, 1969; Ullmann and Krasner, 1965). In view of the findings, it appears that the community of behavior therapists has a basis for a claim to "greater problem-solving ability." In an attempt to cast doubt on these findings of effectiveness, psychoanalysis would argue that since the basic "causes" of the disorder are not removed by behavior therapy, the change in overt behavior will only result in symptom substitution. Behavior therapists, however, point only to the absence thus far of such an occurrence in clinical application to negate this assertion (see Krasner, 1971). It should be noted, however, that as the

variety of cases behavior therapists are asked to treat has broadened, there has been an indication of an increase in time spent in therapy as well as a decrease in percentage of cures (see Klein et. al., 1969; McNeil, 1973).

The question remains as to why the greater ability of behavior therapy to resolve the problem of all therapeutic endeavors in terms of effectiveness and efficiency is considered as progress. It appears that the vital point of the generalization concerning progress as an outcome of scientific revolution involves its relativity to a "changed environment." It is suggested here that it is the influence of a changed environment which defines greater effectiveness and efficiency as progress. To explore this proposal adequately, it is necessary to depart from Kuhn's (1970) model and to focus on what Merton (1957) terms "the environing social structure;" that is, it requires a shift from the interactional to the institutional approach to the sociology of science. The potential significance of institutional or external factors in the emergence of crisis and extraordinary research was alluded to previously. As indicated at that time, such factors appear to serve as a general influence on all aspects of scientific revolution. Assuming, as Kanfer and Phillips (1969: 447) do, that the area of psychological therapy is, in particular, directly affected by the power of the public to maintain and reward its practice, it is suggested that the success of a specific therapy may be as often due to the compatibility of its practice with the social directions and Zeitgeist of a society as to its scientific validity. The demise of a particular therapy may be viewed

in the same light. The shift away from Kuhn's model will allow for the investigation of this proposal in the case of the emergence of behavior therapy as a rival to the psychoanalytic paradigm.

After the increased use of psychologists in an applied capacity during World War II, clinical psychology bloomed as a profession in the years immediately following the close of the war (Grossberg, 1964; Franks, 1969). Significant factors in this expansion were the already growing need for psychiatric services augmented by returning veterans and the willingness of the government to support the training of clinical psychologists (Bergin and Garfield, 1971). Since that time, however, the gap between the available supply and the prevailing demand for psychiatric services has never been closed. In fact, it appears to have widened and become increasingly recognized as a significant societal problem (Burns and Worsley, 1970; Richard, 1971; Schofield, 1964; Sobey, 1970). The professionals themselves agree that it is unlikely that their ranks will ever be sufficient to meet the increasing demand (see APA Task Force, 1974). The shortage in mental health personnel has traditionally been most apparent and most acute in the institutions, such as mental hospitals, homes for the aged, reformatories, and prisons, which require the services of psychiatrists, psychologists, psychiatric social workers, and psychiatric nurses (Marmor, 1968; Schofield, 1964). Certain relatively recent societal trends, however, have extended the areas in which this shortage assumes a problematic nature.

The problem of "mental illness" has come to be of intensive interest to the government and the public at large as a matter which should elicit the same concern as other health-related problems. A concomitant extension of the domain of mental health care has occurred with an emphasis on differential treatment. There is a manifest impatience with rigid and stereotyped approaches to the problem. Greater interest has been shown in the treatment of groups typically ignored in the past, such as the lower class and the poverty-stricken (Ford and Urban, 1967). These concerns are substantively reflected in the expansion of insurance programs to cover hospital care for psychiatric illness and the inclusion of mental health care in many labor union benefit plans (Sobey, 1970). In combination with the government-sponsored Medicare program and the establishment of community mental health centers, these developments necessarily augment the need for personnel and facilities. Ford and Urban (1967) views these developments as only partly the result of the recognition of the demand factor and more a part of the "Great Society" Zeitgeist of the decade of the sixties. Gouldner (1968) would see these developments as a function of the rise of the Welfare State and the concomitant change in the character of social reform.

Of all these developments, the establishment of community mental health centers deserves special consideration here, for it has implications for therapeutic psychology that go beyond simply creating an additional need for core professionals and staff. The idea of keeping "disturbed" persons within their homes or community has evoked

substantial support, and with the development of chemotherapy, this particular strategy has become a reality (Bergin and Garfield, 1971; Ullmann and Krasner, 1969). The community mental health movement has, however, enhanced an emergent tendency to widen the range of behaviors which are considered within the sphere of abnormal psychology and, therefore, are legitimate subjects for therapy. In a sense, this probably helps create the demand for psychiatric services. Dinitz and Beran (1971) claim that the community mental health movement is developing into an all-inclusive response to deviance definition and management which encompasses every conceivable form of maladaptation in its scope. Indeed, alcoholism, drug addiction, delinquency, poverty, and even war now fall under the rubric of community mental health (Ullmann and Krasner, 1969). Under this burgeoning program, the drive to make mental health care available to all who need it has spread, and subsidiary services such as emergency- and crisis-oriented therapy have emerged (Wolberg, 1968). Concomitantly, the insufficiences of the psychoanalytic paradigm have assumed added import. The average remission rate for psychoanalysis, considering the time and expense involved, is simply not high enough for the paradigm to warrant attention as the framework to be employed under the changing emphases of mental health care. Marmor (1968) asserts that the current situation forces society to dispense with what he terms the "wasteful and inequitable luxury" of having a highly trained specialist devote his or her life to the treatment of a limited number of middle or upper class people, while the remainder is consigned to second-class treatment or

none at all. Apparently, the appraisal of the situation is increasingly being cast in terms of a cost-benefit analysis, and, in these terms, the psychoanalytic paradigm simply does not answer the challenge (Strupp, 1968).

The emergent conception of an adequate response to this challenge usually encompasses the two related measures of focusing on the prevention of emotional disturbance and behavioral disorder and training of paraprofessionals to fill out the ranks of the core professionals engaged in the area (APA Task Force, 1974; Marmor, 1968; Schofield, 1964; Ullmann and Krasner, 1969). Behavior therapy is a particularly suitable response to such a dictum. Since it is cheaper relative to other forms of therapy, consumes less time, and does not require excessive verbalization on the part of the patient, it is applicable to a wider segment of the population (Brown, 1971). Due to the relative simplicity of its techniques, it is both easily taught and applied as a method or therapy or behavior change. Thus, its potential for utilization by various individuals and not solely extensively trained professionals is enhanced. In addition, the emergence of alternatives to the traditional disease model of psychopathology as developed in the mid-nineteenth century has legitimized behavior therapy as an approach to mental health problems (see Krasner, 1971). Most of the current literature on behavior therapy posits a different conceptualization than that which is basic to the traditional model, that is, underlying causes must be extirpated to achieve permanent behavior change. Recent alternate formulations to the disease model include Bandura's (1969) social

learning model and Scheff's (1966) conceptualization of mental illness which emphasizes the social consequences of the labeling process. Ullmann and Krasner (1969) offer a social psychological formulation similar to Scheff's. These alternate formulations appear to be emerging concomitant with a general shift to the labeling perspective in deviance theory which has occurred in the field of sociology (see Schur, 1971). Appropriation of this perspective in the area of mental illness has fostered the allegation that the psychoanalytic paradigm specifically encourages labeling (Notterman, 1970), and promoted a growing interest in the role of social and institutional factors in the development and maintenance of maladaptive behaviors and deviance (Ullmann and Krasner, 1969).

It is evident that the deficiency of the psychoanalytic paradigm is relative to the mental health problem as it is currently articulated and shaped by societal forces. The substantive impact of such failure to coalesce with societal directions or Zeitgeist is manifested in the area of research support. Strupp (1968: 334) indicates that the relative isolation of the psychoanalytic community has engendered negative attitudes in governmental and private organizations which support research. Indeed, the increase in support available for behaviorally oriented research at the expense of psychoanalytically oriented research was documented previously (see Chapter II). Surely the overall increase in time, effort, and money spent on research into every aspect related to abnormal psychology, cited by Ullmann and Krasner (1969), has contributed to the emergence and acceptance of behavior therapy by

indicating its promise in answering the challenge of the current formulation of the mental health problem. Hagstrom (1965) and Crane (1969b) support the basis for this assertion for each has indicated the significant influence that the decisions of grant-giving agencies and private foundations have on the growth potential of a specialty and the survival chances of a new or deviant approach.

Obviously, this discussion of the changed environment in which the emergence of behavior therapy is granted the status of progress converges with the final descriptive generalization set forth as a subject of inquiry for this study: Though intrinsically scientific, a paradigmatic revolution is both an indicator and consequence of change in external social, economic, and intellectual conditions of society. Although ultimate convergence of the factors and external trends which are treated in relation to each generalization exists, a distinction is made for purposes of this analysis. It is maintained that the external or institutional variables discussed previously impinge directly on the activity and behavior of the community of practitioners engaged in therapy and other psychiatric services. Other external changes can be somewhat speculatively set forth as influences, not only on the activity of the community, but on the very conceptual and theoretical contents of its paradigm.

Fromm (1970) and Sobey (1970) have made similar arguments for the role of the alienation, rootlessness, and loneliness which they perceive in contemporary society in the propagation of mental illness. While it is beyond the scope of this analysis to discuss the implications of the

so called "age of anxiety" or "anomic era" (Fromm's and Sobey's terms, respectively) for the mental health of society, it does seem valid to infer that the problem of mental illness has been compounded by poverty, social inequality, rising unemployment, decay of urban environments, and impersonal bureaucratization. These factors may amplify and, perhaps, somewhat change the nature of the emotional disturbances or behavioral disorders which prevail. Wolstein (1969: 260) argues that the psychoanalytic paradigm is restraining on the individuals seeking therapeutic help today. Generally, they are less blocked about sexual and adjustive functions and suffer less from unsatisfied biologic needs than earlier Freudian-era patients. Instead, they are more concerned with blockages of psychologic freedom and personal fulfillment. As a reason for this phenomenon, Wolstein (1969) points to the wide gap between the preatomic and atomic generations engendered by the revolution in automated technology and new electronic communications, the new frontiers in outer space, the rising expectations in political and economic security, and the drive for equality among all races, colors, and creeds. In the same fashion, Ruesch (1968) indicates the problem of human adaptation to large-scale technological changes. Social and cultural change are indeed rapid and unprecedented now, and the psychoanalytic paradigm does not seem to articulate the meanings and ideas that can be set in this current experience. The paradigm is based on the fundamental assumptions concerning human beings that prevailed before the technological orientation became dominant, before psychological concerns were overshadowed by social considerations (Ruesch, 1968). Thus, there is

the impetus to search for a new framework in which the conceptual and theoretical contents are more closely aligned with the dominant experiences and attitudes of society.

Since behavior therapy is more of a technology of behavior change than a theory of behavior per se, it appears to fit the dominant orientation of society (London, 1972). With a primary emphasis on behavior as it is currently occurring and a de-emphasis or neglect of understanding, it appears to be in accordance with the society's values of efficiency, productivity, and accomplishment (Ford and Urban, 1967). Portes (1971a) suggests that the popularity of behavior therapy is not totally a function of its intrinsic merits, but also a consequence and symbol of current cultural processes. For Portes, the emergence and acceptance of behavior therapy indicates that the trend toward rationalism in society described by Weber and Sorokin has gone beyond what these authors envisioned. The appeal of the rational simplicity and scientific status which characterizes behavior therapy is, according to Portes, contingent on an ideational system based in extreme rationalism. It is in this sense that societal trends and the Zeitgeist of the times have shaped not only the activity of the therapeutic community but the theoretical and conceptual structure of its paradigm as well.

CHAPTER VI

CONCLUSION

This study has attempted to assay the viability of designating the emergence of behavior therapy as a paradigmatic scientific revolution. The systematic confrontation of Kuhn's (1970) model with the evidence available in the literature indicates that a definite correspondence exists between the designated generalizations derived from Kuhn's theory and the characteristics of the emanation of the behavior therapy paradigm. It is concluded that the model does warrant application in this particular case. This study cannot claim finality in any sense. Various aspects of the presentation are open to alternate interpretation and pose the need for more rigorous and comprehensive research. This presentation, however, is considered a highly plausible interpretation of the material available. It is necessary at this point to address some critical issues relating to the general conclusion as well as the model employed and the interpretations made in the testing.

The model which Kuhn developed is based on evidence provided by the natural sciences especially physics and chemistry. Kuhn himself notes the inherent difficulty of applying it to other fields, such as the social or behavioral sciences, due to their historical lack of any one truly shared paradigm and their ongoing competition among various schools for domination of their respective fields (1970: viii). The application of Kuhn's model to psychology and its therapeutic specializations must be approached with a recognition of the pre-paradigm nature

of the discipline. The decision to focus on evocative therapy and behavior therapy as the paradigms involved in a possible revolution was based on the perception that these constituted definite communities and that, prior to the emergence of behavior therapy, the evocative paradigm dominated therapy. Obviously, in reality the distinction is not that neat or clear-cut. Both are heterogeneous communities; both contain eclectics. Furthermore, even if behavior therapy generally meets the criteria of a Kuhnian paradigmatic revolution, it is still in a limited sense that it constitutes a revolution. The apparent crisis of the psychoanalytic paradigm, the emergence of the incompatible paradigm that is behavior therapy, and its widespread, rapid acceptance and application--these factors render it a revolution. It has not bestowed the unity, nor engendered the strict normal scientific research, within the field of psychology or the area of therapy that Kuhn's model dictates as usual concomitants of completed revolutions. Perhaps, the revolution is not completed, or perhaps, psychology will never possess simply one paradigm and will remain a pluralistic discipline. In fact, some argue in favor of the co-existence of multiple models to encompass all bases of behavior--the physiological, purely psychological, genetic and bio-chemical, and unconscious (see Franks, 1969; McKeachie, 1967). Indeed, an eclectic approach may be the only practical "paradigm" for psychology to embrace. These speculations go beyond the argument presented here, however, and would be more properly handled by a psychologist. The point is that the limited sense in which behavior therapy is designated as a paradigmatic scientific revolution for psychology, may be the

only sense in which fields other than the natural sciences follow Kuhn's model of development.

Further commentary is required in a few specific areas of the study as well. First, in regard to the proposed crisis of the psychoanalytic paradigm, some clarification is in order. Of the elements designated as characteristic of crisis and shift to extraordinary research, the proliferation of different articulations of the prevailing paradigm received considerable attention. The evidence presented in relation to this point was a prime basis for the conclusion that the psychoanalytic paradigm is indeed in crisis. Kuhn is not explicit as to what constitutes a different articulation as opposed to a modification or variation, but actually, all would seem to indicate blurring of the original paradigm. Rogerian and existential analysis, which emerged in the early fifties and sixties respectively, were not mentioned in the discussion of this point, and conceivably they are more characteristic of divergent articulations than the modifications or variations cited. It is maintained that the application of the concepts of psychoanalysis--a method originally developed for use in a two-person situation of intensive communication and involvement--to group therapy and its derivatives and in combination with other therapeutic measures does indicate a blurring of the basic paradigm. Even assuming this, however, a viable argument could be made that it indicates development or progression, not crisis, of the paradigm. Kuhn's generalization that proliferous articulations as well as critical discourse are symptomatic of crisis ignores the fact that these phenomena also occur within normal

scientific activity and are a part of its cumulative development. In this sense, normal and extraordinary science are not necessarily successive phenomena but are often in juxtaposition. Kuhn's distinction is ambiguous, and the point at which the nature and degree of divergent articulations and critical discourse are indicative of crisis and not normal development becomes a matter of arbitrary decision. Thus, the suggested crisis and extraordinary research within the psychoanalytic paradigm represents an arbitrary interpretation to an extent. Within the last two decades, however, there appears to have been upheaval in theory and practice among the very practitioners of the paradigm and a flow of critical discourse conducted by both those within and outside of the community.

The intepretations made in relation to the discussion of paradigm clashes do not allow the conclusion that all debates between traditional psychotherapists and behavior therapists are without substance. Many times independent supporting reasons are sustained in critical discourse despite the incommensurable nature of the arguments. Kuhn's thesis does, however, tend to pass over or deny the relations that possibly exist between different paradigms. Surely, there are elements which are more or less common to both the psychoanalytic and behavior therapy paradigms. In fact, some commonalities were presented previously (see Chapter II). The material set forth in the discussion of paradigm clashes was meant to illustrate that a basic divergence in central focus and goals exists between the two paradigms in their views and methods of changing human behavior which bespeaks of

incommensurability or incompatibility. While viewing the same behavior, the communities perceive quite different configurations. In a very real sense, the transition from the psychoanalytic to the behavior paradigm would involve a shift of vision analogous to a gestalt switch (see Kuhn, 1970: 111-12).

A final issue that emerges from this study is the inadequacy of a strictly interactional approach to encompass all the factors which apparently influenced this particular scientific revolution. Although Kuhn acknowledges that subjective considerations may influence a given scientist to reject the prevailing paradigm and accept another (1970: 153), he never indicates that any given paradigmatic revolution might be a function of a wider shift in ethos occurring within the larger society. Kuhn does not even consider, in any specific sense, the possibility that a paradigmatic revolution in science might be the product of wider socio-cultural change. As the inclusion of this dimension of analysis herein indicates, external or institutional variables may, in specific cases, be extremely relevant in the occurrence of a scientific revolution. The neglect of such variables in the case of behavior therapy would have eliminated factors that had apparent ramifications for the paradigm. Direct as well as indirect connections exist between the crisis of the psychoanalytic paradigm and emergence of the behavior therapy paradigm and the changes in economic, social, intellectual, and technological conditions of society. The question of whether the crisis of the psychoanalytic paradigm stimulated the emergence of behavior therapy, or the development

of the behavior therapy paradigm was significant in creating crisis within psychoanalysis, which was introduced in Chapter III may have its resolution in the consideration of such external factors. It appears that the revolution suggested here was stimulated in all aspects of its structure by external as well as internal factors. Which exerted the more substantial influence is a matter open to speculation and further research.

In conclusion, this test for correspondence between Kuhn's model and the emergences of behavior therapy yields numerous questions for further research. A rigorous content analysis of the psychoanalytic literature would perhaps yield a more definitive statement on the question of crisis within the paradigm. The analysis of paradigm clashes could, likewise, be a study in and of itself if conducted by more rigid criteria. In need not be added that the institutional approach to this specific case could be developed beyond the somewhat speculative level of this study. In attempting to render a general survey of all these areas, this study has necessarily been superficial in relation to the obvious in-depth analysis potential of each. The objective, however, was to test Kuhn's theory in the case of behavior therapy. If the results of such an endeavor provide the basis for further research, it is perhaps a reflection of the intricacies of the model as much as the nature of the research.

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APPENDIX

In April, 1974, the author sent a one-page questionnaire to a systematic sample of 50 graduate departments of psychology soliciting the following information: (1) the year of implementation of their first graduate course in behavior therapy, (2) the number of courses in behavior therapy currently offered, and (3) the percentage of the total graduate curriculum composed of behavior therapy courses. The findings, based on a 59 percent return, were:

Of the respondents, 27.5 percent indicated that no behavior therapy courses had ever been offered in their departments. Of the remaining 72.5 percent, the average year of initial implementation of a behavior therapy course is 1968, with a median of 1966 and a mode of 1969. The average number of such courses currently offered is 3, with a median of 5 and a mode of 2. The average percentage of the total curriculum composed of such courses is 7.7 percent, with a median of 8.5 percent and a mode of 5 percent.

These findings indicate the relative recentness of the emergence of behavior therapy as a definable approach in psychiatry and clinical psychology.

VITA

Mary Durkin was born in Chattanooga, Tennessee, on December 19, 1949. She graduated from high school in Waynesboro, Virginia, in June of 1968, and the following fall entered the University of North Carolina at Greensboro where she completed two years of undergraduate work. She received a Bachelor of Arts degree in Sociology from The University of Tennessee in June of 1972. In January of 1973, she entered the Graduate School at The University of Tennessee and began study toward a Master's degree. While engaged in graduate studies, she served as a teaching assistant in the Department of Sociology. She received a Master of Arts degree with a major in Sociology in August, 1974.