THE RELATIONSHIP

BETWEEN EMOTION AND ILLNESS

by

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STATEMENT BY AUTHOR

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The work of therapy can quickly lead one to be aware of some connection between physical complaints and psychological functioning. The counseling training and experience led me to want to do what I could to be effective with persons having the differential symptoms. With the support of Dr. Gordon A. Harshman, Dr. Harley D. Christiansen, and Dr. Philip J. Lauver, I undertook this study of the relationship of emotions and illness. I thank them for their assistance.

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ABSTRACT

The relationship between emotions and illness is traced in an overview form from prehistoric times to the present. Attention is given to the development of new technologies and the rise in medical research within the last 100 years. The influence of psychiatry on the search for causation of disease is explored.

A number of individuals prominent in developing or researching concepts of psychosomatic medicine and of stress, with the related physiological areas, are discussed. Information on various therapeutic approaches being used to treat related bodily and psychical symptoms, is given. Throughout the paper, many studies of both a clinical and experimental nature are cited.

The paper is designed to give information to therapists or counselors who are non-medical persons. Suggestions are made to these persons for incorporating or using the conclusions of the study in their own work.
CHAPTER I

INTRODUCTION

The counselor who is dedicated to helping others to a more integrated life will sooner or later encounter clients whose physical health problems appear to play a large part in his or her behavior patterns. Is there a common boundary, an interface, between the mental and physical processes and the environment? May or should the counselor attempt therapeutic interventions directed toward alleviating physical symptoms while dealing with the behavior problems? Behavior in this context refers to attitudes, feelings and thoughts as well as observable actions.

Therapists may or may not have answered the questions for themselves already. Some may be or will become sensitive to, and knowledgeable about their clients' somatic difficulties, through study and consultations, and/or clinical observation and experience. The interrelationship of mind, body and environment is a complex and fascinating one. This present study will be relevant to those interested in some background material on this subject.

As the mind-body relation is explored here, it is hoped that a greater appreciation will develop for the many contributing factors to a client's state of being as he presents himself to a counselor. For a
perspective on where we are now on the somatic-psychic issue, I chose to first look back and get a general view of the road leading to the present.

The concern about this issue is as old as man's curiosity about himself and his environment. The reader will find this traced in the historical section of this paper. Advancing to the last one hundred years, the horizon becomes greatly expanded and the study focuses on the area of medicine and other sciences. It was during this period that the field of psychosomatic medicine began to develop. Exploration of this concept and related actions is necessary for the goals of this paper.

Goals

The purposes of this study are:

1) to acquaint the reader with past and current views of mind-body-environment relationships.

2) to highlight some of the trends and theories of more recent times. Knowledge of these and whether or not they are still considered valid, could help the counselor focus his therapeutic approach more effectively, and perhaps prevent him from making unwarranted assumptions about psychological causes of a client's physical condition.

3) to stimulate further research. One or another might find in the general outlines of this paper, some particular subject whose exploration would be exciting and rewarding.

4) to give some information on various models or therapeutic approaches now being used for certain psychophysiological conditions. These
therapies are sometimes employed in direct conjunction with medical treatment.

5) to encourage non-medical professionals in the health sciences fields to explore new ways of integrating their work with the medical services for the client-patient's greatest benefit.

6) to alert the reader to the complexity of the psychosomatic issue.

Respect for the many sciences involved in the effort to educate man to help create his own better environment, will lead to co-operation between and among researchers and clinicians.

**Methodology**

As indicated above, this paper is general in tone and not intended to be all-inclusive, either as to researchers, theories, or therapies. Some specific areas are treated in more detail, hopefully to give the reader some idea of the breadth that is being, and can be investigated.

A medline computer bibliography, with backfiles to 1966, was used. Suggestions were also given me on works now considered as classics in psychosomatic medicine, and on current articles of import. The amount of published material on the topic of emotion and illness, is tremendous. Some selections used in this review may not be important in the overall picture as time goes on. As a non-medical person, I sometimes recognized the more relevant literature only after perusing many other pages.

As stated above, a historical perspective is presented. There is then some focus on researchers of the 20th century. As the main topic centers on illness, the majority of figures presented represent
the medical and biologic sciences. Some material on concepts that have emerged and been investigated in more recent times is included, such as "stress" and the related theories of specificity and non-specificity. The study of endocrinology is briefly reviewed as it is intimately connected with the "stress" concepts and because researchers are seeking the relationship of this biologic system with other systems when the organism shows the presence of emotion. The concepts of psychosomatic medicine as it progressed from the search for psychological causality of disease to multicausality, is reviewed and some representative studies in this area are included.

For the section of the paper entitled "Therapies," an attempt was made to give some idea of the spectrum of approaches being used in the treatment of illnesses in which psychological factors play an important role.

Within the concluding section are given some implications and recommendations that flow from the literature reviewed. There is a spirit springing up, in various ways, pointing to a concept called holistic health. In holistic attitudes, not only is a person regarded as a person by other persons, but also the idea of conscious self-responsibility is being formed into pragmatic propositions from which we will all profit. Participation in helping to formulate programs and/or implementing and using them may be one of the effects of this study for the reader.

The area included in emotion and illness is so broad that parameters had to be established. They are outlined here. The input of those in the field of psychology is not examined closely as their
contributions and development would be too extensive for this paper. Physiological systems other than the endocrine system are recognized as important, but outside the scope of this paper.

Limitations are evident in other areas. Pain is an area capturing the attention of researchers such as Melzack (1973) and Sternback (1968, 1974, 1975). It is also the concern of theorists and therapists, especially in hypnosis and biofeedback, and of physicians who daily treat patients with pain. Again, it was felt this was too extensive a topic to be adequately covered here. It certainly gives ample scope for a counselor's investigation. There is a great amount of literature available and it can be located in indexes under the heading of "Pain," or one can follow the bibliographical references in the above mentioned works.

Depression, as a separate entity, and/or accompanying another set of symptoms, is also excluded from special treatment in this paper for the reasons as given for the topic of pain. Again, the reader is referred to literature indexes for both general and specialized studies of depression.

Though some of the studies included here are descriptive, many are experimental. It is from these latter that workable hypotheses can be further investigated and refined to the point of theory building. For this reason, the influences of philosophy, religion, and the mind-body disciplines (e.g., Yoga, acupuncture, etc.) are given minimal attention. The popularity and results of these approaches in helping people in their life adjustments are not thereby minimized, but again
offered as an encouragement to the interested person for further study. References such as Goleman (1976) in the "Therapies" section provide a varied selected bibliography.

I am aware that there is much therapeutic work being done that is not reviewed here. The interests of therapists working with individuals or groups of clients who have chronic illnesses, for instance, may supersede the desire to publish, and in fact, their work may not be at a publishable stage. It is true, too, that some published works appear outside the main sources used here. The choice of therapies reviewed here include those specifically employed when somatic and psychic factors are involved. The recommendations are suggestive and can be enlarged by anyone tuned in to any specific aspect dealt with in this paper.

With these limitations expressed, this paper is presented as a general overview of the mind-body-environment issue as experienced in ancient times, on through the centuries, to the present day. Even as this study is completed, new discoveries and material are accumulating and building upon present knowledge and interest in man's functioning and attempts to experience a well-adjusted and happy life.

Definitions

In reading various articles, it was noticed that different authors held different views on some terms. If it seemed important to the meaning of the article, an author's definition was included when his work was cited within this paper. Some general terms are defined here.
It seems appropriate to begin with the title words. "Emotion" according to Kagan (1975) can be considered as having three elements: emotional feeling, social action or behavior, and physiological changes. They are interrelated, and affected by a fourth element, termed "intellectual symbolization" (p. 532). Emotional feeling means "pleasant or unpleasant sensation shorn of intellectual symbolization," and social action refers to "those physical and mental acts which accompany emotional feeling." The definition evolved then is "activity in the limbic-endocrine system accompanied by a feeling of pleasantness or unpleasantness and accompanied by behavior characterized by going toward or away from a person, place, thing, or idea" (p. 534).

Wolf (1975) says that "'health' is manifested by a behavior of bodily systems that achieves and maintains a comfortable interaction or relationship with the environment" (p. 619); so that "illness" is the absence of this harmony.

Wolberg (1967) gives a broad definition of "psychotherapy" as "the treatment by psychological means, of problems of an emotional nature in which a trained person deliberately establishes a professional relationship with the patient with the object of (1) removing, modifying, or retarding existing symptoms; (2) mediating disturbed patterns of behavior; and (3) promoting positive personality growth and development."

More than two decades earlier, Rogers (1942) had said that psychotherapy is a process, "a series of direct contacts with the individual which aims to offer him assistance in changing his attitudes and behavior" (p. 3). He says further that various names are attached to the process: treatment,
counseling, psychotherapy, but that "it is also plain that the most intensive and successful counseling is indistinguishable from intensive and successful psychotherapy" (p. 4).

The notion of "psychosomatic" especially may vary from one author to another. A basic definition from Stedman's Medical Dictionary (1976) is given here: "pertaining to the influence of the mind or higher functions of the brain (emotions, fears, desires, etc.) upon the functions of the body, especially in relation to bodily disorders or disease."

The same source defines "medicine" (for one of its meanings) as "the art of preventing or curing disease; the science that treats of disease in all its relations."
CHAPTER II

HISTORY OF THE MIND-BODY-ENVIRONMENT CONCEPT

To more fully understand the relationship of emotion and physical illness, an historical view of this concept follows. The material is based upon Kaplan and Kaplan (1956), Eastwood (1975), Kaplan (1975), Wittkower (1974), Weiss (1974), Alexander (1950), Lorand (1973), Misiak and Sexton (1966), and Lundin (1972).

The Beginnings to the Modern Era

The roots of this study begin when thought emerged in man. It has been the work of highly developed sciences to bring to light some facts of early man. From these and with these, assumptions give us clearer notions of the thoughts and actions of our ancestors. These will be investigated as man's history is traced up to the present time, with the focus on persons, lifestyles and events important to this study.

Prehistoric and Ancient Civilizations

In the earliest times of man, explanations for the state of disease, as well as of health, have been sought by the thinkers, the religious leaders, the practitioners of medicine. In the prehistoric and early historic periods, supernatural elements, unseen but controlling forces, were considered the primary sources of the good and evil things that happened to man. Disease was due to evil spirits, or to the
spirits of the dead, and in some cases, due to the invisible power wielded over one man by another's will. Disease, whether physical or mental, was spiritual, and therefore the method of treatment took an animistic course. The healer was one in the priestly role, and magic and rituals were used to relieve the person. There is also paleopathologic evidence that trephination of the skull was used to treat a sick person. This procedure presumably allowed the evil spirit to leave the body through the resulting hole in the skull. It is evident that a holistic view of the person was held. It is also valid to assume that the relationship between the priest-healer and the patient was influential in the outcome of the illness. Quite generally, the priest was held in esteem, and his role respected.

The attribution of disease to spirits, to gods, and to the evil wishes of other humans can be traced back to 10,000 B.C. Over several centuries an evolution of thought occurred. Moving into the era of 3500 B.C. and onwards, it is known that the Egyptians began to look for more rational and reasonable explanations. Regarding man, they conceived the idea that man had within himself the seat of life, and this was located in the heart. The heart contained the soul, the intelligence, emotions and nerves, the muscles, arteries and veins, with air, water, semen and the initial breath of life passing through the conduits of the heart to vitalize the body. Disease and death came from outside the body. Their rationality led them by observation to treat wounds surgically. Reinforcement came through the recovery of these injury victims. However, at the other end, the chronic and incurable diseases were
still dealt with by magic. Illnesses with some hopeful prognosis were treated by various methods.

A highly developed religious system in the Sumerian period of about 5000 B.C. again influenced the mode of treatment for illness. A reconciliation with the transcendental world was considered the appropriate way to appease the gods. This was done through rituals, with the hope of relieving the suffering person.

Their successors, the Babylonians and Assyrians, from about 2500 B.C. to 500 B.C. developed this relationship of the sinful person to the deities. The patient was led by the rituals and powerful suggestions of the priest, to introspection of his supposed sinful state. Again, the relationship of priest and patient was a strong one, and often a freeing effect transpired and aided greatly in the recovery of the person.

Greek, Roman and Jewish Influences

The influence of culture communication can be seen in the work of Ascleptius, a Grecian of the 13th Century B.C. He apparently had a knowledge of bandaging and herbal medicine, and his tradition carried down to the 5th Century B.C. He was regarded as a god, and even identified with Egypt's more ancient Imhotep. In temples dedicated to Ascleptius patients were treated with a few days of baths, combined with diets, examinations, prayers and sacrificial acts. Other therapeutic elements included isolation, a drugged sleep in which the patient received suggestions from the priest-physician, and dream interpretation
to activate the patient's motivation and his inherent life forces.

Ancient Greek medical schools were at Cnidus, known especially for diagnosis; at Cos, known for prognosis evaluation; and at Crotona, whose specialty is not known.

Though the main body of the population had their focus of interest on the gods and their relationships with them the more scientifically minded began to rely much more on their powers of observation, drawing inferences from the physical events experienced and concluding with a rationalistic, mechanistic approach to medicine. Aligned with the thought of the internal life force, they also postulated a natural disturbance of body physiology as the cause of disease. The disorder originating in the body was carried by the fluids or humors throughout the body. Even in the presence of localized disease, it was the person who was treated, rather than the separate entity of the disease.

The greatness of Greek thinking in the few centuries before Christ, has been preserved for us. Hippocrates, about 460-355 B.C., concerned himself not only with the speculative but with the physical world. Some of the hypotheses attributed to him in the area of medicine are: the brain is the center of the senses and of reason, but a certain life force called pneuma is more basic. Functions of the mind included reason, emotions, consciousness, and man's life force. The beginnings of the formulation of the endocrine system were made in this period. Hippocrates was also concerned with the effect of the doctor-patient relationship on the course of illness, and advised doctors of his time to be aware of their influence in this way. With the system of disease
elucidated by Hippocrates, we can conclude that his concern with the adaptive factors in health and in disease, as well as his theories of the physical workings of the human body, were important in maintaining the holistic attitude about man, though relationships with the transcendent world were not of primary importance. Personal responsibility and its consequences began to be a part of the medical system and theories.

Encapsulated views of other familiar Greek theorists and thinkers show us that divergent hypotheses were present in their society. Plato, 427-347 B.C., for example, was an idealist and held that the spirit was master of its slave, the body. Democritus, a contemporary, born about 460 B.C., was an atomist and studied matter. Lucretius, 55 B.C., followed and expanded the atomistic theory, saying that matter precedes the psyche, and that the world is composed of matter. He called its irreducible parts atoms, and set forth the theory that the world evolved from the movement and chance collision of the atoms. Man himself was a collection of atoms, and in Lucretius' view, death of the person released the atoms back into the world at large, leaving the psychic part of the person silent and presumable non-existent.

During this first century B.C., Asclepiades also held an atomistic view. He expressed it by saying that the soul had no location but was the convergence of all perception. Disturbances of the passions could result in mental aberrations, whereas too much constriction or relaxation in the vacuum or space between the gyrating atoms of the human body, could cause physical disease.
In the following century, Aretus held that there were six major causes of paralysis. One of these could be a disturbance of the emotions. Three centuries earlier, Aristotle had expressly held that the emotions of anger, fear, courage and joy affect the body. Following these two men was one who had a great influence on the direction of medical thought on the European continent for about 1000 years. That man, Galen, 130-200 A.D., took Hippocrates' techniques and tried to reconcile them with Platonic idealism and the theories of the atomistic materialists. While he held that illness was always a condition of the body, environmental causes or psychic factors could cause the disease. The brain was considered the center of sensation, of emotion, and of reason, and itself had a rational soul. Irrational subsouls existed, which served as explanations for some attitudes and behaviors. These subsouls, however, were located within the somatic structures: the energetic, irascible male soul, located in the heart; and the sensual, female soul located in the liver. The souls were actually the material of the body, and contrary to Plato's idea, were the slaves of the body. Galen gathered together the heritages of his predecessors, and presented to the world what can be considered as an anthology of Greek medical opinion. This embodied an interpretation of holistic interchange between the psyche and the soma. However, the causation of disease seemed to have been emphasized in the succeeding centuries, though influences from other parts of the world did not always support this view.
The Old Testament period of Jewish history embraced a holistic view of man. With the monotheistic aspect of this strongly religious-oriented people, a cause-effect relationship of health and disease predominated. Sinful behavior against explicit commands of Yahweh resulted in punishment—disease, death, harm to one's family and/or possessions. The unity of the person was carried over into the Christian centuries. Jesus, however, was perhaps more like the Greeks in that he saw the origin of disease within the patient-person.

From about 500 A.D., with invasions of the barbarian tribes and the fall of Rome, medicine was again based on the idea that the causes of diseases were evil forces both within and without the person. The causes, sin and the demons, were dealt with primarily in the spiritual traditions, and the status of physicians fell. The idea of man as a whole was retained, and the Church preserved much of the ancient medical literature of the Greco-Roman eras, but energies were used in containment rather than in progress, and spiritual reintegration was looked to as the remedy for disease.

The Renaissance Movement

The Renaissance movement beginning about 1500 A.D., gave birth to renewed interest in intellectual and scientific endeavors. Divisions of study became pronounced, with the body being the province of medicine; the mind, that of the philosophers; and the soul, that of the theologians.
The study of the physical world bloomed and became the dominant and virtually only credited field. Vesalius and Morgagni, in the 16th and 17th centuries, gave impetus to the study of anatomy and techniques of dissection and autopsy. Their pioneering work demonstrated that diseases did have an association with specific organs and structural changes. This direction of research had no place in it for a concomitant investigation of emotions and their effects, so the study of them was left to the philosophers. The separation of mind and body was strengthened by Descartes, 1596-1650, with his theory that God exists, as man could not project himself to be so perfect without a model. The perfect God does not deceive and therefore the visible world is real, although with a relative realness of different kinds of sensual impressions. Descartes' influence was great, and the Cartesian dualism that developed was like a return to the attempted combination of the Platonic idealists and the atomistic materialists of previous centuries.

In general, physicians of the Renaissance gave their attention to management of disease. Some important exceptions, however, are known to us. William Harvey, in 1628, concluded on the basis of his clinical observations and data, that there was an important influence of the emotions on the heart, and that there was an interaction between the mind and the generative system. Thomas Sydenham, 1624-1689, also paid attention to the role of the mind in physical illness. He noted that about one-sixth of his patients suffered from hysteria, that is, they had symptoms which could not be accounted for in the then known biological terms. He also observed that these symptoms could co-exist
with physical illness. In 1692 Franciscus Van Helmont postulated a dynamic principle of material body processes, attempting to integrate the divine forces of matter and life, to explain the total organism's behavior.

A Scientific Era--The 19th Century Onwards

The invention of the telescope and the microscope in the early 19th century, supplied means of more accurate observation of the material world. New knowledge thus obtained was more apt to claim attention of the scientists, and so the mechanistic approach became supreme. Research in the medical areas was enhanced by the application of techniques of physics and of chemistry.

A new thrust forward in exploration of the human somatic system was in the work of Rudolph Virchow, 1821-1902. His achievements in the field of cellular pathology demonstrated that disease occurs in the individual cell and moves to a change in structure, and results then in physiological disturbance of the entire tissue or organ. Louis Pasteur, a contemporary, also emphasized the cell unit. Thus, technology, discovery and interest fell together in studies of the isolated local disease, the infectious diseases, and pathological agents. Disease and its course were the object of concern. The person in whom the disease resided, was merely the shell that carried the pearls of knowledge to be uncovered in the laboratory. Outstanding discoveries in one field then, tended to become obstacles in another.
Though the interrelationship of mind and body, and the effect of emotions on an individual's functioning were not the concern of the scientists, who sought the total explanation of disease in the biological system, some men were asking questions about the role of the mind in body pathology. In the late 18th and early 19th centuries, psychiatry emerged as a separate discipline, though maintaining its roots in the somatic through its ties with the science of neurology. Some physicians recognized the role of emotion in bodily changes and sought the ultimate cause in the psychological realm. This field of study developed its own goals, and in 1818, Heinroth coined the term "psychosomatic" to identify it, and ten years later, K. W. M. Jacobi used the term "somatopsychic" for the inverse relationship, which is disease causing observable, specified psychological patterns. Psychosomatic medicine as a separate discipline will be dealt with later in this paper. Experimental psychologists, as E. H. Weber, 1795-1878, and G. T. Fechner, 1801-1887, studied the perceptual senses as entities in themselves. The resulting systemized data brought psychology into the realm of science through the work of Wilhelm Wundt, 1832-1920.

Among the great men of these centuries, the focus can be narrowed to those whose work led more directly into the psychosomatic approach. Claude Bernard, 1813-1878, a French physiologist, was ingenious in methods of experimentation, and had a gift for synthesis. His observations on internal secretion led him to the formulation of the "milieu interieur" or internal environment, which he said, remained constant in its composition despite changes within or outside the
organism. Regulation of this internal environment is the work of various organs and systems within the body. It is an integrative effort of the body to maintain itself. An American physiologist Walter B. Cannon, 1871-1945, went further in the lines of the work of Bernard. Cannon's work on the physiological mechanisms that maintain the body's environment presented emotions and their role in behavior in a new light. The internal self-regulating process Cannon called homeostasis, and his work inspired intensive research on the neurophysiological basis of emotions.

A Russian physician and physiologist, Ivan Pavlov, 1849-1936, brought together physiology and psychology and created a new field, psychophysics. A work for which he is widely known, classical conditioning, was in his own opinion, a study of brain processes together with other physiological processes, rather than psychological processes. The implications of his work, though, were too apt for the latter field of research to be left entirely to physiology.

Another physician, a neurologist who later entered psychiatry, was the Viennese Sigmund Freud, 1856-1939. He, too, provided tools for the study of the phenomenon of personality and the psychological aspects of human functioning. Thus, interactions of the soma and psyche, being amenable to research, took on greater importance in the interest of the states of health and disease.

A scientist and humanist in Germany, Wilhelm Stern, 1871-1938, also sought a synthesis, and held that every mental function is rooted in a person. This holistic concept, but with concentration on experience
as a totality, gave birth to the Gestalten psychology with the originators Max Wertheimer, 1880-1943; Kurt Koffka, 1886-1941; and Wolfgang Kohler, 1887-1967. Their observation was that the whole being is more than the sum of the individual parts.

It will be a help now to quiet the pace of the historical perspective. It has been shown that a concept of the holism of man has passed through several stages. Religious beliefs and philosophy, in which psychology has its roots, provided much of the framework for man's view of, and care for himself, as well as for his goals. Observation and experimental work in the physiological realm helped define a dualistic concept of man, that is, of mind and body as separate entities.

With the discoveries of the 19th and 20th centuries, and the expanding literature, the panoramic view and appreciation of the mind-body issue in regard to health and illness, will be enhanced by pausing to examine in more detail some of the scientists and concepts of this more recent era.

**Researchers of the 20th Century**

Three men of the early part of this century, Freud, Cannon, and Alexander, pioneered research in psychosomatic illnesses. Much consequent experimentation resulted from their theories. Other names that are mentioned in this section were followers of the psychoanalytic thought, which provided the method of therapy used by medical men in neurology and psychiatry for some time.
Freud, 1856-1939

Sigmund Freud's contribution to medicine, psychiatry and psychology was important, and in our context, necessary to investigate. In 1895, with Josef Breuer, 1842-1925, he advanced the concept that certain physical symptoms can have psychological meaning and represent problem-solving techniques in emotional life. In addition, he believed that conversion symptoms can result in structural changes due to an accumulation of hypothetical toxins in the affected organs. The affected organ is one with a genetically or acquired constitutional weakness. He postulated the existence of the two basic energy systems, the somatic and the psychic. If a charge of energy in the psychic system sought discharge and was repressed, it would look for release through a mental apparatus capable of existing at various levels of symbolic organization. If somatically released, Freud felt it did so with a symbolic meaning for the patient.

He is credited with rediscovering the unconscious and developing the operational tools of dream interpretation and free association to study it. With these tools, he demonstrated the importance of emotions in producing both mental and somatic disorders. Freud was interested in the "why," and though he may not have been a person intimately concerned in an interpersonal relationship with a patient, yet his scientific interest led him to a reinstatement of a therapeutic physician-patient relationship. Through the concepts of transference and counter-transference, he put it into an intellectually understandable dynamism.
Even though Freud never used the term "psychosomatic," he dealt with physical symptoms caused by emotional tensions. These physical symptoms may have been present before, or may have arisen during therapy. He found that both symptoms and tensions were accessible to psychotherapy.

Cannon, 1871-1945

Walter B. Cannon's theory was that emotional experience and bodily changes are independent of each other, yet both are dependent upon thalamic discharges responding to some stimuli. This places both reactions within the physiological base of the central nervous system (CNS). Cannon also said that emotions, through the activation of the sympathetic nervous system, mobilize resources needed in the emergency situations of flight and fight. Publication of his theories in 1915 not only stimulated the physiologists but the psychologically oriented scientists as well. If the body was constructed to take care of emotional responses to stimuli, via its biologic elements, what causes the system to apparently break down? The answer was not known, but Cannon noted the results: a disturbance of homeostasis, and possible mental or physical dysfunction.

Alexander, 1891-1964

It was a search for causes that inspired the work of Franz Alexander, and provides us with a look at one of the theories that dominated the field of psychological investigation in the mind-body problem of physical illness. Alexander came to America from Germany in
1930, and in 1939 founded the Chicago Psychoanalytic Institute. Wittkower (1974) says that he pioneered systematic collaborative research in a psychoanalytic framework on psychosomatic illnesses. His clinical research led him to formulate a specificity theory of disease. He departed from Freud in that he did not see a symbolic significance in physical symptoms or pathology, but rather that these states resulted from specific unconscious repressed needs which gave rise to prolonged physiological stress-changes. He postulated three variables necessary before the symptoms of physical illness appeared: 1) an involvement of psychological processes; 2) a constitutional predisposing factor in some defined organ or organs; and 3) a precipitating situational event.

Between 1951 and 1965, he and his co-workers attempted to validate the hypothesis of a causal link between a specific, chronic, emotional disturbance and a physiological disturbance leading to tissue damage and thence to organ pathology. Their work included persons suffering from bronchial asthma, rheumatoid arthritis, ulcerative colitis, essential hypertension, neurodermatitis, thyrotoxicosis and peptic ulcer, the so-called psychosomatic disorders. Though diagnosis of the specific disease was accomplished on the basis of the psychological patterns, the conclusions could not be held that those specific patterns related to nor caused the specific disease. Sachar (1975a) suggested that resolution of the psychological conflict should, if the specificity concept is valid, have an influence on the course of the disease, and no studies have demonstrated this. He also pointed out that recent knowledge gained on the physiology of some illnesses
indicates that some hypotheses Alexander held are not correct. Reiser (1975a) agrees with this, but does say that many of Alexander's psycho-dynamic formulations have been supported as valid psychological findings. Strain and Grossman (1975) also find redeeming qualities in Alexander's work and suggest that knowing the correlations between personality and various illnesses may offer clues for research on psychophysiological relationships, and also give insights into patients' psychological reactions to physical illness.

Psychoanalysis and Successors of Freud

Psychoanalysis, the approach originated by Freud, appeared to offer a hypothetical basis for psychological causality of both mental and physical illness. A Hippocratic attitude of wanting to learn about the nature of man in all its various aspects, returned. The holistic idea of man was held as various investigators sought explanations of the mind-body interrelationships. Freud's influence can be traced through his disciples, among whom were Karl Abraham, 1877-1925; Alfred Adler, 1870-1937; Sandor Ferenczi, 1873-1925; George Groddeck, 1866-1934; Smith Ely Jelliffe, 1866-1945; Melanie Klein, 1882-1960; Felix Deutsch, 1884-; Flanders Dunbar, 1902-1959; and Karl Menninger, 1863-. Of this non-exhaustive list, the works of Flanders Dunbar have been important in the field of psychosomatic medicine, because her theories have stirred further observation and research.

The third edition of Dunbar's book, *Emotions and Bodily Changes*, appeared in 1946. It was a survey of literature on psychosomatic relationships, with her commentary. The fact that the first edition was in
1935, with the enlarged second edition in 1938, attests to the fact that studies were rapidly becoming more numerous on therapeutic consideration, methodology, conceptual frameworks, and clinical and laboratory data on organs and organ systems. Another work of hers (1943) covered methods of diagnosis and treatment of psychosomatic diseases. The founding of the first journal devoted to this field of inquiry and treatment was accomplished in 1939 with Dunbar as the first editor of *Psychosomatic Medicine*.

Dunbar developed the concept of personality profiles for psychosomatic diseases, using life histories from patients and their families. Concerning this, Alexander believed that the idea was applicable only if one went beyond the superficial personality traits to the conflicts underlying them. A study by Kapp, Rosenbaum and Romano (1947) seemed to confirm Alexander's belief, as personality profiles of patients with peptic ulcer varied widely, yet a common unconscious conflict was found in all of them. But again, the same conflict may be found in patients with other disorders, or with no physiological disturbances. Refuting Dunbar's thesis does not automatically confirm Alexander's hypotheses. That neither a purely psychological basis, nor a purely physiological one could be proved in the etiology of certain disease processes, led logically to search for combinations of causative factors. Not only the mind and body elements were considered, but also the external influencing stimuli. Thus the concept of mind-body-environment began to take shape.
Emerging Concepts of Multicausality

The works of many persons have brought the importance of environment to the foreground. Within modern times are the words of Henry Maudsley, quoted in Eastwood (1975, p. 7):

\[ \text{Life in all its forms, physical and mental, morbid or healthy, is a relation; its phenomena result from the reciprocal action of an individual organism and external forces; health as the consequence and evidence of a successful adaptation to the conditions of existence implies the preservation, well-being and development of the organism, while disease marks a failure in organic adaptation to external conditions, and leads there to disorder, decay and death.} \]

Iago Galdston (1955) felt that the search for a specific psychological cause for physical diseases was at the other end of the continuum from the organicists who looked for causation in infectious agents. He contended that one must view disease in a holistic and ecological viewpoint. Grinker and Robbins (1954) and Grinker (1953) proposed the study of these multiple factors by simultaneous investigations of persons using their own frames of reference, or specific disciplines.

Cultural Factors in Society

J. L. Halliday (1948) viewed the cultural factors as so important that they resulted in sick populations (physical dysfunctioning) and in sick societies (psychological malfunctioning). He termed his work a synthesis of the recognition and measurement of sickness, its implications, and the social consciousness needed to change directions in a sick society. He spoke particularly of Britain, and named the medical field as the area in which and through which social
consciousness could be affected. Halliday outlined several criteria for psychosomatic affections, that is, disorders in which etiology is significantly recognized by a psychological approach. Weiss (1974) took exception to Halliday's theory. He felt that the identification of a group of illnesses fitting the criteria only defeats Halliday's intention of supporting and promoting a psychosomatic approach to either prevention or intervention.

Changing child-rearing practices in the wake of changing socio-economic conditions was one of the etiological factors of disease in Halliday's propositions. The anthropologist, Margaret Mead (1947) also focused on mother-child relationships and speculated on their correlation with the psychosomatic disorders she observed in different primitive cultures.

Effects of this early relationship can also be found in Ambrose (1969) in which are presented papers given on the origins of human behavior in a study group of the Centre for Advanced Study in the Developmental Sciences in 1967. The loss of the mother and of other significant persons or objects, and the effects on the child is described by Spitz (1965).

Meaning or Symbolism of Stimuli for the Individual

Hinkle (1961) called the social sphere studies, the ecological approach. In an earlier study (Hinkle et al., 1958), subjects related important situations in their lives. From this, Hinkle concluded that there exists a significant relationship in the number of illnesses experienced to the individual's evaluation and reaction to particular
life situations. This individuality of reaction is one reason, Hinkle feels, why there is no simple explanation, nor as yet, any complex exposition of the relation between health and the social environment. A confounding factor, Hinkle stated, is that the unique meaning imparted by a person to a specific stimulus may be outside his awareness.

This notion of meaning was elaborated by Lipowski (1969) as he described a conceptual framework for the study of the psychological aspects of physical illness. He called the personal, subjective value given to a person, event, emotion, etc., the key unifying psychological concept. Elsewhere (Lipowski, 1973, 1974), he stated that the evaluation and meaning given to an internal condition or external stimulus can be unconscious and/or conscious processes, which have the power to evoke emotional, behavioral and physiological responses.

Lorand (1973) in describing the services psychiatry can render in medical treatment, also gives import to meaning. Following a psychoanalytic theme, he says that the physician can help his patient to better perceptions of reality by explaining to him the meaning of the patient's early experiences and his consequent attitudes which may influence the onset and course of disease for himself.

As noted earlier, symbolic factors were seen as secondary in the process from emotion to disease by Alexander, French, and Pollack (1968). Symbolic elements can be mobilized within the person as protection from some perceived danger. A 1968 study by Sachar was cited by Knapp (1975, p. 1636) illustrating this symbolism. In the study, the researchers worked with depressed patients who often exhibited
tearfulness and despondency as symbolic activities to elicit concern and to justify their dependent state. These patients were able to respond to insights given them about their actions, with the result that their psychological and physical functioning improved.

Knapp (1975) reported two studies involving animals and reactions to signal-symbols, by J. V. Brady (1958) and by Weiss (1968, 1971a, 1971b, 1971c). Different procedures resulted in reverse reactions in the "executive" animal's development of ulcer. Kaplan and Kaplan (1956) had expressed a doubt about using the concept of symbolism for animals' functioning and responses as it seems to be uniquely man's prerogative. He said that symbolic thinking involves the concept of repression, unconscious processes, etc., and in this sense, it does not belong to animals. Yet, the evidence is that animals respond physiologically to their environment, even as the human organism also responds to its environment (Ader and Flaut, 1968; Friedman, Glasgow and Ader, 1969). Tinbergen (1965) sees numerous proofs of social organization in animals, and his advice for researchers in animal sociology follows the methodology for human research: have a broad observational approach supplemented by adequate reading, followed by good controlled experiments with accurate reporting and publication. The validity of animal experiments is not questioned, but conclusions and inferences to the human organism must be well substantiated.

**Attitude Theory.** While animal studies are vastly important, some directions taken by researchers preclude animal investigations as being parallel to a concept held in regard to man's functioning. Such is the work of Grace and Graham (1952). They proposed a definition of
emotion as being essentially an attitude, and always accompanied by associated physiological changes. Their hypothesis was an extension of the notion that a person's perception of his life situation has a bearing on his reaction to it. To this they added the idea of the associated bodily changes, unique to the individual attitude. They did not assume a cause-effect relationship, but they did feel that this concept allowed for prediction. The results of their study indicated that all patients with the same symptom-complex had similar descriptions of their attitudes toward the precipitating situation of their illness. The factors that seemed to influence the particular attitudes, however, were not examined. The situations that patients identified as being associated with their symptoms were ones in which they apparently had strong reactions but no consequent action to change or remove the situations.

Communication and Systems Approaches

Another approach to the same theme of the importance of social factors was that of Jurgen Ruesch. Ruesch and Bateson (1951) formulated a theory of communication. They said that previous theories of personality were concerned with one person, but today's culture makes it imperative for both psychiatrist and patient to see themselves as part of a larger societal system. Their theory of communication was designed to "encompass events which link individual to individual, events which link the individual to the group, and ultimately, events of world-wide concern" (1951, p. 4). They identified communication as all the processes by which people influence one another, and said the importance of a
single individual decreases in the larger groupings of people. They were also interested in the physiological-psychological interactions, and in a later study, Ruesch (1961) stressed the importance of the mediating mechanism.

An example of another approach linking many elements or units is the series of theories called the systems theories. Though pre-eminently in the mathematical and computer science fields, they are used in many fields. Von Bertalanffy (1968) gives a description of a general system theory as it evolved historically, and how the many sciences employ it today. He notes that psychology and psychiatry have become interested in general system theory, hoping it may contribute to a more adequate framework for normal and pathological psychology. The underlying and motivating principle in the systems theories, von Bertalanffy states, is the desire to see man as an active personality system, not as a robot to be manipulated or disease-treated. The concept in these disciplines, as outlined by the author, seems to refer to the human organism itself (which, even without external stimuli, is an intrinsically active system). Later on in this paper we will see researchers using it in a broader sense (Sager, 1976; Hollon, 1972). Fleck (1976), in advocating a general systems approach to severe family pathology, states it is useful because the information from observation and historical exploration can be put into order by examining the basic characteristics of any general system. He considers the family a system.
Linking the symbolic stimulus and an internal system of the body, Amkraut, Solomon and others are engaged in a line of research which will influence the treatment of some diseases and indicate ways of prevention. In a recent publication, Amkraut and Solomon (1974) traced stress-related functionings of the CNS to its influence upon the immune system of the body. The concept of resistance implies that the body has within itself, the ability to combat noxious agents that could lead to disease or dysfunction of both mental and physical systems. When the natural defenses are inadequate or faulty, disease may occur. The authors take the course of examining the target system, that is, the immune system, to isolate the various steps by which the disease progresses and to find ways of altering its course. In this physiological study, they continually revert to one of their major concerns: the discovery of the relation of emotions and immunity, and their interrelationships with the endocrine system, in the presence of stress. They feel the psychological component of the continuing research can be accomplished by such methods as psychological tests, life-event inventories, and occasional interviews. One goal would be that of predictive value in identifying individuals, predisposed somatically and psychologically to the inroads of noxious stimuli. Prevention at the immunologic or the psychologic level then could be established. The possibility of this is a strong thrust for more research along these lines.

It is seen then, that the notion of multicausality of dysfunction is more widely accepted and is being investigated by researchers in various fields. Their work is not only disclosing but also stimulating.
While more refined searches into interactions are advocated, it is now recognized that bridges must be found to link the relationships between internal mechanisms, and between external and internal forces. Some specific theories on the possible links will now be reviewed.

Theories and Research on the Stress Concept
Specificity, Non-specificity and Psychoneuroendocrinology

Still within the area of meaning and symbol, one is led to examine the concept of "stress." Is this the umbrella under which all these disciplines can hope to find an all-inclusive theory? Can "stress" describe all the data available to researchers today? Can a "state of stress" be defined and limited so that a non-stressful state is recognized in a dynamically interacting organism such as the human person?

Before looking at the literature pertinent to these questions, an idea of the evolution of the term "stress" can be gained from Hinkle (1974). He describes the origin of the term as a word of Latin derivation, used to represent human experience and behavior with the meaning of adversity, affliction or hardship. In the 18th and 19th centuries, the term was used more in denoting force or pressure from without an object or person, with the consequent action or behavior of the person or object to attempt to maintain its original state. This connotation was accepted by science, and the term became proper to physics and engineering, though still in common usage. Scientific definitions of the 19th century gave "stress," "strain" and "load" specific meanings. But the words "stress" and "strain" were apt expressions in that and
the early 20th century to denote causes of health breakdown. About 1925, Cannon began to use the term "stress" in a quasi-scientific sense.

Kaplan (1975) describes four general types of reaction to stress: normal, neurotic, psychotic and psychophysiological. In the first, a defense system adequately takes over; in the second type, the defense is ineffective; in the third, the alarm is ignored or misperceived; and in the last, a psychic defense fails and the somatic system responds, sometimes with damage to body tissue. This seems to imply that all stress affects the psychic first, though others hold it is simultaneous with or consequent to physiological reaction.

Kaplan describes the trends in stress research and theories, and places its visible beginnings with Cannon's emergency theory, the fight-flight response. The extension of Cannon's work, Hinkle (1974) says, is seen in that of Rudolph Schoenheimer in the 1940's; Erwin Schrödinger, and C. F. Shannon with their work in thermodynamics and mathematics. The technical data supplied by these and others that can be related to the bodily systems makes it necessary to reconsider the earlier theories of Selye and Wolff, whose works will be examined a little further on.

Specificity

The first trend in research, according to Kaplan (1975) was that of specificity. Alexander et al. (1968) used the work of Cannon (1953) on physiological changes in the presence of fear and rage, and attempted to demonstrate that a specific stimulus or stress resulted in the specific response of a specific organ. In this same vein of postulating that specific emotions led to specific tissue damage,
were Dunbar (1943) with her personality profiles; Friedman and Rosenman (1959) in their work identifying a 'Type A' coronary pattern in persons; Bahnson and Bahnson (1969), who studied correlations between cancer proneness and personality. Lazarus (1974) maintains that different emotions do have different action impulses, and that the environmental situation can also call forth varying somatic responses, both specifically and in the overall pattern, even when some nonspecific reactions are involved. Lazarus is unwilling to argue the point of which view is the better one. It is not an either/or question, yet from a psychological standpoint, he finds the specificity arguments as potentially more generative of different factors to research than non-specificity arguments.

Lazarus (1975) discusses coping mechanisms, addressing himself to the idea of self-regulation. He offers the observations of other researchers as well as his own fuller treatment of self-regulation of emotion. His major contribution is that a person does regulate his thoughts and actions to control disruptive and also pleasurable emotions. He says this can be anticipatory as well as in the course of experiencing an emotion, and that an individual can learn more about this process and so make better choices of coping behavior.

Lazarus (1975) states that a person evaluates the environment and his interaction with it, and this results in emotional activity. A primary evaluation is one in which the situation is viewed as threatening or attractive, and a secondary appraisal involves his judgment about how and if he can cope with the situation. The consequent emotion
can change as new information is received and evaluated. Thus in the flow of emotional states, consideration and use of coping mechanisms is an important variable. In an attempt to classify coping activities, Lazarus and his colleagues introduced the idea of two main coping processes: direct actions and intrapsychic processes. The former involves attempts to change the objective situation, while the latter is an internal and cognitive process. He cites Koriat et al. (1972) in which he was involved. In it the subjects were asked to alter their emotional state upon presentation of a film showing accidental injuries received. In one presentation of the film, they were to be detached, and upon another presentation, to become involved. Changes in heart rates plus self-reports on coping strategies indicated they were able to regulate their emotions as directed. In discussing the point that not only behavior may be regulated, but also emotional activity, Lazarus stresses that coping activity can and often is, anticipatory, being deliberate or automatically responsive to cues. Learning efficient coping patterns may develop into a style of life. Past experience can trigger coping or an emotional state, with minimal cues.

Lazarus (1975) says the self-regulation is cognitive, one of decision-making or management by the individual himself. This does not imply it is always under conscious control. His suggestion for research is, in a phrase often used in this paper, holistic. To examine the elements in appraisal, coping, and emotion, he proposes ideographic and naturalistic observations of normal individuals to allow the multiple processes involved to have their natural interactions.
When a person is unable to take action to alter a situation, a palliative approach is used to cope with the emotion or its somatic correlates. Some of these modes are attention-deployment, drugs or alcohol, techniques of relaxation, including biofeedback, hypnosis and meditation. As with Hinkle (1974), Lazarus feels the cost in terms of effects on the body or on social relationships is an area for consideration. The stimulus appraisal, course of psychophysiological processes and outcome, all involve both the environment, and the individual at a given point of time.

A study by Hamburg, Hamburg and de Goza (1953) had both clinical and theoretical implications. They observed severely burned patients in order to identify their adaptive problems and the coping mechanisms used. The authors suggested there could be similarity in adaptive processes (such as they found in the burn patients) in other specific illnesses and injuries. Recognition of these would assist the staff in treating and caring for the patients. The authors also recognized that some pre-illness adaptive techniques seemed to be more suitable than others for handling an illness or injury. What a boon to the patient, and thence to the staff, if the patient knows his own coping mechanisms!

Illness itself can be a coping mechanism. Hinkle et al. (1958) noted illness clusters in a group they studied. It was found that 25% of the individuals had 50% of all the episodes of illness reported, and some individuals had no report of illness. Also, though life situations and family history were similar for all, the persons who were ill more frequently perceived life as more demanding and conflictual.
Yet another view toward specificity is that called activation or arousal. The idea that specific diseases were associated with specific emotions, specific emotional conflicts and personality traits was still being researched when the concept of activation gained its proponents. This latter theory emphasizes the generalized physiological state of the organism. When a stimulus of a specifiable intensity and character impinges on an individual with his idiosyncratic physical and characterlogical possessions, patterns of response are activated within the individual. Roessler and Engel (1974) are particularly associated with this concept. They speak of two categories of response: a stimulus response specificity (SR) and an individual response specificity (IR). The former exists if a given stimulus calls forth the same pattern of physiological responses consistently among most members of a group. Roessler and Engel maintain the latter is of great importance when studying psychosomatic medicine, and feel it has not always been included. The concept of activation takes into account the specific stimulus and consequent effect on a particular person at a specific moment in his life, thus considering both SR and IR specificity.

This is seen as a move away from psychodynamic formulations with their basis in unconscious motives and conflicts and ensuing consequences in the health state of an individual. The trend is toward the recognition of the total environment, with specific determinants being those in close proximity, such as social situations and interpersonal relationships, and the past experiences and learned reactions.
Engel and Schmale (1972) give an example of a coping reaction developing into a characteristic pattern. Their theory is that of conservation-withdrawal, whereby the organism retreats from the environment to conserve energy and maintain its homeostasis in the face of stimuli that seem unable to be coped with by the organism. This adaptation they reason, can become part of the animal or human's learned coping mechanisms with repeated experience.

Identification of social stressors and the learning theories have each had their place in the field of research and clinical observation and experience, relative to health and disease. So far, we have seen these in relation to the concept of specificity, in which is postulated a connection between specific illnesses and specific personality attributes or attitudes or physical characteristics. The opposite view does not endorse this specificity.

Non-specificity

Returning to Kaplan's (1975) description of trends in stress research, the non-specific approach to what happens to a person encountering an agent of stress will be investigated. In the late 1930's, Hans Selye began formulating his theory of physiological adaptation to stress. As a young medical student, Selye saw, beyond the usual syndromes of specific illnesses, a syndrome which he called just being sick. Years later, he hypothesized a nonspecific damage superimposed upon the specific characteristics of any disease. He observed the effects of stimuli on the animal system, and formulated the theory of a General Adaptation Syndrome, the G. A. S. As the body reacted in this general
response pattern, Selye called it "stress" and the stimuli, the "stressors." The latter could be such factors as normal activity, disease-producers, drugs, and any demands made upon the body. He specified diseases of adaptation, those in which the G. A. S. inadequacy or maladaptation is more prominent than the disease-producer itself. Mirsky (1957) felt, however, that there has not yet been any instance in which any known psychological disorder has been produced as a disease of adaptation after continued stimulation from events or persons to whom great emotional significance is attached.

Selye (1956), in writing The Stress of Life, integrated his biologic theory with his philosophy. He said:

Bodily changes during stress act upon mentality and vice versa. Only by dissecting our troubles can we clearly distinguish the part played by the stressor from that of our own adaptive measures of defense and surrender. . . . this helps us to handle ourselves during the stress of everyday life, and in particular, how to tune down when we are wrought up, how to overcome insomnia, and how to get out of certain grooves of stereotyped behavior . . . . Man's ultimate aim is to express himself as fully as possible, according to his own lights (p. 253).

In a later work, Selye (1974) said that conditioning factors play a part in the outcome of stressful events leading to pathology. These could be genetic or acquired constitutional factors, past experience, the interplay of other bodily systems than the pituitary-adreno-cortical system operative in the elicitation of the G. A. S. He also said there is a relationship between stress, work and leisure, but this stemmed more from his philosophical inclinations than from research in the laboratory.
Another renowned researcher in this area was Harold G. Wolff, 1898-1962. His studies since about 1940 centered on observation and evaluation of physiological manifestations in various organs, following or correlative with emotional stress. He emphasized the use of objective laboratory techniques in studying these adaptive biological responses to symbolic threats.

Wolff outlined his thesis of stress as a condition resulting from man's perception of events and persons, when these appear noxious to him. He emphasized this rather than any correlation of attitude to a specific disease. Wolff felt that a pattern of reaction was operative throughout an individual's life and therefore there may be some basis for prediction. His work with Hinkle and others (Hinkle et al., 1958) in which illnesses clustered in some individuals seemed to support the idea of reaction patterns.

Selye and Wolff both saw stress as a state, with Selye outlining the physiological syndrome by which he says it can be recognized. Both stated that there are intervening variables between the stressful agent and the ultimate outcome of successful adaptation or pathological response in disease. As noted before, Hinkle feels that new information supplied by technical data makes it imperative to re-examine the theories of Selye and Wolff. Nevertheless, Hinkle feels that the biological point of view is not in conflict with the social and behavioral sciences, though the pathways of interaction need fuller explication and testing. Gross motor behavior or any of its component parts can be influenced by reactions to the environment as they are received through the sense
organs and further mediated by the CNS in man and higher animals. To date, what is known of neural adaptive mechanisms is consistent with what is known of the workings of the cellular adaptive mechanisms.

That we are in a period of coexistence among theories, is affirmed by Lazarus (1974). Noting that adaptation under stress has been a survival mechanism through the long centuries of evolution of any creature, he, nonetheless, takes a different position from Selye. The latter believed that any stressor, and therefore a non-specific agent, would cause a specific pattern of adaptive responses, the G.A.S. Lazarus takes the position that the bodily defense pattern described by Selye may have already been influenced by psychological factors of evaluation, and that it is possible that it is the latter which produce the bodily hormonal changes suggested by Selye. Again, Lazarus holds that the investigation of both views can be productive.

An example of research stemming from the general, or non-specific view is the work of Holmes and Rahe and others in the 1960's and 1970's. Their theory is that somatic and psychological illnesses are associated with life changes, and that these changes can be rank-ordered, and correlated to onset or recurrence of illness. To measure this, Holmes and Rahe (1967) developed the Social Readjustment Rating Scale (SRRS) with 42 items. These included the family constellation, marriage, occupation, residence, economic situation, group and peer relations, education, religion, recreation and health. Some of the events listed are negative in tone, and some are positive. All reflect American values, and are also meant to reflect an individual's life style and events involving
the individual. The common theme in the items is that all which have
been experienced would usually evoke or be associated with some adaptive
or coping mechanisms, involving a change from a comparatively steady
state to a new condition of living. They based their scale on a life
chart invented by Adolph Meyer (Lief, 1948), which was then incor­
porated by H. G. Wolff and his colleagues in the work of their labora­
tory.

Using this scale, Holmes and Rahe and others have found corre­
lations between high change score on life events and subsequent illness.
By the time they published their data on subjects from the Norwegian
Navy, Rahe et al. (1974) had evolved a life stress and illness model
that incorporated such intervening variables as past experience, psycho­
logical defenses, physiological reactions, coping mechanisms, and illness
behavior. Data indicates that on this model, a correlation between
subjects' recent life changes and their near-future illness symptoms
exists: the fewer the intervening variables and the less the time inter­
val between the life changes and the appearance of symptoms, the higher
is the correlation between the two parameters.

The SRRS is seen as a ratio scale, yet other methodological
questions are posed by Sarason, de Monchaux and Hunt (1975). Their re-
view of the reliability, validity, and important but unmentioned vari­
ables, indicates that the SRRS is not yet a suitable instrument. There­
fore, some of the conclusions drawn when it has been used, may not be
valid. Sarason and his colleagues are concerned that so important a
field as life stress research lacks adequate measuring instruments.
Rahe (1974, 1975) was aware of the limitations of the SRRS. In these articles, he outlined the work done since the 1950's in stress research, and particularly his involvement since 1962. He stated that variables that might influence the results of the recent life stress questionnaire were not included, and only the one aspect of possible etiology in near-future illnesses had been examined with the use of the SRRS. However, the questionnaire has provided a tool for quantifying the rate of change experienced by individuals. One study of the underwater demolition team trainees of the United Stated Navy showed that in this population, prediction of illness could be done using data (SRRS) from previous trainees in the program (Rahe, 1975).

Hinkle (1974) does not support the idea that conditions, events or relationships in the social environment are subject to hierarchy. As a basis for this, he cites situations of wars and residential uprootings in which persons experiencing the apparently more stressful situations than is their usual lot, did not exhibit what might be called stress diseases, and in fact, there seemed to be a lessening of such somatic dysfunctioning. He feels it is the meaning that persons attach to the environmental stimuli that make them pleasurable or stressful. It can be noted here that Yensen (1975) also takes into account a subjective hierarchial rating when working on his measurement for happiness.

For the concept of non-specific stress, Lazarus (1974) states that Lennart Levi (1974) has formulated a model of the course from psychosocial stimuli to disease, as influenced by non-specific aspects of an individual's reactions. Psychosocial stimuli combined with an
individual's pattern of psychophysiological programming lead to activation of physiological mechanisms (Selye's concept of stress as manifested by the G. A. S. is one of the mechanisms), which can lead to precursors of disease (malfuctioning, but as yet not disabled systems), and ultimately to disease. The last named condition is a loss in ability of a system to perform essential tasks, and perhaps also normal and optional tasks, according to Levi. Disease can be seen as affecting various levels: that of the cell, the organ, and the organism. At any stage, internal or external, mental or physical variables may intervene to prevent or promote the course of disease. He makes a point of saying that the stimuli and variables can be pleasurable as well as unpleasurable, thus following Selye's (1974) thought. Levi concludes by saying that a great variety of stimuli can evoke the activation of specific physiological reactions. He would not accept, however, that specific psychosocial stimuli elicit necessarily specific and different bodily reactions, of themselves.

Stressors, State of Stress

When considering the nature of the stimulus that can bring the human nervous system to evoke organ change and function that can be prolonged and profound, Hinkle looks to the nature of the nervous system itself. He feels it responds in a specific way to the information it receives. Hinkle uses a definition of information that is relative to communication and nonrandomness when he says information is the property of matter and of energy that concerns order and structure. He says that some reactions of the nervous system are genetically
determined while others, through an innate ability or potential, become learned responses and patterns. A response that is adequate to evoke the prolonged or profound response, behaviorally or physiologically, is probably linked to the experience of the individual. The response then is general in one sense, but highly specific to the individual.

Some stimuli from the environment, that is, everything outside the boundaries of the organism, may be considered as social stimuli. In this area, highly significant stimuli may be important relationships within the social group. Social roles and interpersonal relations may present problems of challenge and conflict capable of directly influencing neuroendocrine and behavioral responses, and in turn, physiological changes. Adaptive reactions are necessary to meet the abnormal stressors, yet adaptation is actually taking place constantly in the ordinary activities of the dynamic organism, until death occurs. The nature of adaptation does take different forms, and is highly complex. For instance, the threatened person's adaptive response may be made in light of his social environment. The options open to him may not be desirable (e.g., fighting with his wife or repressing his anger and getting sick over it). This is the cost to be considered in adaptation.

The "state of stress" concept as causal in pathology does not seem valid to Hinkle, for its boundaries cannot be delineated. However, he felt that the researchers of the 40's and 50's did bring forth some valid conclusions which have been supported by subsequent data. Almost any person could relate a personal experience of stress, and perhaps identify the stressor, but neither this person nor the scientist can
tell exactly how the stressor and the person interact. Again, the way points to multifactorial causes of malfunctioning and disease, and perhaps, for that matter, also of health and happiness.

One of the areas of scientific research is endocrinology. This system has direct relevance to the nonspecific mechanisms involved in pathogenesis and precipitation of many illnesses. It also has implications for the specificity issue. Some information on this subject follows.

Psychoneuroendocrinology

From the heading, one can infer not only the specialization involved, but also the interrelationship being explored between and among the psychic, the neural, and the endocrine systems. Reiser (1975b) says that this field is the major link between clinical and basic research studies. Advancing technology has made it possible to study more accurately and sensitively, hormonal functioning. A reductionist approach has yielded much data in the laboratory, and made it possible now for a synthetic approach in the attempt to understand the operation of the human organism through the multiple interacting systems.

Mason (1975a, 1975b) advocates the study of the very complex interrelations of emotions (psychological processes) and the endocrine system. In laboratory studies, it was noted that different reactions to the same stimuli occurred in different individuals. An assessment of the emotional state of the subjects by observers proved inadequate. It became necessary to develop methods to focus on an evaluation of psychological defenses. It was also imperative to study the particular
psychosocial setting, the historical or developmental variables, the variety of everyday mental or psychomotor activities, and nonpsychological determinants such as body weight or environmental temperature. Mason feels this fits in with Cannon (1922) who suggested that studying subjective feeling, visceral changes, and overt behavior will produce more reliable results than omitting any one of these components.

The past two decades, Mason states, have been particularly rich in research discoveries. Experimental methods have been refined and new explorations are continuing with both animal and human subjects. He feels this body of data may eventually help clarify the controversial concepts in the stress field, and suggests that present knowledge evidences that the pituitary-adrenal-cortical system response is not an indiscriminate one as conceived by Selye. Rather, a relative specificity or selectivity in hormonal reactions has been noted. The recent work in this latter part of the century has changed the view of the endocrine system from self-regulating to the idea that it is a third effector or motor system of the brain, capable of receiving and being influenced by a wide range of psychological input. It is not an "if" question but a "how" question in the relation of psyche and physiology in the human individual.

Mason strongly urges the integrative approach in research. He recognizes the complexity of such endeavors. Not only new methodological approaches are needed to cope with this kind of research, but also co-operation among persons representing various disciplines, and this, he feels, has been lacking to a great degree so far.
As an instance of concern and study about the endocrine systems, Hamburg, Hamburg and Barchas (1975) note that it is a common occurrence to find severe depressions in persons with endocrine diseases, and suggest this might be a clue to depressive experience. Yet they also state that most depressives do not have overt endocrine disease. Sachar (1975b) says the early stages of endocrine disease can pass unnoticed, so it is possible there is more co-existence of endocrine pathology and depressive symptoms than commonly held.

Studies by Miller et al. (1970) and Rubin et al. (1970a, 1970b) of endocrine involvement in an extremely stressful situation of short duration, were done on student aviators. They were making their initial landings on aircraft carriers. The physiological data not only showed the stress response activity, but also indicated some differences, as did the psychological testing done, between the pilot and his radar officer. The former had flight control, while the latter had none at all. A role response behavior was noted earlier in referring to the study by Brady (1958).

In a previous section, we considered the reasonableness of the idea that many factors interact in health and disease. In this section, we looked at some divergent views, and how they operate in attempting to formulate a theory embracing psychophysiologic elements. The concept of stress was examined. To date, it does not seem to be the center to which and from which all psychologic and biologic findings can find their interconnections. Attempting to incorporate environmental influences adds to the complexity, which, however, does not deter the researchers.
The Field Called Psychosomatic Medicine

So far we have seen the progression of ideas of the holistic view of man. This notion at times put into its service, philosophic and religious ideologies as well as contemporary scientific thought. It is also true that these same disciplines used or set aside the idea of holism. One effort to re-integrate the view that psyche and soma are interrelated, rather than parallel or separate, or in a dominant-subordinate category, came in the area of health and disease through the medium of psychosomatic medicine. What is psychosomatic medicine and what are its parameters? Since the recognition of this field about forty years ago, differing opinions and perspectives have been set forth. The following pages outline this and give the reader a basis for forming a personal opinion.

With advances in many areas of science, the increasing body of knowledge gave rise to areas of specialization, and eventually to efforts of integrative research. The concept from ancient times, of man as a whole being, had faded into the more pragmatic idea of man as a composition of parts which could be studied independently. Accepted methods of treatment flowing from clinical and laboratory observations, had little effect on a field that dealt primarily with mental dysfunction. Infectious and toxic agents were hunted as the causes of physical disease. Alexander (1950) noted that the discovery of a drug to fight syphilitic conditions, which included profound changes in personality associated with a general paralysis, generated the hope that all mental illnesses would be found responsive to treatments used in general medicine. He
suggested that psychiatry might have become like internal medicine in its methods of research and treatment if it were not for the schizophrenic disturbances which seemed to have no observable organic changes associated with them. The idea that psychical and somatic symptoms had some relationships led to specific theories, and underlies the particular area called psychosomatic medicine.

Definitions and Individual Viewpoints of Psychosomatic Medicine

Lipowski (1976) presents his idea of psychosomatic medicine as one embracing both its clinical and scientific aspects. He says it is a science of relationships affecting both health and disease states; that it is an approach to treatment that is cognizant of relevant variables, and that in clinical practice now, it includes the team approach, and specifically the practice known as "consultation-liaison psychiatry" (p. 1). In an earlier work, Lipowski (1974) stated that the meaning of psychosomatic medicine forty years ago did not include the liaison speciality, but more explicitly centered on the holistic view of man. At that time, it was a reformist movement against the highly analytic and disease-treatment approaches widely used. The object of this field, as stated in the first issue of Psychosomatic Medicine, 1939, was "to study in their interrelation the psychological and physiological aspects of all normal and abnormal bodily functions and thus to integrate somatic therapy and psychotherapy" (Lipowski, 1974, p. 304). Since it was, to a great extent, the work of psychiatrists, psychosomatic medicine in its psychotherapeutic methods, came
to be associated with the psychoanalytic theories, research and treatment approaches. In fact, as late as 1960, the idea that psychosomatic medicine was not tenable except in terms of psychoanalysis, was expressed by E. D. Wittkower, then president of the American Psychosomatic Society. A commentator, Leigh (1968) said this was not a holistic attitude. Earlier, in the presidential address of 1957 to the same scientific body, Stanley Cobb put forth his view that the holistic, ecological perspective is pervading modern medicine, yet few physicians disciplined themselves to stop thinking dualistically (Leigh, 1968).

Describing the tenor of this society's meetings in the 1950's, Carl Binger said they were very enthusiastic, and the members looked for, hoped for, and expected the discovery of the etiology hitherto unknown, of diseases that would then prove amenable to psychotherapy (Wittkower, 1974).

Retrospectively, it is easier to contemplate the issue of whether or not there is actually a field of psychosomatic medicine, if the issue of the classical psychosomatic disorders is separated out. In the American Psychiatric Association's Diagnostic and Statistical Manual, for instance, the 1952 edition used the term "psychosomatic disorder." The 1965 edition substituted "psychophysiological" for psychosomatic. The 1968 APA Manual defined psychophysiological disorders as physical disorders of presumably psychogenic origin, and said this group of disorders is

characterized by physical symptoms that are caused by emotional factors and involve a single organ system, usually under autonomic nervous system innervation. The physiological changes involved are those that normally accompany certain
emotional states, but in these disorders the changes are more intense and sustained. The individual may not be consciously aware of his emotional state.

The World Health Organization (WHO, 1964) expressed its concept of psychosomatics which indicates the paradox of its holistic use in health and in disease, and its use applied to specific diseases which affirm a mind-body dichotomy. WHO supported both views in its statement:

The individual is conceived as a complex dynamic system in an unstable state of equilibrium, acting and reacting to changes in the environment and to changes within that system. In disorder, that is disturbance of homeostasis, many aspects of the system are affected. When we speak of psychological processes and physiological processes, we are speaking of different ways of approaching one phenomenon. The phenomenon is not so divided. In this sense, there is neither psychogenic nor somatogenic disease but only disease.

A few years later, Lawrence E. Hinkle spoke to the feelings of those who had hoped for the great breakthrough that would pave the way for great therapeutic cures. In his presidential address to the American Psychosomatic Society in 1967, he spoke of the vision that some in the 1940's had nourished, namely, to be able to identify the causes of disease, and to apply psychological methods for successful treatment. Many factors seemed to be coalescing to make this goal possible: 1) great advances since World War II, such as application of information theory to biology, allowing the mathematical concepts of order and organization to aid in seeking understanding of the mode of operation of the CNS; 2) increased knowledge about the physiology of the higher centers of the nervous system, of neural mechanisms associated with sleep, hunger, emotions, of endocrine functioning, of
adaptation systems, of man's relation to culture, to genetics and evolution, of human behavior, of social processes and diseases. But, with all this, why, he asked, were they not further along in the realization of the vision? One factor he felt, was that great specialization influenced the medical student to seek competence in one highly defined area. Hinkle asked for a peaceful co-existence of the hard sciences and the behavioral sciences, and even more, he asked for collaboration. He said his own orientation was man-environment rather than mind-body. He noted that, depending on one's point of view, all diseases could be called psychosomatic, or that none could bear the title, but that it was not fitting that some diseases would be called psychosomatic and others not. It must have been indicative of some broadening of perspectives though, that Hinkle had been elected president of the American Psychiatric Association, as he was not a psychiatrist per se, but a physician who had studied psychiatry as well as other medical specialties.

Weiss (1974) says that the concept of a psychosomatic disorder usually refers to a type of category of illness, with the literature suggesting certain criteria: 1) an etiology traced to an antecedent psychological event or characteristic of the patient (the psychogenic approach); 2) an illness course shown to be significantly affected by psychological factors (the precipitant-aggravant approach); 3) primary symptoms directly related to a single, specific psychological factor (the specificity model); and 4) symptoms inappropriately severe or long-lasting (the functional approach). Weiss stated that Lipowski (1974) says the term can be dropped.
An Historical Summary

With this background, we can look at the historical process of psychosomatic medicine in this century. How did the shift from concern with psychological factors as the etiological element in somatic disorders progress to investigation of all sources (physical, psychological, environmental) as interrelated sources of disease, come about? As an organized area of scientific investigation, psychosomatic medicine began with an attempt to identify the psychological elements connected with a group of conditions of unknown etiology.

In the 1940's and the 1950's, researchers studied patients with such diseases as hypertension, ulcerative colitis, peptic ulcer, neurodermatitis, bronchial asthma, rheumatoid arthritis, and thyrotoxicosis. These, then were "psychosomatic disorders." It was observed that some medical illnesses became apparent during a period of psychosocial crisis. From then on, it was good practice to observe the patient. Wolf and Wolff (1947) investigated patients' attitudes, and Reiser (1953) took note of the patient-physician relationship. Such studies were an attempt to see what influence patient-variables had on the course of a disease. Another line of inquiry was laboratory research on patients, and later, on non-patients or healthy subjects in regard to physiological responses to induced or manipulated emotions. The goal was to determine if the measurable changes were like those noted in dysfunction associated with certain disease states. There was some success but the methodological problems in controlling all variables hampered the setting of conclusive results (M. Stein, 1971). Concepts and measurement
techniques, for instance, vary within and between the physiological and psychological realms. There is the moment-to-moment change within the individual also, as he progresses from a precursor-disease state through to the possible disease and death.

Earlier, Flanders Dunbar (1943) postulated personality profiles with their underlying psychoanalytic formulations. This specificity concept was enlarged in the work of Franz Alexander (1950; Alexander et al., 1968) with his hypothesis that a genetic or acquired vulnerability of an organ plus a defined psychological conflict pattern would, if a specific precipitating event occurred, sustain certain physiological changes which could lead to a specifiable disease. The emphasis in the work of Harold Wolff and colleagues was on the defensive reactions in the service of adaptation to conscious emotional reactions to adverse stimuli. It was then the work of two of Wolff's students, Grace and Graham (1952) that brought the focus of specificity to attitudes. Patient attitudes were linked with specific diseases. Grace and Graham said that attitude has to do with the individual's perception of a situation, and what, if anything, he wished to do about the situation.

Selye's (1956) work on a non-specific response by the body to a variety of stimuli, has been commented upon earlier. That factors in the social environment, as well as biological and physicochemical characteristics of the physical environment, were at least partially seen as relevant to both health and disease, opened the field of inquiry to enormous proportions. Building on the previous work, research in the mid-50's and still in the present, has fanned out to include psychologica-stress, separation and loss, physiological and psychological
responses to highly sophisticated life-saving machines, relationships of role status and social environment, symbolic activity, epidemiology and other areas in laboratory, clinical and naturalistic studies. Attempts are made to integrate the findings of various disciplines, and to organize interdisciplinary research. It is a vast field, with goals of not only alleviating suffering, but of prevention, and of expanding man's knowledge which has cognitive as well as esthetic value. The regard for man as a whole being demands awareness of researchers in one field to those in another, with collaboration a hoped-for reality in this era.

The impetus that drives a person to seek an integration in health services is exemplified by Edward Weiss. When beginning his practice as a young medical doctor, he became frustrated. He realized that his training in medical school and in a hospital setting, supplemented by a study of diseased organs and tissues, had not adequately fitted him for the practice of medicine, for the relationship with the patient. This led him to collaborate with O. Spurgeon English to produce a textbook for other students of medicine. Their book, The Clinical Application of Psychopathology to General Medical Problems was so well received with its first publication in 1943 that a second edition appeared in 1949.

A current view of psychosomatic medicine is expressed by Wittkower (1974). He recognizes that the psychogenic explanations for diseases have not materialized, yet he feels that the psychosomatic approach has had a profound impact on medicine. O. Hill (1976) says
there is not agreement even on the scope of psychosomatic medicine, though he too feels that great contributions to the care of the sick person have been made by persons working under the banner of that field. He directs attention to the fact that prevention of disease is increasingly occupying the minds and scientific endeavors of many. He predicts that studying the psychological and social functions conducive to disease will become even more important in the future as workers strive to maintain health in the communities that they serve.

**Studies Relevant to the Field of Psychosomatic Medicine**

A number of studies will now be included to help indicate the extent of research. They include good bibliographic references with which one could begin a more detailed study of an area of interest.

**Epidemiological Studies**

According to Kagan (1975), the science of epidemiology is one which studies disease in groups of people, with a group defined as more than one person. Cooper (1964) proposed two lines of investigation in epidemiology: 1) to relate the incidence of specific diagnostic entities and the distribution of identifiable personal and social characteristics in the population; 2) to plot the distribution of illness especially in longitudinal studies. Eastwood (1975) describes his study along these lines.

The aims of his study were: 1) to examine the association between physical and psychiatric disorders by comparing the distribution of physical disease in an identified psychiatric index group with that
of a demographically matched, but psychiatrically normal control group; 2) to determine if there are subgroups within the general population which exhibit such an association in a significant degree; 3) to compare the degree to which the index and the control samples suffer from psychosomatic disorders; 4) to consider the feasibility of screening for psychiatric disorders according to accepted principles; and 5) to examine the various types of psychiatric syndromes throughout a random sample of a general population.

His findings confirmed his hypothesis of a positive association between psychiatric and physical disorders. A further delineation of these results showed that the index or psychiatric group had a significantly greater average number of major physical and major psychosomatic conditions than the control, or normal group. The index group also showed, on the average, a significant excess of major cardiovascular and coronary heart disease, and chronic lung diseases when compared with the control group. The differences between index and control groups lay in the patients with multiple physical disorders and those with none, and there was a tendency for the number of conditions per individual to increase with the person's age.

Regarding this same investigation, Eastwood and Trevelyan (1972) interpreted the findings as: 1) individuals with a long-standing psychiatric disorder are more subject to all forms of physical illness; or 2) those with physical disorders are more subject to psychiatric illness; or 3) there are people within the community who are subject to all types of illnesses. The differential response of members in the
community is fertile field for the epidemiologist as he attempts to define high risk groups. Eastwood also concluded that the screening method used in this study seemed quite satisfactory, and suggested that it could be used effectively in further work.

Eastwood felt his study was in line with the conclusions of Hinkle and Wolff (1957), that those most susceptible to illness were prone to all forms of illness, that illness was not randomly distributed in the normal population but appeared in clusters, both temporally and numerically; and that the essential difference between high and low frequency of illness, was attitudinal in that the individual perceived his life situation as threatening.

Of interest also in the epidemiological studies, and relating also to anthropology, is a review by Singer (1975) on the role of culture in determining similarities and differences in prevalence of psychosomatic disorders. Although there are beliefs that major differences do exist between cultures and specific illnesses, he concluded that there is insufficient evidence to prove this. Generally there seems to be a primary core of illnesses common to all cultures, though some real differences exist in a minority of cultures. He suggests the need for more studies and evaluation in this area, with variables including age, sex, social class and race.

Social Factors and Stressors

Social factors as part of the determinants in health and disease have also been studied. Ostfeld and D'Atri (1975) list some of the information overload experienced in technological societies, as: work
load, crowding, overstimulation, and mass communication. These factors result in people being selective and giving each stimulus less time and attention, with a consequent lessening of involvement with others. A good review of many studies involving social factors is the edited work of Newton and Levine (1968). Social deprivation, socialization, genetic factors and learning in temperament differences and behavior are investigated in both animal and human studies. Schaefer, in one article in this book, defends the use of animal experiments in behavior research while cautioning against inappropriate analogies to human behavior. With the assumption that behavior is a biological process (like digestion, respiration, etc.), he says the continued use of animals can be very fruitful in the investigations of human behavior.

One advantage cited by Bridger and Birns, again in Newton and Levine (1968), is that studies of the combination of intrinsic and experiential factors determining physiological and psychological functioning, can be valuable in prediction. Discovering infants who might be vulnerable to certain conditions could help in directing parents and other persons involved with their education, to the needs and assets of the children.

Rosenzweig et al. (1968) suggest that some of the effects of early experiences noted in later behavior, are influenced by changes in brain chemistry and anatomy that are due to the previous experiences. Noting that it has been found that changes induced by enriched experience are correlated with later learning ability, the authors suggest that the alterations found in laboratory rats reared in an enriched
environment might be the bridge between experience and later behavior. These chemical and anatomical brain changes in the enriched-experience rats differed significantly from changes noted in rats reared in a normal and in an isolated environment. Due to the nature of the study, which involved sacrificing the animals, it is not known just how the research could be correlated to human behavior.

Ilfeld (1977) noted that current social stressors and depressive symptoms appear to have a strong association, especially the stressors most closely related to marriage and parenting. Neighborhood problems, he found in his study, are not directly related to depression, unless the total number of stressors was large. The relationships within the family seemed to be the most important as related to health and/or depression.

Even though the social contacts in the smaller group are more important, as family vs. neighborhood, the quality of the larger support system in the community does make a difference. Kasl, Gore, and Cobb (1975) studied the effects of the stressful event, job loss. Of 44 persons involved in a plant shut-down in an urban setting, and 94 in a rural plant shut-down, it was observed that less disruption occurred in the rural setting, and the researchers hypothesized that the support system there was better able to help not only the individuals but also the community as a whole in the situation.

Rogers (1977) examined 113 males in managerial positions. Five groups of individuals emerged, each with different stress frequency patterns noted. However, work load was found to be a frequent source
of stress in all the groups. The findings did not relate to age, level of education, or type of industry. Seeing the date of the research article, it is not surprising that Rogers says that work is a major stressor in North American society, but others have their place too, and he names social and cultural environment, the family and the marriage partnership, and personality variables.

Work by the University of Rochester Medical Center group has produced interesting studies and hypotheses. The formulation of conservation-withdrawal by Engel and Schmale (1972) has already been mentioned. Schmale, Meyerowitz and Tinling (1970) outlined the teaching of the Rochester group on psychological factors in health and disease in a developmental perspective. They state there are specific somatic and psychic developmental processes viewed as likely determinants of a differential disease susceptibility, of the timing of the onset of illness with the subsequent patterns and course of illness, and of illness behavior in the presence of somatic disease, or the absence of it.

Object Loss

Schmale et al. (1970) also speak of pre-natal influences, the basic adaptive responses present at birth (fight-flight and conservation-withdrawal, both with somatic roots), and the mother-child relationship which advances from the physiological to the psychological and influences all future object relationships. They postulate that if mothering is absent for a sustained time, especially when the child is around one year old, that feelings of helplessness can develop. In a period of
of childhood, the person faced with the limitations of biological, intellectual and social structures may respond with hopelessness. These feelings and attitudes the child may carry into adolescence and integrate them into a conceptualization of illness. Schmale (1972) indicates that a psychic giving-up-given-up is an important antecedent condition in the appearance of symptoms leading to disease. Helplessness is the state of having to give up a desired external source of gratification, while hopelessness refers to the inability to satisfy one's own standards. These reactions, he states, are related to the inborn mechanisms of conservation-withdrawal, which are associated with certain activities of the CNS. A decade earlier, both Engel and Schmale had postulated the giving-up-given-up complex as operative in object loss prior to the onset of illness.

An important social loss receiving more recognition in research is that of bereavement. Rees and Lutkins (1967) found, in a small community in Wales, a death rate in bereaved persons, seven times over that of a matched, non-bereaved group in the year following bereavement. The risk of death was twice as high if the person had died outside the home. Birley and Connolly (1976) say that the initial studies on bereavement suggest that in a relatively short span it is followed by a raised mortality rate and some sickness in certain age and sex groups. The major disorder seems to be psychiatric, mainly grief reactions in widows under 65 years of age, but there is little evidence of psychosomatic diseases.
Clayton (1973) reviewed studies on bereavement and noted that there were few informative ones that investigated the morbidity in the first year following bereavement. What was revealed was that there was an increased number of physicians' visits, and she identified the main cause as psychological symptoms for which an increased number of tranquilizers and sedatives were prescribed. Whether this was due to bereavement per se or due to the lack of support ordinarily supplied by the person who died, is not indicated. This treatment was given mainly by internists and general practitioners. Data on psychiatric hospitalization in this first year plays but a small role in problems leading persons to seek psychiatric help.

Priest and Crisp (1973) studied 128 bereaved persons on their adaptation in the first year after bereavement, and compared to a control group of 600 persons, there were few associations between bereavement and positive responses on the Middlesex Hospital Questionnaire, a brief self-rating inventory intended to cover the full clinical range of neurotic illnesses. A different perspective was taken in the study of Kaij, Malmquist and Nilsson (1969) on women having spontaneous abortions, and a matching control group. The results were that the index group had a history of deceased fathers more frequently than the control group, and the difference was emphasized if there were early neurotic symptoms combined with the bereavements. It was also found that having a better relationship with the father rather than the mother, yet with no neurosis present, was more common in the index group. No doubt the social stress of bereavement will be researched in greater depth.
but these few examples demonstrate the varying directions that have been or will be taken in investigating social situations as possible precursors of disease.

Coping Responses and Control

It is also recognized that the very avenues intended to alleviate suffering and prolong life are themselves sometimes stressful conditions. Surgery and dependence on life-saving machines, such as respirators or dialysis machines are among these circumstances. Auerbach and Edinger (1977) confirmed this in their study of 45 surgical patients, through the use of pre- and post-operative testing of anxiety. Abramson, Garg, and Angell (1975) suggest ways of identifying the respiratory or renal failure patients who might benefit from therapy to help them cope with the stress associated with their dependence on the dialysis machines.

Bringing to light alternate ways of coping would be therapeutic to the person exposed to any of the stresses mentioned. Weiss (1968, 1971a, 1971b, 1971c), in the series of experiments mentioned earlier, showed that stress is not only a function of feedback but also of the number of coping responses available. With immediate and positive feedback and appropriate coping responses, he demonstrated that stress reactions are alleviated. Averill (1973) connects this with the hypothesis that personal control over impending danger would help reduce harmful stress and the concomitant responses. In reviewing the literature on this point, he concludes that, generally speaking, the relationship
of personal control to stress is primarily a function of the meaning of the control responses for the individual, and not just of the effectiveness of preventing or lessening the impact of the threatening stimulus. Meaning, then, must be considered as influencing the cost, in physiological and psychological terms, of the coping mechanisms used.

Again, it is useful to consider whether the agent intended to bring relief, such as psychological and/or pharmacological treatment, might itself be a threatening stimulus. Rioch (1975) mentions that some are concerned about this, but his own opinion is that manipulation by the two named agents is not at present a great danger. His reasoning is that man wants to be the controller, but not in all areas of his life. Man lives paradoxically wanting to be told what to do, yet also wanting to be the decision maker in the area of his personal expertise. Rioch says that since decisions are made on the basis of prior experience, knowledge of consequences can influence decisions and behavior. It may be too, that with overstimulation, man conserves his energy and uses it in the decision making in the particular areas he chooses. With more knowledge, individuals have a greater store on which to draw in making their decisions and exerting a measure of wanted control in the face of potentially harmful stimuli. Rioch adds that the danger lies in physical control of the channels of disseminating knowledge.

We have drawn upon some studies that bring to light some of the elements outside of man which enter his life and which, in some measure, he allows to influence him. These have been epidemiological and social studies, early experiences and object loss both to infants and children.
and to adults, and the experiences of being dependent on machines, drugs, or psychological aids for life maintenance. We turn now to the therapies which have helped individuals to rise to the challenges presented by internal and external systems.
CHAPTER III

THERAPIES

Although there are dozens of therapies in use today, the literature reveals comparatively few specifically for treatment of problems combining the psychical and somatic aspects. Because of its place within medicine, psychiatry has been the leader in treatment. However, as Freedman, Kaplan and Sadock (1975) observe, psychiatry is in a state of rapid development and change and therefore commitment to any one approach is unwise. Kolb (1973) espouses this same thought, saying that many techniques may be used in psychotherapy, and emphasizes that the important therapeutic factor common to all of them is the therapist-patient relationship. He specifies four divisions of psychotherapy: 1) the genetic-dynamic techniques, including psychoanalysis, psychobiological therapy, superficial expressive therapy, hypnosis, and suppressive therapy; 2) supportive therapy; 3) behavior therapy; and 4) group psychotherapy.

Nature of the Relationship

Strupp (1974) stresses the importance of the therapist-patient relationship. He also emphasizes the skill of the therapist in bringing into the therapeutic situation, many techniques and specifically states that these are shared with education and other social influence processes.
In this sense there is a controlling aspect of psychotherapy, but a vital point is to bring the external control into an internal control exercised by the patient or client.

Fiedler (1950) spoke of the relationship as the core of the therapy. In a study he did, "expert" and "non-expert" therapists representing the psychoanalytic, Adlerian and the client-centered approaches entered into therapeutic relationships with clients. The hypothesis was that the "experts" would show greater similarity across the therapies than "non-experts" within the same frame would show. It proved correct. Fiedler added that from this study, no conclusion could be drawn about the relative merits of the three approaches.

Likewise, Rogers (1957) gives credence to the importance of the relationship. He said there are several conditions that he feels are necessary and sufficient for therapeutic change. A relationship exists between two persons, of whom one (the client) is in a state of incongruence, while the other has the opposite quality. The therapist must also have unconditional positive regard for the client and an empathic understanding of his internal frame of reference and be able to communicate this to the client, at least in a minimal way. Rogers said that his hypothesis does not state that these conditions apply to any one type of therapy or client, nor that special professional knowledge is a prerequisite, nor is it stated that a therapist must be accurate in diagnosis. It can be noted here that Matarazzo (1971) said that descriptions of attributes of an "ideal" therapist were as yet not clearly defined, and that some dimensions of therapy were likewise
not yet clear. For the latter, she referred to specific procedures for desired behavior change, and the notion that different kinds of clients respond differentially to therapist characteristics and approaches. When these elements are more fully investigated, it is possible that a client/patient could co-operate to a greater degree in the choice of therapy and therapist.

Some examples in the medical area will reinforce what the counselor may have already learned experientially about the therapist-client relationship. Engel (1973) brings to light the disruption that can happen when a physician and patient have different concepts of disease. Physicians may think they overcome it by explaining the symptoms and the course of the disease from the medical standpoint, but a failure to regard the personal and cultural value systems of the patient may render the education ineffective.

Through their experience with patients receiving radiation therapy, Rotman et al. (1977) have developed an interview system to help them and other staff members recognize the emotional factors present in a patient, as well as their usual coping responses. They feel this strengthens the communication between the staff and the patients in their crisis period of treatment and in the recovery period. They hope that the information gained from many patients may also lead to a clarification of the contribution of both psychological and non-psychological factors in diseases such as cancer.

In the fairly new field of genetic counseling, the recognition of the individual needs of the counselees is stressed by Fuhrmann and Vogel (1976). Their counseling can have far-reaching effects on the
lives of those seeking their help. The giving of the genetic informa-
tion should be done, they say, with an awareness of the patients' per-
sonalities, education, and individual situations. The human contact is
all important.

Lucas, Duncan, and Piens (1976) explicitly state that both physio-
logical and psychological factors must be taken into consideration when
building a therapeutic relationship. They demonstrated this in their
treatment of a young girl suffering from anorexia nervosa. The patient
is unique in each instance, even though the disease may have been treated
many times previously. The possibility of fatality in this and other
illnesses may heighten the care and concern of the physician. However,
a doctor's reaction may be just the opposite when treating the chronic
somatizer, that is, one who has bodily complaints but without evidence
of organic pathology. Even in this case, Lowy (1975) suggests care in
establishing a relationship that will be helpful and not destructive to
the patient or to the physician. He exhorts the physician to be aware
of multiple predisposing factors such as social, cultural, and person-
ality, that may be at work in the somatizer. Lowy suggests that the
ultimate management is prevention, thus avoiding collusion by the physi-
cian as the easiest way out of a difficult situation.

Comparison Studies

Luborsky, Singer, and Luborsky (1975) tallied comparison studies
of various psychotherapies and noted that most of the research studies
found insignificant differences between therapies in the proportion
of patients who were treated and improved. The main groupings and results were: 1) group vs. individual psychotherapy--no significant difference in improvement was shown between the groups except for one study in which the schizophrenic patients improved more in group work; 2) time-limited vs. unlimited-time psychotherapy--no significant difference in improvement was noted; 3) client-centered therapy vs. other traditional therapies--again no significant differences, though there were few studies in this grouping; 4) behavior therapy vs. other therapies--the former, which usually were techniques involving desensitization, had better results. However, when drugs (as medication) were used, the patients did show significant improvement over those who received any type of psychotherapy. When the pharmacological agents were combined with psychotherapy, the results were better than when either was used alone. One conclusion reached by Luborsky and his co-workers was that most patients showed improvement regardless of the type of therapy they received.

In a recent study by Sloan et al. (1975), their results indicated that behavior therapy had a slight edge over psychoanalytically-oriented psychotherapy. Though the subjects were persons seeking help in a psychiatric clinic, and physical problems were not included, the study has relevance here as the authors made some comparisons of the two therapies used. Though they seem quite different, they concluded there are many areas of similarity and listed 15 elements that the therapists of both approaches had in common. In a foreward to Sloan's book, Judd Marmon noted that the question of whether the effectiveness
of the two therapies over a control group was due to their common factors rather than the specific theoretical orientations, was not answered. The patients themselves attributed their improvement to several factors: 1) the personality of the therapist and relationship with him; 2) the insight gained into their problems, and into themselves; 3) the practice of working through issues; 4) and the opportunity for catharsis due to trust within the relationship. Judd feels these match the elements he thinks are basic to all psychotherapies: 1) release of tension; 2) cognitive learning or insight; 3) operant conditioning effected by manifest or covert reward-punishment cues from the therapist; 4) identification with the therapist; and 5) the working through by reality testing.

In defining psychoanalytically-oriented psychotherapy, the authors said it is based on psychoanalysis' two major assumptions, which are the existence of unconscious mental processes, and the interpretation by the therapist. Sloan and his colleagues continued by saying that behavior therapy assumes that the patient's maladaptive behavior is his effort to reduce anxiety by escape or avoidance, and that the behavior is maintained by its effects. No common behavior therapy has yet evolved, but three main techniques are used: desensitization, aversion therapy, and operant conditioning.

Behavior Therapy Models

Though many of the studies involving therapy that have been cited elsewhere in this study apparently have a psychoanalytic orientation,
there is a growing body of literature on behavior models. Wick-
ramasekera (1976a) terms them the application of the principles and
techniques of laboratory psychology to the clinical environment. Marks
(1976) speaks of behavior psychotherapy, and notes that both the
theoretical and practical aspects of it have changed quite a bit over
the past few years. Because it involves the formulation of clear goals,
and measurement of changes is possible, he says it is the treatment of
given choice for some disorders classed as psychiatric disorders, such
as phobic disorders and obsessive-compulsive rituals. Behavior therapy
is also helpful in some sexual malfunctions as impotence and frigidity.
Particularly for social rehabilitation of persons suffering with schizo-
phrenia, and some personality and organic defects, a behavioral approach
is clearly useful in connection with other therapies. He remarks that
in England, the demand for behavior therapy has outdistanced the supply
of trained personnel, and so there they have instituted an 18-month
training program for nurses. These nurses, then, are the primary thera-
pists on a therapeutic team, which is headed by the physician, and may
also include psychologists.

Wolpe et al. (1973) also concluded that ill-defined fears that
cannot be formulated into clear goals preclude a successful use of be-
havior therapy. But he reports that over one hundred cases treated by
systematic desensitization have been successful.

The American Psychiatric Association (1973) published their
Task Force Report 5 on the use of behavior therapy in psychiatry,
Shapiro (1976) examined the descriptions given in this report and
concluded that the clinical evidence cited rightfully gives impetus to consider behavior therapy seriously. Yet the evidence, he feels, is not yet sufficient to indicate that behavior therapy in a psychiatric setting is a major break-through. He noted that very few studies have Eysenek's criteria of a control group, baseline measurements and follow-up facts. While he does encourage clinicians to learn behavior therapy from a skilled therapist, yet he considers it more a fad than an enduring fact on the scene. A colleague, John Brady (1976b) says Shapiro did not deal with the issues adequately in writing his critique. The discussion seems to point to the growing recognition of the use of behavior therapy in psychiatry. Though some reports on the efficacy of behavior therapies are descriptive rather than experimental, there is, nonetheless, quite a variety.

Furst and Cooper (1970) used imaginal and interoceptive stimuli in a unique desensitization of a patient with a fear of heart attacks. Hersen and Eisler (1973) report success in the treatment of psychogenic tics with techniques such as massed practice, feedback, desensitization and aversion. It is notable that they, too, call for more careful evaluation in terms of measurement techniques and follow-up assessment. Jordan and Whitlock (1972) examined the use of conditioning techniques with patients with certain skin disorders. Recognizing that there seems to be a strong hereditary component for a basically irritable skin, yet when there is also a strong emotional etiology, behavior therapy has been successful in treating the patients. The authors, by employing the
use of psychometric scales and control groups, also tried to pinpoint the emotional factors present and suggest it could be a latent hostility–resentment.

While Shapiro's concept of behavior therapy was a broad one, Savodnik (1973) focuses on the Skinnerian model and philosophy as a part of current technological mentality whose goals seem to be efficiency and expediency. He says this approach to persons is certainly contraindicated by psychiatry, whose task it is to understand persons as persons. This attention to persons as individuals is an element to be considered in the expectations of each patient. Wickramseker (1976b) reviews the behavioral literature of this expectancy or placebo effect in the management of fear.

Couples

Regarding the use of behavior therapy for sexual problems, Brady (1976a) says the therapy must deal comprehensively with the interpersonal, organismic and environmental factors operating to maintain the sexual dysfunction. The characteristic way of collecting, analyzing and using data in the treatment program would be evident if behavior therapy is used. It seems that the approach instituted by Masters and Johnson (1976) incorporates it in the principles they use for their new sex therapy. First they advocate a sound knowledge of the biologic processes and appropriate treatment of these if necessary. When a couple as a unit is then introduced to the psychotherapeutic situation in a short-term intensive program, there follows education and practice in
techniques of both verbal and non-verbal communication. Goals are definable and changes and progress towards the goals can be measured.

Sager (1976) discusses the relationship of marital therapy and sex therapy and sees them interrelated in most cases. Finding the new sex therapy an effective treatment, he says a systems approach can then be utilized for the whole therapy and that both new and old treatment methods can be drawn upon. The author certainly does not feel bound to an insight therapy only. That the acquisition of insight is not always sufficient gives a Lancet writer (1973) reason to endorse both operant conditioning and biofeedback in counseling work with persons presenting sexual problems. He cited good sexual behavior as reinforcing in itself, and helpful in establishing or adding to self-esteem.

The importance of recognizing which therapeutic approach is likely to be of best service to the clients is one conclusion of a study by Frank, Anderson, and Kupfer (1972). An assessment of 29 couples seeking marital therapy and of 25 couples wanting sex therapy revealed two distinct profiles. In the former group, there was antagonism and dissatisfaction between the partners, while in the latter, there was affection, the ability to communicate with each other and to take a more thoughtful approach to their problems. With these givens, the treatment would vary, but the authors also say that the therapists in each area should also be trained for the other area.

Group Therapy

From the treatment of two persons (couples as outlined above), we go on to the therapy of groups of persons, known or unknown to each
other at the beginning of treatment. Lieberman, Yalom, and Miles (1973) bring out some points regarding the learning that takes place in group situations. Thought is an essential part of the learning process. Neither self-disclosure nor feedback alone constitute the learning which seems to be closely bound to the meaning the experience for the person.

Kaplan and Sadock (1971) compiled a body of information on different types of groups. One contributor, A. Stein (1971) dealt with group therapy for psychosomatically ill persons. He listed more than a dozen approaches being used by various therapists for this group of persons. He says it is estimated that 60-90% of the patients seen by general practitioners and internists have some psychosomatic disorder. Without individual investigation of the patient's emotional and environmental concerns, this estimation may be the mere labeling of a somatic complaint as psychosomatic that accounts for the high percentages given. This is not to say they are not correct!

A. Stein (1971) stated that group therapy had been used at Mount Sinai Hospital in New York since about 1945. He gave some results of the groups as to improvement or lack of it, but admitted there had been little follow-up investigations. He also reported that counseling and orientation groups had been established for both patients and for their families, and that leaders for these have come from professional groups other than psychiatrists, such as nonpsychiatric physicians, social workers, nurses.

For a specialized group of patients, Hollon (1972) reported the work done with patients on chronic hemodialysis, their families, and the
hospital staff. Based on a systems approach, monthly meetings of the persons named above plus representatives of strategic agencies, help all concerned face the problems arising from or made more prominent by the reliance on machines for life maintenance. From these meetings, the need for deeper psychotherapy may be brought to light, and the willingness of persons to seek it, enhanced. The staff also have the opportunity to look at their own feelings which often influence the course of treatment.

Involving the staff in the therapy sessions is sometimes referred to as milieu therapy. The directions taken in trying to establish such an approach is outlined by Buck (1972). The staff tried asking questions such as "What causes depression?" and learned that this provoked an intellectual discussion. When confrontive interpretations were made, silence followed. After several months, a participative, humanistic approach was taken and the resulting sharing has been supportive both to patients and to the staff.

A variation of the group therapy is the use of more than one therapist. Solomon and Morrison (1972) relate the beneficial effect of this mode of treatment for a 15-year old girl with anorexia nervosa. The therapists assumed different roles so that the patient had scope for her ambivalent feelings and actions until she could integrate the nurturing and critical aspects within herself and deal adequately and realistically with them. For the therapist who still feels more comfortable with individual psychotherapy, Gerber (1972) notes that techniques from group therapies have been successfully borrowed and used. There seems
to be a circular reinforcement with the notion of the holism of a person and the importance of the various internal and external factors that support, hinder and interact. It is then reasonable that therapists use new approaches to enhance their traditional training. The literature indicates that this is happening.

Another specialized type of group therapy is found in a work clinic established in San Francisco (Brodsky and Byl, 1976). The clinic deals with work-related health problems because it is an important area of health behavior. The patient's relationship with his work is considered the door to many somatic and emotional problems. The team of specialists includes the fields of medical anthropology, psychiatry, clinical psychology, vocational rehabilitation, public health, internal medicine, orthopedics, physical medicine and rehabilitation, and social service. This certainly reflects the concept of treating the whole person, and it is hoped that data from the clinic will provide bases for further work in this area.

Family Therapy

A different unit for which a model of group therapy is used, is the family. Guerin (1976) has drawn together a number of theories and experiences which generally follow a system theory. Thus, Liebman et al. (1976) describe the treatment of 25 families, each of whom had a child with a chronic asthmatic ailment. Using what they call a structural family therapy, the authors tell how the reinforcing factors within the family structure were detected and eliminated, with these
results: the intensity and frequency of the asthmatic attacks were
lessened, the idea that the child was a medical cripple was reduced, the
child was able to lead a more normal life, and the general tone of the
family living was increasingly more positive. Liebman and his colleagues
feel that prevention belongs to the pediatrician, through proper edu­
cation at the onset of the asthma. Feldman (1976) adopts the same
philosophy of focusing on the entire family, rather than the "sick"
individual. Education and control in the therapy situation is directed
toward the family gaining insight and then working through their diffi­
culties in the sessions and in their family living situations.

Luban-Plozza and Comazzi (1973) believe the sick child is some­
times the carrier of the family conflict. Educating the family to a
recognition of this fact is the work of the physician, they say. The
therapy they describe, however, is more insight oriented than working
with the family toward desirable changes.

To the person conversant with Adlerian counseling, this is all
familiar. Nikelly (1973) places Adlerian therapy in the stream of men­
tal health care which often has concomitant somatic problems. Adlerian
practice, he says, is applicable in the prevention realm as well as in
the healing realm. Using a didactic and educational approach, Adlerian
therapy with its many techniques can be successfully learned and used by
nonprofessionals in both group and individual therapy. He gives examples
of innovative therapists who have created new approaches and techniques
using Adlerian principles.
Physicians are using approaches other than the psychoanalytic. For instance, Kertesz (1973) described the use of transactional analysis and Gestalt therapy in the work of the International College of Psychosomatic Medicine in Buenos Aires. Harper, Bauer, and Kannarkat (1976) see learning theory and Gestalt therapy as compatible.

Maultsby and Graham (1974) did a study with 30 subjects, patients of an out-patient psychiatric clinic. Half the group received immediate treatment and half served as a control group during that time. The chosen therapy was Ellis' rational-emotive psychotherapy (RET) which is described (Ellis, 1969) as being based upon the idea that irrational philosophies underlie neurotic behavior and can be self-destructive. Maultsby and Graham (1974) referred to the specificity-of-attitude theory discussed earlier in this paper. The theory holds that when the disease is known, the patient's attitude can be predicted from it. With their subjects, they found a change in attitude as measured on psychometric scales, after treatment with RET. They suggest that if it is possible to change attitudes with RET, and that specific attitudes are indicative of somatic disorders, then the potential for or the actual manifestation of a disease might be altered with RET. Patterson (1966) makes an interesting observation on RET when he notes that Ellis' results are probably more influenced by their relationship with the client than he (Ellis) would admit.
Other Mind-body Disciplines

The use of Orgone therapy for tension headache is described by Nelson (1976), with a brief presentation of three cases illustrating it. Goleman (1976) sees meditation as an adjunct to psychotherapy, and notes that some aspects of it have been incorporated into modern therapies, and he names Gestalt and psychosynthesis in the United States, autogenic training in Europe, and Morita in Japan. He calls the state caused by or concomitant with deep meditation and relaxation, a "global self-desensitization" (p. 52). Though there are different forms of meditation, Duffy (1976) feels the appearance of some, as transcendental meditation, are more of a fad. In this he is merely stating that the extreme popularity of a particular movement, not the underlying principles, is the thing that will give way in time. He does not discount faith as it enters into healing, and points to Hippocrates who said that worry and anxiety can cause disease.

Duffy sees the doctor-patient relationship as one embracing a faith and confidence element, and the practices of yoga as stress-reducing. He calls acupuncture a fad also. An explanation of the philosophy and use of acupuncture is given by Stephen Chang (1976). He says that it is a tenet of Chinese medical philosophy that a person himself is responsible for his health. The physician as teacher and guide helps the individual to a return to health, using herbs, acupressure, acupuncture or a combination of these plus some good common sense. He maintains that acupuncture can be used for prevention, and for relief of
pain. In the latter case, it leaves the body free to restore its balance of energy in a healing way.

**Relaxation, Hypnosis and Biofeedback**

These three therapies have a relation to each other, and are sometimes used in combination in the psychophysiological treatment of somatic problems.

Relaxation

The relaxation response has been particularly used with persons having essential hypertension, high blood pressure. Benson, Greenwood, and Klemchuk (1975), Shoemaker and Tasto (1975), and Taylor et al. (1977) describe the methods of inducing the response and the results they obtained. The latter study included a group receiving nonspecific therapy and a group receiving only medical treatment, and the group instructed in relaxation therapy. All three groups had been, and continued on a medical regime with medication during and after the study.

The relaxation group significantly decreased their blood pressure (BP) compared to the other groups. A six-month follow-up indicated that this group had a slight increase in BP, although they were still below the levels achieved by the other two groups, who however, continued their modified gains in decreasing BP. Taylor and his colleagues say that if it is true that both muscular relaxation and biofeedback work through the same mechanism that affects physiologic arousal, then the former is the treatment of choice from an economic standpoint. They also warn, and this is not always noted in such studies, that continued
pharmacologic therapy ensures that consistent reduction of BP, while
this has not been proved for relaxation therapy.

Hypnosis

There is a large body of literature on hypnosis, including its
use in the alleviation of somatic symptoms. Frankel (1973) describes
hypnosis as an experience in which the individual refocuses his atten-
tion, decreases his initiative, and is amenable to increased suggest-
ability, with heightened ability for fantasy production, and can toler-
ate persistent reality distortion and alterations in memory functioning.

Lewis Wolberg in the preface to Crasilneck and Hall's work
(1975) says hypnosis is an altered state of consciousness, character-
ized by an individual's increased ability to change habit patterns,
motivations and self-image. It is also possible to achieve alterations
in physiological functions that are usually inaccessible to psychologi-
cal influence. Wolberg further states that currently it is the goal of
hypnotists to treat the entire person. Therefore consideration must be
made before attempting to completely remove a symptom which the patient
may "need" until an appropriate replacement is provided. Sometimes this
is accomplished in hypnotherapy, or by partial removal of the symptom,
or displacement of it. He views hypnosis as the treatment of choice for
some conditions, including pain problems, and some psychosomatic and
dermatological cases. Crasilneck and Hall discuss the theories, the use,
the precautions necessary, and the possible dangers of hypnosis. Its
use with medical, surgical and dental patients is described here and
also in the recent work of Hilgard and Hilgard (1975).

Wickramsekera (1976c) says that hypnotic procedures arrange for
the presence of several powerful overlapping psychological conditions
(reduction of critical judgment, total role involvement) that increase
the probability of altering a number of complex human behaviors. The
shared features that hypnosis, behavior therapy and biofeedback pos-
sess is the long conclusion to his book. As to hypnosis, it is inter-
esting to note that he says that it is probably the only technology of
social influence today in which the subject can be matched in advance
with the intervention properties of the therapy.

Frankel (1973) describes the results obtained with 50 patients
with various symptoms. These persons had been referred by psychia-
trists or internists, pointing up the close association that can exist
between the varying professionals. In fact, the authors mentioned
above (Hilgard and Hilgard, 1975; Crasilneck and Hall, 1975), in their
works, point out the advisability of this when working with patients
seeking pain control. Frankel sees a necessity of understanding the
dynamics underlying behavior or symptoms of an individual, implying that
the skilled hypnotist is not just technique-knowledgeable. He sees,
too, that incorporating other techniques, such as behavior, are most
useful. This extension is also noted by Sacerdote (1972) when he names
four modes of hypnotherapy: suggestive, behavioral, hypoanalytic, and
psychedelic. Apparently the choice is somewhat determined by the
therapist's own feeling of comfort with one or the other mode. Wolberg
(1975) said that it is not yet known which is the most significant variable in helping emotional problems in patients, -- the special techniques, the skill with which they are used, or the personality and empathetic abilities of the therapist. In every case, however, the motivation of the patient influences the degree of success. That the patient is responsible in this mode of treatment, is seen when the hypnotist teaches and encourages the patient to use hypnosis himself. One good explanation of autohypnosis is that of Maher-Loughnan (1976).

Biofeedback

The literature on biofeedback training has mushroomed. Wickramasekera (1976d) describes the technique of biofeedback as a training procedure in which continuous and accurate monitoring of the physiological response is accomplished with immediate feedback to the person, who presumably is motivated to alter the response. Some of these include electroencephlogram (EEG), responses of alpha and theta brain waves, heart rate, BP, muscle tension, urine formation, gastric motility, salivation, skin temperature and blood flow. The author notes that it has been prudent to regard this training as a form of operant conditioning when persons other than physicians do the training. However, it seems to be a form of self-control that is more complicated than that.

Some alterations reported, other than the monitored ones, are feelings of floating, lightness, expansion, dreamy states and feelings of competence. If these mood alterations prove valid and in line with
physiological etiology, it would be possible for clinicians to consider using these procedures to induce positive affective changes in individuals, even as hypnosis has proved valuable in altering the values of hypnotizable subjects. Biofeedback is certainly a promising technique, but Wickramasekera (1976d) points out that there are as yet no double-blind, well-controlled studies with long-term (five to ten years) to substantiate specific effects obtained through its use. Animal research here does not carry over, for the clinician wants to help the patient learn control rather than conditioning the autonomic and CNS responses.

Segal (1975) finds it helpful to remind people that it is not a panacea, particularly in organic malfunctioning, as there seems to be a point of irreversibility in organ damage. However, he sees it as an avenue for returning to a more holistic medical care, one in which the patient knows and assumes his responsibility.

Specialized units, such as the Sensory Feedback Therapy Unit at New York University Medical Center and the biofeedback program at the Research Department of the Menninger Foundation in Topeka, Kansas, are operating in both laboratory and clinical areas. Some studies issuing from these and other centers give evidence of successful use of biofeedback training for deep relaxation training (Green et al., 1969), for the reduction of anxiety tension (Green, Green, and Walters, 1974), and for self-regulation of migraine headaches (Sargent, Walters, and Green, 1973). Active in this field too, the researcher Wickramasekera (1973)
notes the use of biofeedback for migraine headache, and for tension headache (Wickramasekera, 1972).

Using biofeedback training for self-regulation of pain has been attempted by Melzack and Perry (1976), and for the management of pain in rheumatoid arthritis by Wickramasekera et al. (1976). The former study indicated that best results were obtained when the training was used in conjunction with hypnotic training. This by no means exhausts the list of conditions for which biofeedback has been used. The intimate connection that such training has with the laboratory may make it easier to design studies to report on its efficacy as well as to improve the training.

Other

Another therapy developed in treatment of psychosomatic symptoms is that developed by Sidney Margolin. Kaplan and Kaplan (1956) describe his approach, anaclitic therapy, as having the goal of helping a patient resolve some of his infantile conflicts and fixations through a physical and psychical regression, and then ascending to a mature level of functioning. An example of anaclitic therapy is given in a case study by the attending physician, Peter Sifneos (1964). The tremendous demands it makes upon the physician indicates the difficulty in applying this therapy except in selected cases.

Summary of Therapies

This review names some of the pertinent therapeutic models used in treating both psychological and physical symptoms and diseases today.
It points up the broadening recognition of the need of man to develop and mature holistically. Throughout this paper, the intent was to delineate studies representative of the topic. The primary complaint of a person may be physical or psychical, but if the symptom is greatly influenced by, or has an influence upon the other (physical or psychical), treatment should include both aspects. It may or may not be given by the same person. In this review of therapies, the importance of the relationship between the therapist and client/patient was first examined. The researchers cited (Strupp, 1974; Fiedler, 1950; Rogers, 1957) could have been supported by many others in relation to this primary aspect of therapy.

A look at comparison studies of psychotherapies showed that no endorsement of specific approaches in therapy can be made at this time. A skilled therapist (i.e., one having clear assumptions of the nature of man and having theoretical formulations stemming from that; one having qualities of warmth and genuineness; one having a good grasp of communication and of techniques) chooses an approach with which he is knowledgeable and comfortable. This variable, the skilled therapist, may be all important in the success of the therapy. The studies usually do not allow for this. The criteria and measurement themselves are not uniformly held and applied (Truax and Mitchell, 1971). It is becoming more clear that therapy or treatment is not something to be "used on" or "done to" a person. In theory, this may have been assumed. Therefore, effective means are sought and desired in helping a person take
responsibility for his therapy, his behavioral and attitudinal changes, for his physical and psychical health.

The studies in this section indicated some of the therapeutic approaches being used. There are other therapies that might have been included, but they were not strongly represented in the literature sources used for this paper.
CHAPTER IV

SUMMARY, CONCLUSIONS, RECOMMENDATIONS
AND SUGGESTIONS FOR FURTHER USE

This chapter is divided into four sections. The first is a summary of the preceding chapters. The second section deals with conclusions drawn from the study. The next part is devoted to the application of these, and given as recommendations. The last statements are suggestions for further use of this paper.

Summary

The aim of this study was to examine the relationship of emotion and illness as it has been presented in published works of both explanatory/descriptive and empirical studies. To understand the present concepts underlying this relationship, it was necessary to look at the foundations. Therefore, in this paper, the ideas of sickness and health as related to the emotional life of persons were traced from prehistoric times to the present. Whether man was composed of two separate elements, body and soul/mind/spirit, or whether he was a total being may not have been an explicit question in those early times, but certainly the view of man's nature as holistic or dualistic was implicit in the medical, spiritual and philosophical practices and ideals of each age and culture.
Originally, it seems that man was considered as a whole, but the introduction of dualistic concepts in the 5th century B.C., and again in the 17th century A.D. influenced the modes of treatment for sicknesses. The first period was associated with naturalistic observations; the second was associated with scientific explorations made possible through advancing technology. Through the 18th and 19th centuries emphasis was placed on discoveries relating to the human body and its functioning. The incorporation of mathematical formulations, physics and chemistry heightened the interest in seeking the causes of disease. This was a heavily physical-oriented approach.

Throughout these times, however, there were those who felt that this mechanistic view of man was incomplete. Other factors entered into the total state of a person. The most observable was that which seemed to issue from the person himself, an emotional state. With a high degree of reformist thinking, proponents of this view attempted to swing the pendulum to the opposite stance where psychological factors were held to be the cause of disease. The persons first associated with this movement were, logically, the psychiatrists who were engaged in the study of the mind, emotions, and their psychological manifestations.

As physicians, they could be aligned with neurology, but the increasing specialization in all fields of medicine soon gave them room to separate themselves. This division was all the more supported because methods of treatment used in general medicine were not effective in treating some mental disorders, mainly schizophrenia. The necessity
for psychiatrists to find their place and to follow their desires to help the mentally ill led them to methods of treatment introduced from the observations of Freud. With a medical background, psychiatrists felt competent to combine their knowledge of psychological formulations with hypothesis about the relationship of psychic illness to physical illness. This effort became known as the field of psychosomatic medicine. Its origins and course were described in this paper.

The postulate for a multicausality of disease was followed in this paper with the subject of stress outlined in more detail. The physiological functioning of the endocrine system was briefly treated as it is one of the important areas of investigation at this time in relation to the interaction of emotion and bodily functions.

Of interest to the clinician, of course, is how to incorporate this knowledge into his practice. The section on therapies presents some of the work being done with various therapeutic approaches. The growing recognition that many factors interrelate in the life and being of an individual was seen in some of the studies. There was no evidence of any specific therapy being the total answer, but some of the studies that were cited, indicated that particular approaches are more effective for specific problems. Many of the studies in this paper call for more and better designed research.

Conclusions

Some conclusions can be drawn from this review. The first is that the amount of literature dealing with almost any phase of the
interrelation of emotion and illness is staggering. A decision to investigate any of the areas requires careful planning, and perhaps assistance from someone familiar with a particular subject.

A second conclusion concerns psychosomatic medicine. There is no basic agreement as to the boundaries and even the existence of such a specialized field of medicine. However, it is no longer necessary to argue the point. The term is often used without limiting or explaining it. Of greater importance is the fact that disease and emotion are interactional. On the practical level of treatment, there is some resistance to acknowledging this and to using an appropriate therapy for the psychological problems. On the level of laboratory research, there are difficulties in bridging the gap between physiological and psychological mechanisms. Yet there are researchers who are seeking methodologies whereby the relationships can be explored.

Thirdly, the belief that many factors can be included in the etiology of diseases is more generally accepted today. Disciplines beyond the behavior and health sciences are contributing theories and data relevant to health and disease states of individuals and populations. These not only give new light on the subject but also make it important to find ways of incorporating the data when dealing with a person's health state.

A fourth conclusion is that the number and variety of therapeutic approaches being used for the treatment of symptoms or behavior involving the somatic and psychic systems, is increasing. Behavior therapy particularly has its supporters. There are a number of studies
describing its use, yet there is a need for follow-up assessment for determining more accurately the efficacy of behavior techniques. Long-term follow-up studies would also enhance the use of other approaches.

A fifth conclusion easily follows from the last one. That is, there is a growing interest in prevention of disease, and in enhancing health states. A counselor may not be interested in working directly with the physically ill. Such a therapist, though, who has some understanding of the relationship between emotion and illness, can be aware of his role in prevention of disease. Successful therapeutic work on the psychological plane with a client might greatly influence any potential disease factors operating within that individual.

**Recommendations**

Some applications flow from this study. They are addressed to two groups: the persons in the field of therapeutic counseling, and the educators.

For the counselor or therapist working with persons who have psychosomatic difficulties, it is recommended that a background of the physical symptoms be obtained through reading and/or consultation with someone who understands the particular area. Clinical experience with medical personnel would be invaluable, though perhaps difficult to obtain. Practicum experiences and volunteer service may open the door to further collaboration with medical personnel.

In clinical work, the therapist is encouraged to develop his observational skills and to collect data on his experiences with clients regarding the association of somatic and psychological
problems. It is also necessary for the therapist to know when to refer an individual for specialized treatment. This, in part, can be accomplished by getting information from the client, e.g., gross measurements on sleeping and eating behavior, etc.

Though I have said that there is already a great amount of literature, it is important that clinicians share their knowledge and experiences with others. Accurate data will strengthen the reasons for using or discarding various approaches used in counseling.

The counselor or therapist desiring to work in areas that combine treatments for physical and psychological problems should become aware of the possibilities that official recognition might be required. The issue of licensure or certification may have rights or limitations in it that could affect the professional possibilities of functioning in these areas.

Some recommendations can also be offered to the educators in the health, social, and behavior sciences. The educator should become aware of the complexity of disciplines involved in health services and research. He should be knowledgeable about resources for the student who is interested in learning and gaining clinical experience in areas that involve treatment for both physical and psychical problems.

The educator can give valuable services to the community by supporting programs that foster the idea of educating the public to: 1) health resources available; 2) learning how to choose from these resources to obtain the desired information, therapy, etc.; 3) greater self-responsibility in both health and disease states.
The researcher and the clinician have been encouraged to engage in research. In the event that the educator does not combine his role with one of the above, he is also encouraged to foster research. His sphere of influence may give him much opportunity for this.

**Suggestions for Further Use**

This study was designed to give information from medical sources not conveniently available to the counselor or therapist. There is ample scope for further research in any of the areas reviewed here. Also, the references cited are useful in themselves, while also pointing to more sources through their own bibliographic material.

In a training institution, this paper could be used as a basic informative tool, from which further studies could be designed and accomplished. Awareness of some theories that have already been followed would minimize the danger of unnecessary duplication. This study is completed with the hope that the information given will be useful to the counselor in his personal and professional life.
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