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To the Graduate Council:

I am submitting herewith a thesis written by Timothy J. Thorpe entitled "Yoga as a Theoretical and Applied System of Self-Actualization." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

Kenneth R. Newton, Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

YOGA AS A THEORETICAL AND APPLIED SYSTEM OF SELF-ACTUALIZATION

A Thesis

Presented for the

Master of Arts

Degree

The University of Tennessee

Timothy J. Thorpe

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DEDICATION

The American College Dictionary defines "dedicate" as "to give up wholly or earnestly, as to some person or end." The character of man is molded not so much by what he has learned as by those he has learned from. For whatever truth I perceive, those who have taught me to express my beliefs through their example must be deemed responsible.

Bruce Waldman, my sixth grade teacher, would not permit me to be stifled by a narrow curriculum and encouraged me to read whatever interested me and pursue my athletic inclinations.

William Kirscher, my major professor as an undergraduate at Fairleigh Dickinson University, who has believed me where thousands wouldn't, showed, and continues to show me that man is manifest spirit.

Jim Anker hauled me, kicking and screaming, out of adolescence by demanding superior qualities of scholarship and responsibility.

Ken Newton continually inspired me to self-realization through his friendship and Taoistic perspective.

Finally, I must acknowledge my mother, who, over the years, has also become a friend.

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The American College Dictionary defines "acknowledge" as "to admit to be real or true; recognize the existence, truth or fact of: to acknowledge belief in God."

Sri Yogiraj Swami Satchidananda, of whose blessing this is a manifestation, and his students at the Integral Yoga Institutes provided a setting for an important series of personal growth experiences, and were willing and helpful research participants.

ABSTRACT

The purposes of this investigation were to present yoga as a theoretical analogue to Maslow's system of self-actualization psychology and to empirically describe the perceived benefits of applied yogic techniques. The experimental data were to provide sufficient information to reveal increments in perceived benefits on physical, mental and spiritual levels over time.

Four-hundred lengthy, open ended questionnaires were distributed to sixteen Integral Yoga Institutes throughout the country. Sixty-nine individuals anonymously responded and were divided into five groups based on term of practice. Ten response categories were refined from general headings of physical, mental and spiritual, operationally defined, and coded by two independent raters. Reliability was 89.6 percent.

Reports of physical benefits--increases in energy, relaxation and body awareness--generally decreased over time while awareness of specific dysfunctions prior to and relieved subsequent to, yoga, increased. Mental benefits--increased concentration, relaxation and satisfying interpersonal relations--increased across groups while reports of insight remained constant. Orientation toward seeking transcendent, spiritual goals, and reports of peak-experiences rose across groups.

Categories, though useful for communicating and delineating general processes, did not seem to represent absolute distinctions in the underlying phenomena. Rather, there was an actualization of a

"healing" or integrating process that was manifest through increased self-understanding, energy and relaxation.

This investigation, designed for comprehensiveness revealed general trends toward the hierarchical gratification of needs over time, but did not attempt to control variables which would have permitted more precise measurements. A number of possible directions for further, more experimental approaches to the subject area, were discussed.

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INTRODUCTION

The focus of self-actualization psychology is the healthy person. Concerned with the discrepancy between what man is and could be, the concept and experience of identity are of paramount importance. A self-actualized individual is fulfilled, integrated and totally mature.

Assessing the limitations of classical methodology applied to the study of man, Maslow (1969) developed a paradigm of person-centered psychology founded on comprehensiveness, empiricism, Taoistic observation, subjective report, holism, interpersonalism and a recognition of purposes, ends and values in human expression. The paradigm does not negate the methods of positivism but attempts to exposit a philosophical and methodological system adequate to the study of the whole person. A rich study of the deeper realms of human identity cannot be accomplished without a thorough re-evaluation of weaknesses inherent in the application of orthodox science within psychology.

Man is moved by consciously felt desires which are derivatives of basic human needs. Most expression can be accounted for as being motivated by (a) physiology, (b) security, (c) belongingness, (d) esteem and (e) self-actualization needs. As pre-eminent desires are gratified higher ones emerge to determine subsequent patterns of activity. Individuals gratifying the initial four levels press toward fullest expression and realization of identity.

> Self-actualizers live by the laws of their inner nature, their potentialities and capacities, their talents, their latent resources, their creative impulses, their needs to know themselves and to become more and more aware of what they

> really are, of what they really want, of what their call or vocation or fate is to be. (Maslow, 1968, p. 34)

Many ongoing self-actualizers and even some rare individuals who are not functioning at this level report peak-experiences, a transcendence or rising above ordinary identity for a brief period of time. It is the most profound and healthy experience within the capabilities of man. Maslow (1964) reports the following phenomena to occur during the experience. These is (a) holistic perception of the universe, (b) richness of cognition, (c) detachment of human concern from cognition, (d) ego-transcendence, (e) self-validation, (f) perception of meaning, (g) transcendence of time and space, (h) acceptance of the world, (i) understanding of the world, (j) perception of intrinsic values, (k) receptive cognition, (l) wonder and awe, (m) transcendence of conflict, (n) loss of fear, (o) character change, (p) perception of pervading bliss, (q) sense of identity, (r) sense of responsibility, (s) transcendence of identity, (t) increase in love, (u) psychic determination, (v) inhibition of desire, (w) feelings of grace, (x) resolution of pride and humility, and (y) unitive consciousness.

In essence, the more characteristic human condition inevitably ending in disease, despair and death is transcended as the person knows himself at deeper levels of identity. It is at this point, the point where the healthiest specimens of humanity invariably report experiences of eternity and transformation, that the limitations of present trends in psychology become apparent:

> I should say also that I consider Humanistic, Third Force Psychology to be transitional, a preparation for a still "higher" Fourth psychology, transpersonal, transhuman, centered in the cosmos rather than in human needs and interest, going

> beyond humanness, identity, self-actualization, and the like. (Maslow, 1968, p. iii)

Accordant with fourth force psychology, the chief aim of yogic thought is to uncover and integrate into consciousness that which is hidden by the natural forces of life. The supreme accomplishment of this sytem is the discovery of the "life-monad" (purusha) or pure spirit as an imperishable entity underlying the physical and mental levels of reality. Phenomenal personality, developing from conception through death, does not affect the life monad as it is beyond time and space, causality and physical measurement.

Personality and psychopathology, inextricably combined in this theory, are multi-leveled into the physical, mental and spiritual. The first two levels of identification are based on internalized object relations and reflect only peripheral facets of existence. Identification on the spiritual level, in distinction, is not psychopathological but self-actualized. Spiritual identification leads to profound experiences of unity (samadhi) while physical and mental identifications as sole determiners of self lead to suffering and non-completion.

The personal ego, constructed through sense identifications with the material world, is conceptualized as an ephemeral obstacle in uncovering transpersonal identity. Yogic self-actualization involves the discrimination of psychopathological ego-identifications from the life-monad until a final liberation or release from suffering is attained. Peak-experience means a process of ego-transcendence revealing the timeless reality underlying the personal, psychopathological ego.

Sometime around 500 BC the philosopher Patanjali set forth the basic tenets of yogic philosophy and psychology in written form (Zimmer, 1951). Emerging from an apparently pre-historic verbal tradition, it focuses on the theory and applied techniques of self-transformation. Regarded as the keystone of yogic literature is a series of aphorisms presented by Patanjali concerning the fundamental nature of man. Each aphorism is an unelaborated axiom presented to the student of yoga and embellished by the transpersonal experience of a teacher.

Transformation is a function of completing a hierarchy of self-actualization which includes (a) a complete attitude of non-injury, (b) personal observances, (c) correct posture, (d) control of the breath, (e) withdrawal of the mind from sense objects, (f) concentration, (g) meditation, and (h) union with the infinite. Future data may point to a hierarchy more congruent with the facts of transpersonal psychology, but as the dominant trends in western psychology have only recently come to acknowledge transpersonal phenomena, this internally consistent theory offers valuable direction. Only Jung's theory of the collective unconscious (1933) and Maslow's concept of fourth force psychology (1968) attempt to empirically approach the spiritual facets of man.

Hatha yoga, a system of strengthening and actualizing physiological processes and anatomical structures, mantra yoga, silent repetition of a sound vibration and karma yoga, serving others without the aim of personal gain, are three applied techniques of yoga. They are designed to alter physical, mental and spiritual being along a self-actualization continuum. The goal of applied yoga is to prepare

the body and mind to directly reflect the creative intelligence at the core of being.

Hatha yoga consists of asana, specific movements and postures, and pranayama, patterns of respiration, intended to strengthen the body and still the frequency and intensity of spontaneous cognition. Asana and pranayama correct dysfunctions and bring the cardio-pulmonary, endocrine, nervous, skeletal-muscular, urinary, circulatory and digestive systems to peak efficiency and harmonious inter-relatedness with psychic processes.

Mantra yoga, exemplified in the currently popular technique known as transcendental meditation, involves sitting quietly, withdrawing the mind from sense objects, and silent repetition of a mantra. The mantra is a short series of Sanskrit sounds acting to clear the mind of all thoughts and induce neurophysiological flexibility and stability.

> Thus, always keeping the mind balanced, the Yogi with the mind controlled, attains to the peace which culminates in liberation. (Bhagavad Gita, 1972)

The purpose of karma yoga is to eliminate selfishness and craving, which, as forms of egotism, are distinctly psychopathological facets of personality. A student of karma yoga attempts to fulfill the needs of others without attachment to the results of his actions. Through this process "the heart is purified" (Sivananda, 1974); i.e., an attitude of aversion toward psychopathological ego-identifications is cultivated.

CHAPTER I

THE SELF-ACTUALIZATION THEORY OF ABRAHAM MASLOW

The achievement of self-actualization is the highest goal of human endeavor and the self-actualized person is the embodiment of all that is intrinsically good, true and beautiful. This focus, the fully functioning individual, is the concern of humanistic psychology. Weaknesses inherent in the classical model of science for person centered study beg the development of a paradigm recognizing the primacy of investigator perception (Merleau-Ponty, 1962). An empirically determined hierarchy of human needs and an exposition of peak-experience provides a comprehensive theoretical structure based on the phenomena of being.

A. A Paradigm of Humanistic Psychology

Maslow (1969) states that the methods of orthodox science, taking the form of positivism for behaviorists, neobehaviorists and experimentalists, are inadequately comprehensive for the study of self-actualization. Classical science normally studies interchangeable objects and classes of facts and is therefore not totally applicable to person centered research. The adequate study of individuation (Jung, 1933) or the total fulfillment of the unique, one of his class person is dependent on the exploration of innovative yet empirical approaches. Five areas of attention are crucial in the construction of such a paradigm.

1. The Paradigm Must Be Comprehensive and Empirical

> Science should resolutely set its face against anything which would limit its scope, or which sould arbitrarily narrow the methods or perspectives of its own pursuit of knowledge. (Allport, 1962, p. 403)

The primary obligation of science is to acknowledge and describe all of reality. At its best its jurisdiction includes even those aspects of the universe which are vague, mysterious, ambiguous, seemingly illogical, archaic or contradictory. The first trust of the scientist is to describe the facts, even if no methods, set of categories or theory are adequate or appropriate. It has been the tendency of psychology to study only those aspects of behavior which are easily subject to manipulation and control and fit neatly into experimental design grounded in the positivistic perspective. While this approach works well for the physical sciences and some aspects of infra-human behavior, it is not fully adequate for the study of the mature and healthy individual. All theories and systems are one step removed from experience, are inferred from perception, and it is precisely this subjective experience which is the subject of self-actualization psychology.

A possible alternative is the rejection of science and its methods and this is usually the path of the poetic, artistic or religious. It rejects, in an a priori fashion, any scientific approach to the deeper realms of human experience. This route is unacceptable but understandable as the social-scientist attracted to the application of orthodox methodology, commonly portrayed as being objective, cool and indifferently detached from the phenomenological field of the subject, may be personologically unable to contact others at an experiential

level (Brunkan, 1965; Roe, 1953, 1957).

A preferable product is an all-embracing model of science that can be both experimental and descriptive of subjective experience.

> Official experimental science tends by its nature to be interfering, intrusive, actively arranging, even meddling and disrupting. There is no implication here that this is bad or unnecessary. I attempt merely to show that interfering science is not synonymous with science itself. The scientist has other methods available to him, and there are other approaches to knowledge. (Maslow, 1962, p. 96)

Science then has two directions. It moves toward abstractness, unity, parsimony, lawfulness and simplicity and it also moves toward comprehensiveness, toward accepting all that exists. The humanistic paradigm accepts the world of subjective experience as worthy of reflection and consideration and capable of being logically organized through the uncovering and development of psychic structures in the investigator. The method is one of recpetive empiricism known in such diverse fields as ethnology, ethology, cultural anthropology and phenomenology. Premature systematising and theorizing in the research of new events and structures is avoided in the attempt to accumulate relevant and articulate descriptions of phenomenological identity.

2. The Paridigm is Called Taoistic Science

As the Taoist philosopher allows the stream of life's events to passively register in his awareness without passing judgment or explaining them away through over-conceptualization, so the humanistic psychologist attempts to develop the capacity for experiential knowledge. The study of self-actualization opens up many questions concerning normality, health, creativity, goodness, love and realization. Only when the

personal growth of the investigator has included the experiential exploration of these phenomena can he be more experimental, analytic and theoretical. In order to witness reality the way it is, the researcher should be fascinated, receptive, wondering, marveling, savoring and accepting.

3. The Subjective Report is the Basic Data

Rogers (1963) and Maslow (1970) have been outstanding proponents of viewing phenomenological reports as the foundation for understanding a person in his entirety. Before human laws of behavior may be abstracted, the basis of existence must be considered and this is the experience of identity (Van Kaam, 1959). Humanistic psychology must be emphatic in the use of the subjective report as the starting point in the study of mature human expression.

> By far the best way we have to learn what other people are like is to get them, one way or another, to tell us, whether directly by question and answer or by free association, to which we simply listen, or indirectly by covert communications, paintings, dreams, stories, gestures, etc.--which we can interpret. (Maslow, 1968, p. 12)

Existential-phenomenological systems from Kierkegaard (1956) through Husserl (1952) and into present humanistic advocates consider the first order of human knowledge to be based on experiences resulting from the contact or act of will with physical reality, wherein, subject and object distinctions prove illusory. Again, this does not negate the approach of positivism but only illustrates that its laws ultimately rest on the perception of the investigator within a unified phenomenological field.

4. The Paradigm is Holistic and Interpersonal

> From time immemorial man has known that he is the subject most deserving of his own study, but he has also fought shy of treating this subject as a whole, that is, in accordance with its total character. Sometimes he takes a run at it, but the difficulty of this concern with his own being soon overpowers and exhausts him, and in silent resignation he withdraws--either to consider all things in heaven and earth save man, or to divide man into departments which can be treated singly, in a less problematic, less powerful and less binding way. (Buber, 1969, p. 118)

The struggle of science to depersonalize the universe, to view nature without the imposition of a cosmological or divine purpose, without the limitations of an a priori order was essential for the development of astronomy, physics, chemistry and mathematics. From there science progressed to the study of living things and finally, about a century ago, it brought the human being into the laboratory for investigations with the same proven methods.

The structuralists attempted to investigate the irreducible elements of experience dispassionately and quantitatively in a controlled experimental setting. Introspectionism was construed to be only a more difficult application of the methodology of physics, astronomy, chemistry and biology to consciousness. Functionalism generally accepted these methods but sought to study the relationship between mentation, behavior and environment. Behaviorism accepted the methods but either denied subjectivity altogether, saw it as an epiphenomenon of biochemistry or conveniently ignored it. What occurred was an orientation towards a reductive study of physiology and behavior, the facets of the person most amenable to the available methodologies. The results, though often significant and always steps in the development of

psychology, are only theories of part-processes and inadequately represent the experience of being.

Self-actualization does not accept this impersonal centering point as the proper focus of study. It rather boldly takes knowledge of the whole person as the model from which to create methodology, conceptualization, Weltanschung and philosophy. The holistic approach highlights the study of the individual and its province includes all those aspects of subjectivity which are the world of the person, accepting even those parts of reality not easily controlled.

> If I want to learn something more about you as an individual person, then I must approach you as a unit, as a one, as a whole. Atomistic dissections and reductions to fundamental building blocks of knowledge do not add up to an understanding of a person. Not only must I perceive you holistically, but I must also analyse you holistically. (Maslow, 1968, p. 11)

The study of the whole person requires a reconsideration of the relationship between observer and observed, E and S and objectivity and subjectivity. The concept of unconditional positive regard (Rogers, 1951) in the therapeutic relationship is the model for the investigator/subject relationship in humanistic psychology. The atmosphere is one that dispels fear and permits the subject to see himself more clearly. The investigator is not a stranger and nonparticipant but a participant as well as observer. Rather than being unrelated and neutral the investigator becomes more related and more intimate.

> Man can become whole not in virtue of a relation to himself but only in virtue of a relation to another self. The other self may be just as limited and conditioned as he is; in being together the unlimited and the unconditioned is experienced. (Buber, 1969, p. 168)

The relationship is characterized by Buber as I-Thou or interpersonal, empathic, intuitive and humanly identified with the other. This is an alternative to the I-It or spectator knowledge of science and is more appropriate in a holistic approach to man.

The interpersonal attitude, generating fusion with others, permits experiential knowledge.

> And since experiential knowledge is the best kind of knowledge for many human purposes, a good mode of cognizing an object is to move toward fusion with it. (Maslow, 1968, p. 103)

The goal in the interpersonal approach is total identification with the being of the subject. Though presenting an immense challenge to the scientist, the end state of this method is total, whole and complete knowledge of the person.

5. The Paradigm Recognizes Purposes, Ends and Values

People have goals while objects do not. In its demythicizing of the world, science wisely tossed out the projection of divine or human purpose, but the case is contradistinctive in the study of man. He does have goals, purposes and values directly perceptible by reflection.

> This simple fact, which is excluded systematically from the model of classical science automatically makes its methods less appropriate for studying most human behaviors. It cannot discriminate between means and ends, right and wrong, efficient and inefficient, sick and healthy. (Maslow, 1969, p. 18)

Adler (1964) sees behavior as partially based on fictional finalism. Deep seated individual goals, often only vaguely conceptualized, determine style of life. Jung's concept of teleology (1938) points to a distant, unconscious system of value which directs and molds behavior.

The analysis of ordinary conscious desires reveals them to be means to ends rather than ends in themselves. The importance of these desires is that they point to ultimate goals and effects which form a more basic system of human needs.

> It is characteristic of this deeper analysis that it will always lead ultimately to certain goals or needs behind which we cannot go; that is, to certain need-satisfactions that seem to be ends in themselves. These needs have the particular quality in the average person of not being seen directly very often but of being more often a kind of conceptual derivation from the multiplicity of specific conscious desires. (Maslow, 1970, p. 22)

The methods of science, apparently a means to uncover truth, are dichotomized, dissociated and pathologically split from intrinsic and ultimate human values. Religion, equally dichotomized and dissociated, conceptualizes the highest values of existence as residing within a supernatural being. Both world-views place these deepest ends entirely out of the range of natural human knowledge and infer the impossibility of knowing them in a confirmable and validated manner. Truth, goodness and beauty are human values discoverable in the study of mature, self-actualized persons. They are perceived as ultimate and irreducible but can be partially defined in terms of each other.

> They are paralleled by the characteristics of selfhood (identity) in peak-experiences; the characteristics of ideal art; the characteristics of ideal mathematical demonstrations; of ideal experiments and theories; of ideal science and knowledge; the far goals of all ideal, uncovering (Taoistic, non-interfering) psychotherapies; the far goals of the ideal humanistic education; the far goals and the expression of some kinds of religion; the characteristics of the ideally good environment and the ideally good society. (Maslow, 1964, p. 91)

B. A Hierarchy of Basic Human Needs

It is representative of man that throughout his life he experiences consciously felt desires. Rarely reaching a state of complete satisfaction, a constant flow of wants, conscious and unconscious, emerge into the foreground of awareness. Conceptualizing needs within the context of the whole person, the search for atomistic drives or units of motivation is left behind. The emenation of desires depends on the relative and absolute gratification of pre-eminent needs. Basic needs can be seen as organismic "givens" arranging themselves in a hierarchy of potency.

Motivated behavior or goal objects are not used as the fundamental basis of classification because meanings vary from individual to individual. A person seeking food may in reality be seeking safety or a person seeking sex may actually be seeking security or self-esteem.

> If only by the process of logical exclusion alone we are finally left with the largely unconscious fundamental goals or needs as the only sound foundation for classification in motivation theory. . . . Our central object of study here is, after all, the organism or character structure and a theory that stresses constant fundamental needs finds them to be relatively constant and more independent of the particular situation in which the organism finds itself. (Maslow, 1970, pp. 28-29)

The arrangement of needs in the organism is characterologically based and independent of setting. Needs exist prior to environmental stimulation but the environment will strongly influence what need or complex of needs will be most potent at any given time. As well as explaining psychopathology as a result of deprivation, the basic

hierarchy reaches its zenith with an exposition of man's potential for fulfillment.

Five categories of basic human needs operate dynamically within the whole person to determine expression.

1. Physiology Needs

The homeostatic or automatic mechanisms by which the body sustains a correct serum balance has been described for water, salt, sugar, fat, calcium, oxygen content, acid base balance and temperature (Cannon, 1932). The list could be lengthened to include other essential components such as vitamins (Robbins, 1974). Maternal behavior, sexual desire, sleep, elimination, exercise and activity are important needs also of a physiological nature.

> Undoubtedly these physiological needs are the most prepotent of all needs. What this means specifically is that in the human being who is missing everything in life in an extreme fashion, it is most likely that the major motivation would be the physiological needs rather than any other. (Maslow, 1970, pp. 36-37)

When in individual craves water, food or elimination, it is the entire phenomenological person possessing the need rather than the blood stream, stomach, bladder or intestines. If these needs are extremely frustrated, as is often the case with diseased persons, gratification becomes an obsession. For an individual with obstipation, all freedom, love, esteem and ethics become of second order importance in relation to bowel evacuation.

The physiological needs, when gratified, cease to be of concern in the organization and dynamics of behavior. They exist in a potential form and emerge consequent to relative levels of deficiency. Gratification

provides closure as it allows progress toward more social needs.

2. Safety Needs

Security, stability, dependency, freedom from fear, anxiety and chaos, need for structure, order, law and limits may all be construed as basic needs towards which the individual moves once the physiological wants have been gratified (Maslow, 1970). In times of extreme danger they may serve as the exclusive organizers of behavior. All the capacities of the person would be brought into use to secure or maintain necessary safety.

Confrontation with strange, unfamiliar or noxious situations will often generate reactions ranging from mild anxiety through terror with the arousal aimed at seeking safety. People in general desire safe, predictable and organized patterns of action and seek those situations which structure such behaviors (Horney, 1950). The healthy individual has accomplished this end and does not react with fear to mild deviations and changes in routine. Preferences for common rather than unfamiliar things and the need for a religion or philosophy may be motivated by the needs for safety. In order to be secure, man seeks a meaningful and coherent view of the universe.

Much neurotic and situationally determined psychopathology can be seen as an attempt to establish a field of psychological safety. A person may unrealistically behave as if he were to be punished or abandoned. The obsessive-compulsive person, in an attempt to structure and familiarize the world, will not permit unknown or dangerous events. Illness, death of a loved one and changing residence may all produce

situational behaviors which frantically aim at safety (Toffler, 1970).

3. Belongingness and Love Needs

If physiological and safety needs are gratified, there will emerge needs for belongingness, love and affection. The person will strive for a sense of belonging to family, community and occupational or interest determined reference groups. Acceptance and affection from friends, neighbors and family arise from this level as the need to love and be loved on an intimate level may be very intense. An inability to satify these needs results in loneliness, ostracism, rejection, friendlessness, and rootlessness. The necessity of identification with a group on a territorial level is often underplayed as a condition of satisfying the needs for belongingness, affection and love (Ardrey, 1966).

The development of encounter groups, personal growth centers and communal living can be seen as directed toward satisfying this level of needs. A tremendous increase in mobility, industrialization, urbanization and general cultural transiency has broken down the traditional groupings which provided for gratification. Resiman (1950) has ascribed the phenomenon of being lonely amongst many others as due to these changing sociological pressures.

Much of maladjustment and psychopathology is a result of deprivation of these needs. Morris (1973) sees cultural restrictions on affection and tenderness as running counter to species wide needs. Clinicians also are aware of the depression and anxiety syndromes in clients unable to obtain gratification.

4. Esteem Needs

The necessity for self-respect and the esteem of others is well documented (Adler, 1964; Fromm, 1968; Horney, 1950; Maslow, 1970; McClelland, 1964). The first aspect of these needs is the necessity of strength, adequacy, mastery, competence, freedom and independence. Self-esteem reflected from these characteristics is more important than similar appraisals from others as the former would be authentically based on actual capacity and adequacy in dealing with the vicissitudes and tasks of life. Self-esteem, to be substantive, is based on actual capacities rather than an idealized and unrealistic image.

Prestige, recognition, attention and appreciation from others is the second aspect of esteem. Again, the esteem based on the reflection of others must be deserved for it to produce a stable set of self-competence. Rogers (1951) points out the danger of basing self-esteem only on the perception of others. The deprivation of this level of need will often engender psychopathology.

> Thwarting of these needs produces feelings of inferiority, of weakness, and of helplessness. These feelings in turn give rise to either basic discouragement or else compensatory or neurotic trends. (Maslow, 1970, p. 45)

5. Self-Actualization Needs

The crown of the hierarchy of human needs is self-actualization. An exclusion of this concept makes much of human expression seem senseless, as, under favorable circumstances, individuals press toward fullest awareness which means good values, serenity, kindness, courage, honesty and love. To be self-actualizing, an individual should have his more basic needs relatively satisfied and then press for the fullest

expression of his own unique potential. The dancer dances and grows in her understanding of self and relatedness to the species through this expression. In an identical fashion the painter paints, the philosopher philosophizes, the politician politicizes, the nurse nurses and so on. Whatever the medium of realization, there is a strong commonality between self-actualizers; they consciously strive for the richest possible realization of their capacities. Maslow (1970) notes the major characteristics of self-actualizing people.

Self-actualizing persons have a more than average capacity to efficiently perceive reality and be comfortable with it. There is an unusual ability to detect dishonesty in people and judge them correctly. This efficiency extends to other areas of life such as art, music, science and politics. They are able to predict the future from current facts and do so more accurately than average because their predictions are based less on fantasy, wish or anxiety. The real world of nature rather than a world of stereotypes, expectations and beliefs is their home. Self-actualizers are less threatened by the unknown than average people. Instead, doubt, uncertainty and abeyance of decision are not seen as frightening but as a stimulating challenge.

Acceptance of self, others and nature as they are is noted in the study of healthy subjects. A relative lack of guilt or shame characterizes self-acceptance. They are able to view weakness of self and others as a basic aspect of humanness without unrealistically desiring it to be different. There is a relative lack of defensiveness and they feel distaste for artificialities in others. Personal shortcomings are seen as neutral rather than evil characteristics.

Relative spontaneity in behavior and even greater intrapsychic spontaneity characterize the self-actualizer. Behavior in general is simple and natural with a lack of artificiality. The external aspects of the person are normally conventional but the thoughts, impulses and consciousness are unconventional in their naturalness and spontaneity. It is as if the conventionality is worn to not threaten others and is easily shucked off to allow deeper and meaningful expression when appropriate. These spontaneous expressions are nonmotivated in that they are not directed toward a basic need but are rather characteristic of development, maturation and growth.

Self-actualizers are focused on problems outside the personal self. There is a mission or call to fate which is independent of personal ambitions. The frame of reference for them is customarily expansive, often being a service towards or identification with mankind.

There is a great amount of time spent in solitude and privacy by self-actualizers. Done without harm to others or self, this detached, Taoistic, calm and serene attitude makes it possible for them to not react to personal misfortunes in an extreme fashion. Concurrent with frequent periods of solitude is the aptitude for intense concentration and the ability to be oblivious of surroundings. A result of this ability to concentrate and view problems at many levels is an increased number of growthful alternatives for expression. It makes them less determined and allows more free will.

Another characteristic is autonomy and relative independence of the physical and social environment. They are more dependent on their growth and use of latent resources than extrinsic rewards. The

determinants of gratification move from a physical and social level to one that is intrapsychic.

An ability to derive inspiration, ecstasy and strength from ordinary experiences of life is seen in self-actualizers. There is an aptitude for deriving rich subjective experience from settings and events that are commonly taken for granted by most people. Nature, children, art and orgasm provide not transient interest or pleasure but strength, meaning and life affirmation.

A general attitude of identification, sympathy and affection is shown toward the human race. A unitive link between all persons, despite occasional anger and impatience towards them, is deeply experienced. There is a genuine desire to serve the human race.

The interpersonal relations of self-actualizers are deeper and more profound than average adults. The ability to fuse identity in expansive love is well developed and persons toward whom this love is directed are usually healthy people themselves. There is a high selectiveness in close friendships and deep, lasting ties are usually developed only with a small number of persons. Children can easily arouse their feelings of concern and love. Hostility in intimate relationships is situationally rather than characterologically based.

They find it possible to be friendly and learn from anybody regardless of class, education, political belief or race; thereby expressing a democratic character structure. Well aware of the little they know in comparison with what might be known, they possess dignity as well as humility.

There are definite ethical and moral standards by which self-actualizers live. An absence of confusion and inconsistency concerning right and wrong is noted. Though expression is valued for its own sake there is a general focus on ends rather than means to ends. They regard many experiences as ends which the average person would only consider means.

Self-actualizers find humor intrinsic to the human situation. It is a philosophical and unhostile type of humor which is spontaneous rather than planned and which seems to have a function other than producing a laugh. It is as if the humor had the function of pointing out the absurdity of being too ambitious, too striving, too planning or too serious. This propensity is often seen in occupational endeavor where there is a certain sense of play.

In every self-actualizer there is creative contact with the world. It is a manifestation of a fundamental human characteristic but does not necessarily imply genius. Possibly seen in the production of great ideas, technology or artistic objects it is more basically fresh, penetrating and efficient perception.

> It is as if this special type of creativeness, being an expression of healthy personality, is projected out upon the world or touches whatever activity the person is engaged in. In this sense there can be creative shoemakers or carpenters or clerks. Whatever one does can be done with a certain attitude, a certain spirit that arises out of the nature of the person performing the act. (Maslow, 1970, p. 171)

There is a general resistance to enculturation. The self-actualizers are within normal limits in terms of dress, language, and food choices but express the feeling that these manners are relatively unimportant and not a moral issue. If conformity becomes too annoying

the conventionality is easily tossed aside. This can be explained by an attitude of detachment from phenomena which others would be more identified with. As a result there is less local and national character but more universal and transcendent identification.

Self-actualizers have many more peak-experiences than others. Stripped of ethnocentric or supernatural references, there is the capacity, which ranges from mild to very intense, for experiences described as the highest and ultimate purpose of existence.

> There were the feelings of limitless horizons opening up to the vision, the feeling of being simultaneously more powerful and more helpless than one ever was before, the feeling of great ecstasy and wonder and awe, the loss of placing in time and space with, finally, the conviction that something extremely important and valuable had happened, so that the subject is to some extent transformed and strengthened even in his daily life by such experience. (Maslow, 1970, p. 164)

It is these experiences which led Maslow to see a fourth force emerging in psychology which is called transpersonal. A later section on peak-experience will explore this phenomena more closely.

Though we consider self-actualizers the healthiest specimens of the species, they do possess characteristic imperfections. There is not a total freedom from superficial pride, inefficiency, thoughtless habits, subbornness and aggressive outbursts. They may seem impolite to others by not being interested in superficial conversation and interaction and may terminate such activities abruptly. Their kindness can lead them to become closely involved with those who take advantage of them, and they are not totally free of guilt and anxiety though it is usually determined by not living up to their own capacities rather than being neurotically based.

The values of self-actualizers are furnished to them by the experience and identity of their own nature. The acceptance of the self and the world as it exists is the source of all value judgments. Those phenomena which the self-actualizer characterizes as truth, goodness, beauty, wholeness, integration, aliveness, uniqueness, perfection, necessity, completion, justice, order, simplicity, richness, effortlessness, playfulness and self-sufficiency are preferred over those phenomena where there is a relative absence of these values. The values are not constructed in a philosophical or psychological sense but are discovered as being intrinsic through profound acceptance of the self.

Resolution of dichotomies is characteristic of self-actualizers as polar aspects of personality merge into unities. For example, though having a very efficient and clear perception of physical reality they also have peak or mystic experience, and though they are very serious persons they are also capable of spontaneous humor. The same transcendence is seen for kindness-ruthlessness, concreteness-abstractness, acceptance-rebellion, self-society, adjustment-maladjustment, detachment from others-identification with others, dionysian-apollonian, introverted-extraverted, intense-casual, serious-frivolous, conventional-unconventional, active-passive, masculine-feminine, lust-love, and Eros-Agape (Maslow, 1970).

C. Peak Experience

The culmination of basic need gratification and ongoing self-actualization is the peak-experience. Often called the mystic

experience, it has traditionally been explained as a revelation through the grace of God. All religions have at their basis such an acute mystical illumination and all ritual and dogma therein is theoretically designed to provide a set and setting for recreating that experience. Maslow (1964, 1968, 1970, 1971) has brought these experiences under the light of empirical investigation and found them to be natural experiences that occur in almost all people at some point in their lives. Ranging from mild to forceful these peaks may especially occur in aesthetic experience, psychedelic experience, creative experience, profound therapeutic experience, maternal experience and at death. The illumination may develop without gratification of basic needs and result in an almost instantaneous change of character style towards growth rather than regression (James, 1958), but more frequently the peak-experience happens to those who are gratified in their basic needs and are self-actualizing.

We may also call the combined phenomena of peak-experience and resultant changes in behavior and cognition, transcendence. It denotes a character structure and style of life that can be empirically described and, concurrent with Jung's observations, is most frequently seen in people past the age of forty (1938). In rare instances the peak-experience may be entered into at will during meditation and become modified and controlled during activity (Krishna, 1967).

James (1958) notes four characteristics of the peak-experience.

1. Ineffability

The person reports the experience to defy adequate expression. Communication of the experience is difficult because there are

insufficient verbal symbols to convey the qualities and personal meanings of the phenomena. Reticence to talk about the experience results from listeners being unable to understand or treat it adequately, but it has been suggested that the linguistic difficulties may not be insurmountable.

> We must make a place for "experientially based concepts," and for "experientially filled words," that is, for an experienced-based rationality that we have come almost to identify with rationality itself. (Maslow, 1964, pp. xi-xii)

2. Noetic Quality

Though there is a strong affective component in the experience, there is an equally strong cognitive element. Revelations of great knowledge and insight normally unavailable to cognition emerge into awareness. Full of personal significance and meaning, the knowledge carries a sense of intrinsic authority.

3. Transiency

The peak-experience is not sustained for a significant length of time. A few minutes to a few hours seems to be the range of duration, after which the phenomena gradually becomes less intense. Persons find it difficult if not impossible to recreate the experience through memory but a reoccurrence will be instantly recognized.

4. Passivity

At the zenith of the experience there is such strong emotional arousal that the person feels his personal will to be in abeyance. It is as if a higher or superior power is passing through the individual. The resultant state is one of intense concentration yet utter

passivity before the magnitude of consciousness.

It has only been infrequently recognized that peak-experiences vary in intensity from person to person and occurrence to occurrence. Following are two representative examples of the phenomena. The first is a rather mild one while the second represents one which could be called acute.

> When I walk the fields, I am oppressed now and then with an innate feeling that everything I see has a meaning, if I could but understand it. And this feeling of being surrounded with truths which I cannot grasp amounts to indescribable awe sometimes. . . . Have you ever felt that your real soul was imperceptible to your mental vision, except in a few hallowed moments? (Inge, 1899, p. 341)

> My body became immovably rooted; breath was drawn out of my lungs as if by some huge magnet. Soul and mind instantly lost their physical bondage and streamed out like a fluid piercing light from my every pore. The flesh was as though dead; yet in my intense awareness I knew that never before had I been fully alive. My sense of identity was no longer narrowly confined to a body but embraced the circumambient atoms. People on distant streets seemed to be moving gently over my own remote periphery. The roots of plants and trees appeared through a dim transparency of the soil; I discerned the inward flow of their sap. . . . All objects within my panoramic gaze trembled and vibrated like quick motion pictures. My body, Master's, the pillared courtyard, the furniture and floor, the trees and sunshine, occasionally became violently agitated, until all melted into a luminescent sea; even as sugar crystals, thrown into a glass of water, dissolve after being shaken. The unifying light alternated with materializations of form, the metamorphoses revealing the law of cause and effect in creation. An oceanic joy broke upon calm endless shores of my soul. The Spirit of God, I realized, is exhaustless bliss; His body is countless tissues of light. A swelling glory within me began to envelop town, continents, the earth, solar and stellar systems, tennuous nebulae, and floating universes. The entire cosmos, gently luminous, like a city seen afar at night, glimmered within the infinitude of my being. The dazzling light beyond the sharply etched global outlines faded slightly at the farthest edges; there I saw a mellow radiance, ever undiminished. . . . The divine dispersion of rays poured from an Eternal Source, blazing into constellations, then resolved into sheets of transparent flame. By rhythmic reversion, sextillion worlds passed into

> daiphanous luster, then fire became firmament. I cognized the center of the empyrean as a point of intuitive perception in my heart. Irradiating splendor issued from my nucleus to every part of the universal structure. Bliss, nectar of immortality, pulsated through me with a quicksilver fluidity. The creative voice of God I heard resounding as Aum, the vibration of the Cosmic Motor. Suddenly the breath returned to my lungs. With a disappointment almost unbearable, I realized that my infinite immensity was lost. Once more I was limited to the humiliating cage of a body, not easily accommodative to the Spirit. Like a prodigal child, I had run away from my macrocosmic home and had imprisoned myself in a narrow microcosm. (Yogananda, 1969, pp. 167-168)

Both accounts point to the experience as an uncovered potential of man, and the latter especially raises fundamental questions as to the real depth of human identity. Reports of peak-experiences characteristically represent normal awareness as only one perspective for understanding and experiencing the world. If psychology is to study psychic processes it cannot ignore or deny the existence of superordinary experience.

> No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded. How to regard them is the question,--for they are so discontinuous with ordinary consciousness. Yet they may determine attitudes though they cannot furnish formulas, and open a region though they fail to give a map. At any rate, they forbid a premature closing of our accounts with reality. Looking back on my own experience, they all converge towards a kind of insight to which I cannot help ascribing some metaphysical significance. The keynote of it is invariably a reconciliation. It is as if the opposites of the world, whose contradictions and conflicts make all our difficulties and troubles, were melted into unity. (James, 1958, p. 298)

As long as these events are conceptualized as occurring in the world as a natural phenomenon there is adequate reason to consider them within the domain of science. Peak-experiences are compatible with personal growth, rationality and social interest. As Maslow (1964)

suggests, they are both the result of and further impetus towards self-actualization.

Of great practical concern are the after effects of peak-experience. If the peak is an uncommon experience produced by accidental or unknown causes without apparent prior gratification of basic needs, there will be repression of the experience because of its incongruence with previously determined character structure, or even an acute pychotic reaction. However, if the peak has resulted consequent to ongoing self-actualization there will be a plateau experience.

> This is serene and calm, rather than a poignantly emotional, climatic, autonomic response to the miraculous, the awesome, the sacralized, the Unitive, the Being-values. So far as I can now tell, the high plateau-experience always has a noetic and cognitive element, which is not always true for peak-experiences, which can be purely and exclusively emotional. (Maslow, 1964, p. xiv)

Twenty-five characteristics of peak-experiences have been empirically determined by Maslow (1964) in contrast to the four of James. While James primarily used second hand accounts for his analysis Maslow used phenomenological reports of historical characters and data collected from interviews of his contemporary sample.

1. Holistic Perception of the Universe

During the peak-experience the universe is perceived as a unity unto itself. It is a profound emotional phenomenon and quite different from a purely intellectual belief. The holistic awareness is one in which perceiver and perceived merge into a whole. There is no distinction between subject and object.

2. Richness of Cognition

There is tremendous concentration as percepts are fully attended to. Figure and ground become increasingly difficult to delineate as all percepts become of equal importance. In this type of cognition persons are seen as unique, each one belonging to a single class.

3. Detachment of Human Concern from Cognition

All the persons and objects of the world are seen as devoid of human intent, without projection of personal concern. There is an objective and independent world view enabling the true qualities of phenomena to be more apparent.

> The peak-experience seems to lift us to greater than normal heights so that we can see and perceive in a higher than usual way. We become larger, greater, stronger, bigger, taller people and tend to perceive accordingly. (Maslow, 1964, p. 62)

4. Ego-Transcendence

Perception is unselfish, egoless, impersonal and desireless. The centering point of awareness is on the phenomena with an absence of needs projected onto the event. Objects are seen in a pristine manner as experience is not organized around motivation.

5. Self-Validation

A peak is felt as a self-justifying experience which is highly valuable. It is perceived as not only validating itself but life in general. Attempts to justify it are often considered an affront to its intrinsic dignity.

6. Perception of Meaning

The ultimate meaning of life unfolds from the core of the person. A peak is seen as an end rather than a means to an end; there are no doubts that every seemingly insignificant event of life is fully worth living.

7. Transcendence of Time and Space

There is a sense of existing beyond time and space that is discontinuous with normal consciousness. Sometimes it is reported as being in eternity. A few moments may be experienced as hours or a day may be experienced as a minute. There is a characteristic phenomena of not existing within the physical body as normal perception of bodily sensation may not enter into consciousness, releasing a feeling of not being located in any particular location.

8. Acceptance of the World

The world is viewed as beautiful, positive or good and never as ugly or evil. The bad things of life are accepted as present and inevitable but there is a reconciliation or transcendence of them.

9. Understanding of the World

Seeing the world as good, and accepting the pain, disease and death inherent in existence is a product of profound understanding. Out of this insight come feelings of pity, charity, amusement and sweet sadness. More negative emotions of disgust or aversion to the world can only be a product of a more limited vision.

10. Perception of Intrinsic Values

What have been considered the eternal, spiritual, religious, or humanistic values unfold as a seed in response to warmth and wetness. This is very important from a psychological standpoint as the facts of existence fuse with the values of existence. It is a fact that the values taught by the worlds greatest visionaries, prophets and humanists correspond to human nature itself.

11. Receptive Cognition

Cognition is humble, passive and Taoistic during the peak-experience. There is a heightened ability to listen and look. The person feels to be operating at his greatest efficiency for assimilating and accommodating new phenomena.

12. Wonder and Awe

Surrender, reverence, wonder, awe and sometimes worship before the magnitude of the experience are often reported. The peak-experience is such an expansion of consciousness that feelings or thoughts of death may be present. It is as if the person had been reborn through the peak-experience and the death is accepted with joy.

13. Transcendence of Conflict

There is an awareness of integration, of functioning fully and effortlessly as polarities dissipate before a fundamental process of unification. Tendencies to move toward growth rather than regression become accented.

> In the normal situation, part of our capacities are used for action, and part are wasted in restraining these same capacities. . . . He becomes like a river without dams. (Maslow, 1968, p. 105)

14. Loss of Fear

Fear, anxiety, depression, confusion, inhibition and restraint are absent during the experience. Even the deepest fears of catastrophic annihilation, insanity and death are not operating. This is a crucial characteristic for differentiating peak-experiences from ecstatic but nonintegrated phenomena seen in schizophrenics. For the self-actualizer fear diminishes but for the schizophrenic the expansion of awareness results in an increase of anxiety.

15. Character Change

Changes in style of life range from profound through mildly therapeutic to being inapparent. Resultant effects may be of such magnitude as to parallel what has been called the religious conversion (James, 1958). Changes in behavior are more ordinarily in the direction of heightened awareness and self-fulfillment.

16. Perception of Pervading Bliss

Persons frequently report that they could not imagine an experience to be more joyful, blissful or intrinsically gratifying. These feelings are perceived to be eternally present but in an unmanifest form.

> This is like giving a naturalistic meaning to the concept of heaven. Of course, it is quite different from the conception of heaven as a place somewhere into which one physically steps after life on this earth is over. The conception of heaven

> that emerges from the peak-experiences is one which exists all the time around us, always available to step into for a little while at least. (Maslow, 1964, p. 66)

17. Sense of Identity

There is a merging of the real and idealized self. Persons are most close to their real, most unique and most perfected self at this time. Intrapsychic rather than extrapsychic centering points determine the mold of identity.

18. Sense of Responsibility

The individual perceives himself as being the creator of his life, more autonomous, active and responsible. To the observor he appears more one-pointed, reliable, trust-worthy and decisive. There is an absence of self-doubt preventing his will becoming manifest.

19. Transcendence of Identity

Those who are most sure of their identity are the ones who are able to transcend the ego. The ability to be selfless is dependent on a clear and strong sense of identity. Only persons with adequate security, love and esteem possess the courage to lay it all aside for higher realms of being.

20. Increase in Love

During the peak-experience the person displays his greatest power to love and ability to be loved. The expansion of this capacity is within parental, brotherly, erotic and universal relationships. Paradoxically, there is simultaneously present great detachment and great identification towards the objects of love.

21. Psychic Determination

The person perceives himself as being bound less by the physical laws of the universe and more subject to the laws of psychic life. While normal experience is organized in time and space, peak-experience is not.

> They are perceived and reacted to as if they were in themselves, "out there," as if they were perceptions of a reality independent of man and persisting beyond his life. (Maslow, 1968, p. 85)

22. Inhibition of Desire

While in the peak-experience there is an absence of striving, wanting or needing. Metaphorically, all motivational systems are in neutral. Feelings of selfishness and deficiency are consequently diminished.

23. Feelings of Grace

Individuals frequently report that they are lucky or fortunate to have had the peak-experience. To those who identify with a particular religion there is a feeling of gratitude or of being graced. A sense of obligation or dedication to humanitarian ideals is often an outcome.

24. Resolution of Pride and Humility

There is a fusion between being proud and being humble which resolves these normally dichotomous attitudes. It enables the self-actualizer to simultaneously feel superior to and yet equal to all others.

> Pride (fused with humility) is not hubris nor it is paranois; humility (fused with pride) is not masochism. (Maslow, 1964, p. 68)

25. Unitive Consciousness

There is a sense of the macrocosm seen in and through a microcosm. The perception of an object or psychic event is seen to perfectly represent and provide a door to a more expansive awareness of the universe. No distinction is felt between what a thing is and what it signifies.

CHAPTER II

YOGA AS A THEORETICAL SYSTEM OF SELF-ACTUALIZATION

Sankhya and yoga are two branches of a single sytem of self-actualization psychology. Though their origin stems from a verbal tradition at least four thousand years old, they were first systematically stated in approximately 500 BC by the philosopher Patanjali (Dvidedi, 1890; Feurstein & Miller, 1971; Isherwood & Prabhavananda, 1953; Mishra, 1972; Zimmer, 1951). The philosophical and conceptual facet of the system is sankhya while the applied methods of self-actualization are collectively called yoga. A theory of personality and psychopathology, and a hierarchy of self-actualization provide an exposition of man congruent with transpersonal trends in humanistic psychology.

A. Personality and Psychopathology

The aim of sankhya is to provide a model of human nature, enumerate and define the elements therein, analyze their manner of cooperation in a state of psychopathology and describe the process of disentanglement leading to self-actualization. Three main assumptions underlie this theory. First, the universe is founded on an irresoluble dichotomy of "life-monads" or pure essences (purusha) and lifeless matter (prakriti). Second, matter is fundamentally simple but manifests itself under the differential aspects of balance, activity and inertia, known as gunas. Finally, all the life-monads associated with matter are involved in the bondage of an endless round of transmigration identical

to the Platonic notion of eternal essences or pure ideas which are present and discoverable in man but unaffected by the forms which represent them.

1. Levels of Personality

By nature the mind is in constant movement, transforming itself into the shapes of objects in its phenomenological field. Due to the presence of rajas guna, the activity principle of matter, the powers of transformation are never quiescent. Left to itself the mind is continually processing sensory data, creating images, recalling memories and rarely, if ever remaining still. Through yoga, the mind is calmed to the point where there is an absence of thought, and when this process is accomplished, the life-monad, the actualized self, stands revealed.

The life-monad, according to sankhya, is the perfected transpersonal identity concealed behind and within phenomenal existence. Its perceptual qualities, in concordance with Maslow's definition of fourth force psychology (1968) are not anthropomorphic. Sheer self-effulgent light is the defining characteristic of the deepest identity, the life-monad. Self-luminous, it enlightens all the processes of the physical and mental levels of being, both of which are material forms. As only the physical universe presents form, the life monad is devoid of qualities, without beginning or end, eternal, everlasting and without parts or divisions. The awareness of this essential self is the impetus for the feelings of transcendence of space, time and personal identity reported by those in peak-experiences.

> It is unattached and without contact, absolutely indifferent, unconcerned and uninvolved and therefore never actually in bondage, never really released, but eternally free; for release would imply a previous state of bondage, whereas no such bondage can be said to touch the inner man. (Zimmer, 1951, p. 285)

The source of psychopathology is simply that man's permanent, ever-present freedom is not actualized because of turbulence and distraction inherent to the mind-stuff. When the life-monad is perceived as unobscured by an agitated mind, its secret nature is suddenly and simply revealed, actualizing a tremendous amount of unconflicted energy for use in a now unbound and non-pathological phenomenal awareness. Thus, true insight can only be achieved by meeting the requisite condition of bringing the mind to rest, i.e., removing psychopathology.

Often mistaken for the pessimistic, asceticism promoting and life-denying philosophy of another system of Indian thought, Jainism, sankhya does not deny the importance of the phenomenal mind nor recommend its obliteration. Rather it seeks to make the mind the complete master of its thoughts and impulses through a gradual system of self-discovery. To make the mind perfectly still does not require the stance of a recluse engaged in non-productive austerities and narcissistic fantasy. On the contrary, the test of a successful yogi is to live in the phenomenal world with customary responsibility without the distractions of life affecting his deep equanimity (Sivananda, 1954; Satchidananda, 1970). Sankhya affirms the reality of the phenomenal consciousness which all men share but also points to a state of fulfillment that forever frees man from suffering. However, without a fundamental change in consciousness towards transpersonal perception,

the state of highest fulfillment cannot occur.

When the mind is at complete peace, the essential life-monad is realized to be independent of the forces which affect and cause the constant changes in the mind. Truth is attained through the recognition that no thing affects or can produce pathology on the essential life-monad. When psychopathology has been forever eliminated through the isolation and actualization of the deeper self, there is a sense of finality. There is a complete cessation of illusively attributing cause and effect experience to the essential self. The mind, a manifestation of matter, has qualities, but the self, the core identity, is not so composed.

2. Specific Sources of Psychopathology

Ignorance, unawareness and especially rejection of the possibility of a state of being transcending the phenomenal ego impairs the person's ability to become self-actualized. As a consequence there is a bondage to a life style which unconsciously or consciously defines experience as having certain arbitrary boundaries. If an individual sets limits on intrinsic knowledge or happiness he will not attain a transcendent identity.

The idea or unconscious attitude that the ego is the essence or foundation of being is a hindrance to self-actualization. Though ego-identifications determine consciousness in most people, it is the notion that identity does not penetrate beyond this level of being that is the obstacle. Ego functions normally limit the horizons of awareness to exclude the life-monad. Though a healthy ego will provide adjustment

to society and satisfactions of a transient nature, it is this same ego which veils deeper identity. The ability to make the ego temporarily inoperative during the practice of yogic techniques in no way impairs its function, but brings it to a position less central in the organization and expression of self.

> To regard the noneternal as eternal, the impure as pure, the painful as pleasant and the non-Atman (prakriti) as the Atman (purusha)--this is ignorance. To identify consciousness with that which merely reflects consciousness--this is egoism. (Isherwood & Prabhavananda, 1953, p. 78)

Attachments, sympathies, interests and affections toward objects are hindrances to knowing the life-monad. At first glance this seems to refute the idea that healthy object relations are a basis for personal adjustment, but a deeper analysis reveals that the objects of these sentiments are transient, subject to change, dissolution and decay over time as well as perceptual distortions of an ego involved in maintaining a precarious sense of worth. It does not mean that normal human contact and expression is avoided or rejected but rather that an attitude of detachment is cultivated.

Maslow (1970) found that those individuals who were most detached from their objects of love were, paradoxically, most able to love fully. This attitude fosters great independence and gratification because the identification is not with the ego which illusively attempts to claim the role of causitive agent in interpersonal or interest determined expression. It is always the life-monad, indifferent, yet eternally blissful which is the prime mover. Attachments, sympathies, interests and affections become more satisfying because there is no attempt to derive and maintain a clinging or lasting attachment to the

object of desire. As the identification is with the life-monad, objects of the material world can be totally savored, loved, and enjoyed, but suffering due to loss of objects or possessing unwanted objects is avoided.

The final security and source of understanding for man can not be found in any event which is subject to the laws of the physical universe. All attachments which are based on desires of the ego have a seed of despair even in the temporary happiness they may bestow. This satisfaction is only a reflection of the life-monad on the mind, and as the satisfaction is not based on isolation of the monad from the material events it illuminates, there will be no lasting peace. The ability to engage in the events of nature, enjoy them fully, but not be attached or demand they reoccur at will is a goal of yoga.

Another category of psychopathological phenomena are "disinclinations, distastes, dislikes, repugnances and hatred" (Zimmer, 1951, p. 300), which may be interpreted as neurotic fear. These aversions are the most familiar and obvious aspects of psychopathology to the experienced psychotherapist. Phobias, free-floating anxiety, depression, obsessions, compulsions, rationalization, regression, projection and other ego-defense mechanisms as reactions to inevitably unsatisfying object relations hinder self-actualization, the isolation of the essence from its reflections. When an individual expresses unrealistic fear there is a perceived threat to the internal object system of the ego which is illusively felt to be the core identity. As the life-monad becomes isolated through yogic practices, and the identification of ego as self becomes less prominent, ego-defenses

become less necessary and lessen in intensity and frequency.

Attachments and aversions are two facets of a single source of psychopathology. Both are based on selfish cravings for a happiness that cannot be found in the phenomenal world. Ascribed to Buddha, the following passage succinctly states the basis of psychopathological ego-identification.

> Let no man cling to what is pleasant, or to what is unpleasant.
> Not to see what is pleasant is pain, and it is pain to see what is unpleasant.
> Let, therefore, no man be attached to anything.
> Those who are attached to nothing, and hate nothing, have no fetters.
> From pleasure comes grief, from pleasure comes fear; he who is free from pleasure knows neither grief nor fear.
> From desire comes grief, from craving comes fear; he who is free from craving knows neither grief nor fear.
> (Burtt, 1954, pp. 63-64)

The origin of psychopathology is a mind agitated from object attachments and aversions to the point of preventing the life-monad from illuminating consciousness. As thoughts of anticipated or past pleasures and pain dominate thought, they are a hindrance to self-actualization. Bliss, which is experienced when the life-monad is perceived by the mind, is categorically distinct from transient pleasure experienced through attainment of desired objects.

The nucleus of all psychopathological phenomena is found in eros, the life instinct, for though it temporarily triumphs, it is thanatos which claims human destiny. Aging, decay and death affect the physical and mental reality of every human being. The clinging to life as a process that should go on without end, and the unconscious desire for the phenomenal ego to be unaffected by the inevitable physical laws

is the basic psychopathological desire that motivates all other lesser pathologies. Ultimately, it is wrong knowledge or poor discrimination that causes suffering and the basis of this incorrect understanding is the identification of the ego as the core being. As the transcendent self emerges and a more whole and integrated identity becomes exfoliated, discrimination increases and psychopathology lessens.

3. The Constituents of Nature--The Gunas

> The object of experience is composed of the three gunas--the principles of illumination (sattva), activity (rajas) and inertia (tamas). From these, the whole universe has evolved together with the instruments of knowledge--such as the mind, senses, etc.--and the objects perceived--such as the physical elements. The universe exists in order that the experiencer may experience it, and thus become liberated. (Isherwood & Prabhavananda, 1953, p. 90)

There are three elemental qualities of prakriti which interplay to cause the mental confusion which obfuscates the life-monad. Operating at the physical and mental levels, they are called gunas, meaning ropes, and bind all forms. Though they can be directly perceived only in the highest state of self-actualization (samadhi), they are inferred from their effects on objects.

> Purity, passion and inertia--these qualities, O Arjuna, born of Nature, bind fast in the body, the embodied, the indestructible. (Bhagavad Gita, 1972, p. 163)

Sattva guna is balance, rhythm, goodness, perfection, completion or purity, the aspect of the phenomenal self that motivates or facilitates enlightenment (Zimmer, 1951). On the physical level it is the completion and balance of form, the harmony and truth of all physical law. In the body it is the harmonious interdependence of parts and the well-being of vibrant health. Mentally it is beauty, goodness, truth,

self-actualization, love and wisdom. All those higher values customarily described as the pinnacle of humanism and all those characteristics which the great religions see as inherent in God, are the product of sattva guna. Sankhya assumes that the collective psyche of man is evolving towards a unitive consciousness, an ultimate and final telos, in which all distinctions melt into a single first cause. Personally and collectively, sattva acts as a magnet in actualizing this essential and ideal existence.

On a psychological level, sattva is a state that all humans consciously or unconsciously strive for. It is a self-validating experience of wholeness which is the climax of man's quest for meaning.

> Of these, sattva which from its stainlessness, is luminous and healthy, binds by its attachment to happiness and by its attachment to knowledge. (Bhagavad Gita, 1972, p. 164)

Those developing fulfillment theories from their experiences as depth psychotherapists (Frankl, 1969; Fromm, 1968; Goldstein, 1971; May, 1953; Maslow, 1968; Rogers, 1963) report the discovery of a state of being identical to sattva guna which is conceptualized as a positive, healthy psychological state latent in the human condition. Insight, peak experience, self-actualization, mature love, the will to meaning and other concepts of fulfillment are viewed as intrinsic capacities covered by psychopathological forces. When, through systematic self-discovery, the obstacles to full functioning are removed, a state of happiness and knowledge emerges.

Rajas guna, literally translated, means dust. In parts of India where there is little or no rain for ten months of the year, dust is stirred up and continually swirling in the air. A whirlwind of dust

metaphorically describes a state of mind under the sway of rajas. It inspires competition, hatred, selfish desires and likes and dislikes which are expressed regardless of the needs and feeling of others. Egotism, jealousy, vanity and ambition dim the view of self, creating a field of psychic agitation. The continual birth and transformation of thoughts is brought about through rajas guna. All things in the process of actively becoming and changing form are its products.

> Know thou rajas to be of the nature of passion, the source of thirst (for sensual enjoyment) and attachment; it binds fast, O Arjuna, the embodied one, by attachment to action. . . . Greed, activity, the undertaking of actions, restlessness, longing--these arise when rajas is predominant. (Bhagavad Gita, 1972, p. 166)

Since the goal of sankhya and yoga is to still the mind so the life-monad may be perceived, rajas is looked upon as an obstacle, an aspect of nature antagonistic to contemplation. The rajasic mind continually strives to make identifications based on the illusion that the ego is the primary self. Only when the dust is caused to settle through yoga may the process of identifying action with the ego be quelled.

Darkness, inertia, depression and unconsciousness are the qualities of tamas guna. The basis of lack of feeling, dullness, ruthlessness, insensibility, gloom, ignorance, error and illusion is found here, counterbalancing the continual action that attends to rajas. Resistance to knowledge and choosing regression rather than growth alternatives is the function of tamas guna.

The three qualities of matter tend towards the production of illusory ego identifications. Even sattva guna, though it is the quality

of mind that motivates one toward the real self, is the final obstacle to self-actualization since it is still a manifestation of prakriti. Blind activity and inertia also leave the mind with incorrect identifications. The gunas, the bundles of life forces which constitute the personal ego, continually implicate it in the surrounding world.

> Our clinging to our ego and our usual concrete conception of what our ego is; our spontaneous self-surrender to the likes and dislikes that guide us daily on our way and which, more or less unconsciously, are the most cherished ingredients of our nature--these are our impairments. (Zimmer, 1951, p. 302)

By means of yoga, the individual, impaired though he is in mind, can acquire an attitude of discrimination which opens up the way to release and self-actualization. Cleansed of the whirling dust of perpetual cognitive activity as well as the inertia and darkness which is a dulling weight on phenomenal awareness, the psyche becomes entirely sattvic. It takes on the qualities of calmness and transparency. With psychopathology removed, illumination unfolds automatically. A peak-experience occurs in which the individual remembers that his true nature is identical with the transpersonal phenomena of pure, white light.

Rajas and tamas become completely controlled when sattva remains alone and isolated. By its nature sattva functions to reflect the undistorted essence of which the phenomenal personality is but second order. As the indestructible life-monad comes to view, intuition transcends the levels of the former unconscious-conscious mind. Ever blissful and totally unconcerned with the personality that formerly defined and supported the person, transcending every boundary of clear and partly clear consciousness, it is perceived to have been hidden

within body and personality. While the essential qualities of rajas and tamas prevented its visibility, pure sattva permitted its emergence and reveals its existence to be like a jewel at the bottom of a quiet pond. At the time it is perceived, even though it is totally distinct from the body and mind, it is intuitively recognized as the core of identity.

Discriminative insight, which is the aim of the exposition of sankhya, is a tool for disentangling a person from the power of the gunas. Exposing the nature of rajas and tamas, it opens the way to the realization that core identity is separated from the continuous flow of material tendencies that capture attention. Through discriminative insight, a state of isolation from the ordinary life processes is achieved. When the individual has taken a firm stand upon the isolation of essence from matter, it can never be abandoned, for it is beyond the sphere of mental and environmental changes, different from all phenomenal events.

> That self-luminous abiding point amidst the whirlpool of the transient feelings, emotions, delusions and miragelike superimpositions--that inmost, basic nucleus of nature, crystalline, the very spark of being--stands brilliantly revealed and is known immediately as both the fundament and the pinnacle of existence. (Zimmer, 1951, p. 305)

In the Occident, the conception of man possessing an absolute and transcendent nature is unknown outside of Platonic, neo-Platonic and Augustinian philosophy, the poetry of Wordsworth, Blake and Thoreau and medieval alchemism (Dvivedi, 1890; Jung, 1963; Randolph, 1973). Transcendentalism proposes a field of being distinct from the relative field of existence to which Aristotelian logic is applicable (Maharishi,

1966). Sankhya, as well as the other major oriental philosophies, present the dual aspect of material and transcendent man as axiomatic and deduce the meanings and interactions inherent in this dichotomy from experimental and experiential philosophy. The resultant understandings demand a passage beyond ordered thought through the use of image, symbol and myth (Campbell, 1973; Jung, 1949; Zimmer, 1951). Sankhya proposes a transcendent principle comprehending the identity of these seemingly paradoxical fields of being presenting the union as knowable through direct experience. Whether the transcendent principle or the transmigration of life-monads have a basis in physical reality is a frequent but irrelevant question since they can be shown to have a psychic basis (Jung, 1938). Maslow (1970) noted that self-actualizers are frequently moved by forces inoperative in the relative field of being, i.e., the physical universe. From a purely empirical perspective it is recognized that absolute and transcendent experiences, manifest in the healthiest specimens of the species, have a psychic reality.

4. Sankhya Psychology

In ordinary awareness there is the delusion that the life-monad is caught in a net of unceasing physical activity while in reality it is free. The conception that the core of identity is in bondage is a non-truth which our limited and limiting ego entertains concerning the condition of the essential self. The activity of the gunas and the apparent bondage of the life-monad in matter is no less real than the absolute and transcendent field of being. There is knowledge derived from sense-impressions which is relative and absolute knowledge derived

through intuition of the higher self.

Though the activities of the gunas are impermanent as to their constantly changing details, they are enduring in their continuous presence. However, within the sphere of each person the effects of the gunas can be brought to a standstill in consequence of perceptual realignment. The realization of the essential difference between matter and self can be made. Although it appears that the phenomenal world enters into and affects the monad and although matter and its qualities are real, the involvement of the life-monad in them is illusory. It is like Plato's conception of men chained to the walls of a cave while an essential vision flows from a distant opening; eternally mistaking the flickering and reflection of the light for its essence, they are doomed to live life in the shadows of celestial brilliance.

Yoga is a discipline based on sankhya and is designed to produce an experience of the ultimate, perpetual aloofness and isolation of the transpersonal core of being. It stills the spontaneous activities of matter which in the form of the body and mind normally overlie the life-monad. Through yoga the inner world is seen to be a function of various aspects of the mind and by analogy, the physical universe is then understood to be the consequence of an outward movement of the energies of the external organs. By allowing energies to move through these organs and then withdrawing them into the psyche, the outer world is conceptualized as something that can be contacted or dissolved at will.

The ability to be independent of and transcend all the pairs of opposites which continually pull man to and fro is necessary to volitionally contact or retreat from the phenomenal field. It is only

great masters of yoga that can control themselves to the extent that the physical world, the universe of name and form, can be entered and exited at will.

The analysis of the psyche rendered by sankhya and adopted by yoga reveals man to be active through the faculties of speech, grasping, walking, evacuation and procreation, and receptive through the faculties of seeing, hearing, smelling, tasting and touching. The organs of these faculties are gross while the faculties themselves, the inner experiences, are subtle. Action and perception work outward towards the phenomenal world and stand as so many gates and doors, while intellect (manas), ego (ahankara), and judgment (Buddhi) stand as the doorkeepers, inspecting, controlling and registering what is carried through. Experience of the senses is collected and registered through the intellect, appropriated by the ego and delivered to judgment. Not directly perceptible, and inferred from their activities, intellect, ego and judgment constitute the subtle inner organ of mind (antahkarana).

Ego causes the belief that the person acts, thinks, suffers or has phenomenal awareness whereas the life-monad, the essential being is devoid of such characteristics. Basically rajasic since it is primarily concerned with action, the ego is the center of wrong identification. It is the misconception that refers all objects and acts of awareness to an "I." Misperceiving reality by continually assuming notions of physical and mental identification, the ego binds to a limited experience of self.

> . . . the making of the utterance "I" accompanies all psychic processes, producing the misleading notion "I am hearing; I am seeing; I am rich and mighty; I am enjoying; I am about to suffer," etc. etc. (Zimmer, 1951, p. 319)

The prime manifestation of sattvic phenomena is in the buddhi. It is the faculty of intelligence, determination, resolution, mental effort, awareness, feeling, attitude, value, opinion, belief, visualization, memory, recollection, discrimination, decision and judgment (Mishra, 1972). The totality of emotional, intellectual and intuitive powers stand behind, in the background of egoism. Primarily of an unconscious nature, the buddhi is the storehouse of the raw materials of our phenomenal nature which are continually streaming towards awareness. As the reservoir of psychic potentialities lie side by side in the unconscious buddhi, awareness emerges only through their manifestations.

Like the other faculties of the mind, the buddhi is compounded by the three gunas. As tamas is removed the buddhi becomes translucent and as rajas is removed there is a loss of agitation as the translucency becomes stilled. Buddhi then reveals the life-monad in its total serenity, aloof from the constantly churning activity of prakriti.

Before this isolation of purusha from prakriti can occur, the illusion of the connection between the two must be broken. This is accomplished through the development of discriminative insight. Particularly the delineation between the life-monad and the subtle, purified buddhi must be made as even this most crystalline aspect of the mind is still a part of prakriti, still changing in time and space from rajasic and tamasic influences.

Moving through the gunas, prakriti exhibits the phenomenal sights which the mind loves and hates, bringing ecstacy and despair. But the celestial center that gives energy to the spectacle of phenomenal awareness is the all-illuminating purusha, and the moment this returns

to itself, the scene of the world disappears. Patanjali expresses the event in similar terms.

> The Atman (purusha)--the experiencer--is identified with Prakriti--the object of experience--in order that the true nature of both Prakriti and Atman may be known. This identification is caused by ignorance. When ignorance has been destroyed, this identification ceases. Then bondage is at an end and the experiencer is independent and free. (Isherwood & Prabhavananda, 1953, pp. 92-93)

Because the subtle inner organ comprised of intellect, ego and judgment assumes the forms of the objects presented by the senses, the mind assumes a shape or character of more or less permanent impressions and memories. Feelings and thoughts associated with objects as well as the will to act that is aroused, remain to be reanimated at a later time by the impingement of phenomena similar to the original object. In this manner images and memories are recollected and a continuity of ego-identity is maintained.

According to sankhya the world is not the result of an act of a supreme creator. The universe, without beginning or end, is the result of an unceasing influence on prakriti by the infinitely numerous purushas. The purushas are not themselves active. Contemplating and witnessing the drama of personal and collective evolution, they do not consciously exert an influence on prakriti through an act of will, rather their mere presence excites prakriti to move. By its mere illumination the life-monad creates consciousness.

The dualism, of prakriti changing through the activity of the gunas, the purusha, the collectivity of life-monads, is accepted on the basis that a distinction between subject and object exists in all knowledge. There is no explanation of experience possible without the

awareness of a cognizing self and an object of cognition. While one exists in the phenomenal universe there is always a subject and object distinction.

Purusha, which might be defined as pure spirit, is one without a second, transcending knowledge derived from sense-impressions, and knowable only through direct perception. Nothing can be said about the life-monad other than that it is, as it possesses no qualities, abiding outside the categories of the phenomenal world. Even though all things are illumined by it, nothing comes to it other than itself.

When self-actualization has been attained, when perfect knowledge of the purusha enlightens the mental sphere, there is a constant and perpetual communion with that ground of being. The person is totally individuated, unique and one of his class yet completely identified with the collective identity of mankind. Having tapped the deepest self, the source of all physical manifestation, all perceptions vibrate with a sense of perfection.

B. The Yogic Hierarchy of Self-Actualization

A state of self-actualization as defined by yoga is a rare event, the product of life long discipline and evolution of identity. Samadhi, total isolation of the life-monad from the phenomenal field, is an acute peak-experience towards which the individual channels all his creative energy. Prescribed attitudes and techniques, which in themselves bring intrinsic gratification, are cultivated and perfected towards achieving total knowledge of the self. Though full self-actualization is attained by few, even periodic practice of yoga results

in some manifestation of physical, mental and spiritual energies.

Patanjali presents a description of self-actualization which includes the practices necessary to clear the mind of illusory ego-identifications. To remove psychopathology is the sole purpose of the attitudes and methods outlined in the paradigm of liberation. The ensuing wisdom is not found in the phenomenal field, but is latent within the deepest recesses of the self, ready to unfold with the correct stimulation.

> The eight limbs of yoga are: the various forms of abstentions from evil-doing (yama), the various observances (niyamas), posture (asana), control of the prana (pranayama), withdrawal of the mind from sense objects (pratyahara), concentration (dharana), meditation (dhyana) and absorption in the Purusha (Samadhi). (Isherwood & Prabhavananda, 1953, p. 97)

1. Yama

The first step toward self-actualization is designed to reshape the phenomenal personality. Kitson, quoted by Randolph (1972) defines yama as "a prohibition against killing, stealing, untruthfulness, envy, greed and covetousness." These interpersonal phenomena are to be eliminated from motivation in thought and behavior. The purpose is to replace negative values and attitudes with ones based on life affirmation and leading to the perception that hostility in all forms diminishes the visibility of the essential self. In outward appearance this set of prescriptions seems to be a restatement of a moral attitude originating in Judeo-Christian monotheism and in opposition to a current trend of philosophy from Hobbes (1960) through Freud (1966) which presents man as fundamentally selfish and governed by instinctively destructive propensities.

As presented by Patanjali and interpreted by Coster, 1972; Koestler, 1962; and Mishra (1972), yama does not apply to human expression in a moral sense. For an individual to engage in any or all of the behaviors strictly prohibited in the first limb of yoga does not make him bad or sinful. It is merely an indication of ignorance or a state of psychopathology. For a person to choose to be of a destructive nature only increases his bondage and suffering rather than being an instance of sin.

Maslow (1970) noted the absence of character based hostility in his study of self-actualizers. In a previous study (1968) he observed that anti-social and self-destructive trends were removed rather than uncovered in depth psychotherapy, thus refuting the notion that man is instinctively destructive.

The person seeking to gain fulfillment from yoga must, as a prerequisite, make a conscious commitment to non-aggression. Ambitious, competitive or combative persons on physical, verbal or mental levels cannot make progress in yoga. Unless the insight, which may also be garnered through psychotherapy, is reached that even thoughts of bringing harm to others is intrinsically damaging, peak-experience cannot be attained.

Yama seeks to prevent a useless waste of life-energy through non-productive actions. Abstention from sexual activity was originally considered an essential aspect of yama and even today is considered by many yoga masters to be of utmost necessity for complete self-actualization. Sexual impulses are conceptualized as being the most basic manifestation of life energy and are to be sublimated toward

the spiritual goal of samadhi. As the yogi also wishes to avoid attachment to objects associated with illusory ego-identifications, sexual impulses find further cause for being considered psychopathological. Randolph (1972), one of only a handful of American yoga masters, believes that to present the attainment of yogic self-actualization as dependent on abstention from sex is incorrect. Like all expression, sexuality must be accepted and based on an attitude of moderation and non-injury. There are also techniques, capable of being learned through diligent application, to prevent loss of life-energy through sexual intercourse. The first one is prolonging intercourse for a period of hours followed by the experience of orgasm without ejaculation. This demands great control of breath, physiological reaction and interpersonal consideration and trust. The second technique is known as vajroli and is an extremely difficult and complex method involving creation of a urethral vacuum through control of muscles and organs in the visceral region. The physical and mental preparation necessary to properly perform this technique requires years of training in hatha (physical) yoga, and given such an individual with well developed control of anatomical and physiological processes, great sexual fulfillment is possible. If, as Patanjali asserts, it is absolutely necessary to prevent loss of semen in order to proceed fully toward self-actualization, vajroli offers a viable alternative to abstinence.

2. Niyama

Isherwood and Prabhavananda (1953) translate this second stage as personal observances which includes purity, mortification, contentment

and devotion to God. A difficulty in interpreting the ancient yoga prescriptions for personality transformation is that they were originally developed for persons in a culture far removed from contemporary America. A rigid caste and family structure provided an elaborate set of roles and norms which prescribed appropriate behavior for all possible interpersonal relations.

Correct manners for dealing with every choice in life would be determined by the laws of caste and age. The primary concern of the individual would be to function as a component of a complex social organism, identified with the tasks and roles received at birth. He would be expected to passively allow his public and private character to be conditioned. Self-expression would not be developed as the precondition to participation in the group consisting of dissolving personal tendencies and idiosyncracies.

The father in the Indian household represents absolute authority and his will is obeyed without question. Even Ghandi, who demanded that his two sons serve him at home rather than receive a formal education, publically denounced one of them in print for leaving home and pursuing his own interests (Koestler, 1962). The eldest son is expected to be the physical caretaker for his aging parents and no matter how irrational their demands or behavior might be, great social disapproval results from any alteration in the prescribed relationship.

Within this social context, yoga developed and flourished, leaving interpersonal concerns in need of reinterpretation rather than literal translation. As niyama unfolds from yama and is a continuation of the attitudes necessary for self-actualization, the concept of

personal responsibility will be added to the other observances.

Responsibility means the ability to respond to internal, personal and creative cues and also the capacity to wholly respond to the needs of others. To be relevant in contemporary society the yogi must be responsible to every totally unique, one of his class person with whom he contacts. The locus of all expression must be determined by the self without more than conventional regard for the expectations of society. Krishnamurti (1968) points out the necessity of following the challenge of life flowing from the psyche rather than seeking group norms for determination of expression. The concept of "escape from freedom" (Fromm, 1968), mirrors the necessity of developing an inner basis of determination rather than an external one.

Purity means developing physical and mental hygiene on a pragmatic rather than moral basis. Particular methods of cleansing the body and the mental sets of attention, serenity, cheerfulness and concentration define purity. The function of purity is a psycho-physiological preparation for the direct perception of self. As the higher stages of self-actualization involve the awareness of increasingly intense experience, the psycho-physiological mechanism must be in a state of preparedness. It must be cleansed of hindrances which would allow anxiety or misinterpretation to follow peak-experience.

Although mortification is the literal translation of the third aspect of niyama, it does not imply asceticism or puritanism. Patanjali himself uses the word "tapas" which means to generate and conserve heat or energy (Isherwood & Prabhavananda, 1953, p. 106). Through a discipline of expression according to the prescriptions of yama and niyama,

through a gradual process of learning to avoid activities which increase ignorance, a reserve store of psychic energy or life-force is built up. This conserved energy is then applied to specific physical and mental techniques which constitute the remainder of the steps to self-actualization. Tapas also denotes an attitude of moderation in all pursuits that is essential for the maintenance of an attentive and serene attitude.

> Yoga is not for the man who overeats, or for him who fasts excessively. It is not for him who sleeps too much, or for the keeper of exaggerated vigils. Let a man be moderate in his eating and his recreation, moderately active, moderate in sleep and in wakefulness. (Bhagavad Gita, 1972, p. 85)

Contentment, meaning acceptance of self, others and nature as they are, is an essential observance or niyama. By not desiring an aspect of reality to be other than it is brings about a profound attitude of acceptance towards all phenomena. It is the key to equanimity and balance enabling the yogi to act calmly and appropriately in all situations. Through acceptance also comes the attitude of humility which is taught as the highest of all observances. An ingrained attitude of humility, differentiated from feelings of inferiority, frees the self from dominion to ego-identifications. Since the life-monads illuminating and moving all phenomenal personalities are identical, feeling greater or lesser than others is only a source of further illusory identifications.

The translation of the last facet of niyama is devotion to God. For the Hindu yogi, this means to unswervingly observe all the elaborate daily rituals of traditional worship which are conducted at home and in temples. When these acts of worship are performed with reverance to a state of being greater than the ego, the effect is to bring about

one-pointedness of mind and a recommitment to the goal of liberation. A contemporary interpretation of devotion to God in perspective of the transformation of personality include self-confidence, growth and awareness.

Since the purpose of ritualistic worship is to bring about an awareness of the essential self, the belief in and initial glimpses of the life-monad will raise confidence in the possibility of actualizing latent potentialities. For the Hindu to practice daily rituals is for him to affirm alternatives leading to growth rather than regression. Since his belief system supports these acts as growthful, the non-observance of them is equivalent to regression. For a contemporary American pursuing yoga it is equally necessary to make a personal devotion to those intra-psychic and interpersonal phenomena which lead to the expansion of awareness rather than its diminution. A goal of Hindu worship is to bring about a state of great attention through the manipulation of sacraments. In order to properly conduct the worship a great amount of awareness has to be focused on thoughts and actions in accordance with specific rules. Again, although Hindu worship is quite obviously not meaningful to most westerners, the attention deployment toward all details of expression fosters awareness of self. Without awareness towards all the facets of self, no deep levels of concentration or meditation can be accomplished, and it is concentration and meditation which are at the core of the final levels of yogic self-actualization.

Another reinterpretation of devotion to God is the unselfish serving of other's needs. Since in yoga, the life-monad, or God, is

present in all, aiding in the self-actualization of others leads to states of psychic gratification not based on ego-identifications. (The approach of selfless action, karma yoga, is such a basic aspect of yoga that it will be considered separately in Chapter III.) In a sense, serving or gratifying the needs of others is serving God, yet the notion of an anthropomorphic God may be absent.

3. Asana

While yama and niyama deal with the requisite attitudes at the base of the hierarchy of self-actualization, asana is the first of the remaining levels dealing specifically with technique. In its complete form asana is known as hatha yoga and prescribes specific bodily movements, patterns of respiration, and exercises directed towards removing disease and strengthening and relaxing all physiological processes. With even a small degree of success in asana, the body will be able to be held still in a comfortable seat and it is this ability to sit for long periods of time without movement which is essential for the more advanced techniques of breath control and mental concentration. As asana is a particularly integral facet of applied yoga, an entire section in the following chapter will be devoted to a full exposition of its character.

Asana is conceptualized as the commencement of the practice of applied yoga.

> In a clean spot, having established a firm seat of his own, neither too high or too low . . . there having made the mind one pointed (through yama and niyama), with the actions of the mind and senses controlled, let him, seated on the seat, practice Yoga. . . . Let him firmly hold his body, head and neck still . . . without looking around. (Bhagavad Gita, 1972, p. 83)

Patanjali issues the same prescription for asana.

> Posture is to be seated in a position which is firm but relaxed. Posture becomes firm and relaxed through control of the natural tendencies of the body and through meditation on the purusha. (Isherwood & Prabhavananda, 1953, pp. 110-111)

In India, where yoga developed, it is quite natural for persons to be able to assume a cross-legged posture on the ground without feeling a great deal of stress for the chair is only present there through British influence. While Patanjali may state as a matter of course that one is to sit with an erect posture without extraneous movement, few Americans can accomplish this without preliminary training in other hatha yoga techniques. All beginners in yoga find it easier to sit upright in a chair, thus meeting the basic requirement of a still and erect posture, but this may prove hazardous because when some degrees of psychic absorption has been accomplished, there is a danger of falling.

A naturally erect posture is very rare. Most people hold themselves poorly and are subject to constant physical tension. Therefore, asana is best developed by gradual and careful training by an expert in hatha yoga. Since a maladjusted or diseased body expresses a tense and restless mind, the body must be made whole and relaxed.

The hatha yoga postures leading up to the firm and controlled meditative asana prescribed by Patanjali and the Bhagavad Gita must be smooth, calm and peaceful because yoga teaches physiological control rather than violent exercise leading to a highly developed musculature. For the hatha yogi, physical perfection means grace, strength, hardness and endurance.

If physical tension is not treated properly it is transformed into physical symptoms within a great range of severity. Tension within the personality is called "in-tension" and may also be manifest in abnormal physical motions such as tics, tremors, or awkward and rigid gait (Mishra, 1972). Fundamentally the two tensions are not different. They are part of a fluid physical and mental system and are easily transformed by one into the other. The result is that consciousness is restricted to phenomena rather than being focused on the purusha.

By asanas, tension is displaced into physical and psychic energy. Physically, a state of relaxation not possible even with commonly used tranquilizing and hypnotic drugs is reached. The flow of attention, cleared of psychopathological tensions begins to reflect the translucent light of the life-monad.

4. Pranayma

With the mastering of a meditative asana, the individual prepares to develop techniques for calming and controlling the mind. The first such technique effects the thoughts indirectly through the control of the breath. Prana means the vital energy which animates all physical and mental expression. Because this energy is renewed by breathing, prana is sometimes translated as "breath," but it really has a much broader definition, for all the powers of the body, senses and mind are considered expressions of prana. The initial aphorism of Patanjali dealing with pranayama is a simple exposition of technique.

> After mastering posture, one must practice control of the prana (pranayama) by stopping the motions of inhalation and exhalation. . . . The breath may be stopped externally, or internally, or checked in mid-motion, and regulated according

> to place, time and a fixed number of moments, so that stoppage is either protracted or brief. (Isherwood & Prabhavananda, 1953, p. 112)

The initial statement to the effect that inhalation and exhalation is stopped, means that rhythmical breathing, with deep and prolonged inhalations and exhalations are interspersed with periods of breath retention. With sustained practice, the breath can be retained for two to three minutes without discomfort to the practitioner.

According to yogic experiential physiology, a huge reservoir of spiritual energy called "kundalini" or serpent power is located at the base of the spine. The effect of pranayama, especially the interval of breath retention, is to arouse this dormant energy which then travels up the spine to the brain producing various degrees of enlightenment. Former Harvard psychologist Richard Alpert reports an experience while studying pranayama under an Indian yoga master.

> I used to do a thing called pranayama which is a technique for raising energy up your spine. It's called raising the Kundalini. . . . I would do hatha yoga for a long time, then I would do pranayama . . . you take the air in one nostril tighten up certain muscles halfway between your genitals and your anus, and pull up on certain nerves. It's like you're closing the sphincter of your anus. You pull up on those, and then you close your chin (press it towards the chest), which closes another place up here. So you close both places, and you bring this together, and you hold your breath, and you hold your breath for longer and longer periods of time over some months, and you get up to a minute and a half or two minutes, and you learn how to force your attention on the tip of your spine and to visualize right in from the tip of the spine. . . . You're not doing any breathing. But after a while, when you stop getting hysterical about what's happening, you can go into this state and just sit. You're just sitting with your mind totally focused on your spine, and you've slipped into this place where you're perfectly calm but there is no breath, and at that point you feel this energy pouring up your spine and into your head. It's very incredible, powerful, and very delicate and must be done very, very delicately, with much guidance--but it's an extraordinary process. (Ram Dass, 1974, pp. 110-111)

The experiences reported by those practicing pranayama range from reports of feeling light and mentally clear to descriptions far more intense than even Ram Dass' report (Krishna, 1967). Although the kundalini theory developed after both the Bhagavad Gita and Patanjali and is not a integral aspect of classical sankhya psychology, it is presently a popular theory to explain the experience when the mind and body have been transcended and the life-monad begins to enlighten awareness.

Patanjali, in his final aphorism on pranayama, explains perceptual changes in the advanced student.

> The fourth kind of pranayama is the stoppage of the breath which is caused by concentration upon external or internal objects. As the result of this, the covering of the inner light is removed. The mind gains the power of concentration. (Isherwood & Prabhavananda, 1953, pp. 117-118)

While inhalation, exhalation and suspension of the breath may be consciously directed, this operation is involuntary. Whenever a yogi who has gained complete mastery of prana attends to a thought or object, breathing will naturally stop. This natural stoppage may continue for seconds or minutes without the awareness of its occurrence. In the final stage of samadhi, the breathing ceases almost entirely for hours at a time. What would perhaps cause death in one not knowledgeable in pranayama is not dangerous for the advanced yogi since he has sufficiently prepared and developed himself to support the experience.

As the mind and body become cleansed through pranayama, the isolation of the purusha from prakriti gradually occurs. Discriminative insight is attained and the ability to concentrate the mind on one

physical or mental point for long periods of time begins to develop. With the mind and body totally relaxed and purified of distractions through pranayama, mental techniques can be approached.

5. Pratyahara

> When the mind is withdrawn from sense-objects, the sense-organs also withdraw themselves from their respective objects and thus are said to imitate the mind. This is known as pratyahara. Thence arises complete mastery over the senses. (Isherwood & Prabhavananda, 1953, p. 118)

The object of pratyahara is to withdraw or displace thoughts from sense-objects, thus eliminating tendencies for acting out ego-identifications. There is some element of pratyahara in all the stages of self-actualization, but active pratyahara as a technique follows pranayama. As the goal of yoga is to separate purusha from prakriti, the ability to withdraw from the phenomenal field at will is of utmost necessity, and this is possible only when thoughts and actions directed toward the world have been analyzed and seen as not reflecting the essential self.

In the Bhagavad Gita (1972) the senses of man are likened to a team of wild horses drawing a chariot. By use of the reins, symbolizing the intellect, the charioteer, the self, is able to master and subjugate the senses at will. The yogic practitioner, sitting quietly after practicing pranayama will be aware of thoughts directed to sense objects. These thoughts draw action towards their objects and thus break the one-pointed concentration which is being sought. While sattva will be predominant during pranayama, there will also be natural tendencies for the mind to be drawn to operations of a rajasic and

tamasic nature, thus being counter-productive to isolation of the life-monad.

The technique by which thoughts and actions directed toward sense objects are controlled is jnana yoga or self-analysis. When complete control of thoughts has been attained, there is said to be awareness of no thing, for all thoughts are real or imagined constructions of material objects. Thus, manifestations or prakriti having been eliminated, consciousness reflects only its true nature, purusha.

> Abandoning without reserve all desires born of Sankalpa (thought and imagination), and completely restraining the whole group of the senses by the mind from all sides, little by little let him attain to quietude by the intellect held firmly; having made the mind establish itself in the Self, let him not think of anything. From whatever cause the restless and unsteady mind wanders away, from that let him restrain it and bring it under the control of the Self alone. The yogi, always engaging the mind thus (in the practice of Yoga), freed from sins (bondage to sense objects), easily enjoys the infinite bliss of contact with Brahman (purusha). (Bhagavad Gita, 1972, pp. 85-86)

6. Dharana

Requiring patience, will and persistence, dharana or concentration is practiced upon the foundation of yama, niyama, asana, pranayama and pratayahara. Concentration is attained by fixing the mind on an external or internal point for twelve seconds (Sivananda, 1954). The mind, centered on a single transpersonal symbol, becomes totally fixated as consciousness of body, ego and surroundings are transcended. When successful, there is a completely sattvic state of being as agitation and dullness of the mind have been eliminated.

> Concentration (dharana) is holding the mind within a center of spiritual consciousness or fixing it on some divine form either within the body or outside it. (Isherwood & Prabhavananda, 1953, p. 121)

Eventually the yogi will be able to totally concentrate on any mental or physical object, but in the initial stages of dharana the object is usually a bodily point, internal image, external object or internally produced sound vibration called mantra. The particular object of concentration is important only in that it is used consistently and has been personally invested with a transpersonal meaning. Although all persons possess some ability to concentrate on some lines of interest, the aim here is to develop concentration to a very high degree.

Those influenced by the kundalini theory will concentrate on particular body points called chakras. The goal is to sublimate the latent energy in the central nervous system to consciousness through concentration on the various neural plexuses. In the physical body, the sacral plexus corresponds to muladhara chakra; the prostatic plexus to swadhisthana chakra; the solar plexus to manipura chakra; the cardiac plexus to anahata chakra; the laryngeal plexus to vishudha chakra, and the cavernous plexus to ajna chakra (Vishnudevananda, 1959). Attention is sharply focused on one of these anatomical areas. A side product of this form of concentration will be great conscious control over the physiological processes directly governed by the particular plexus being used (Kuvalayananda, 1972).

A variation of this technique used by those with an inclination toward devotion to a personal deity is the visualization of an in the anahata, vishudha or ajna chakra. The goal is to apply

concentration so that the image, in all its detail, may be visualized at will. This form of concentration, and the attirbutes ascribed to the deity is not an integral part of sankhya or yoga, but is recommended for those with traditional religious beliefs (Isherwood & Prabhavananda, 1953).

Tratak is the concentration on an external object. A mandala, candle flame or individually determined transcendent symbol is attended to. As with the other methods of concentration, the aim is to eliminate all things from consciousness but the object (Deikman, 1963).

The most widely used form of concentration is the inner repetition of a mantra, which is a sound of one or more syllables. A symbol of the purusha is the syllable "om" and is a populary used mantra in yoga concentration. The sound is simply produced in the mind for long periods of time while sitting in asana. Om, the highest symbol of yoga represents the experience of the life-monad. Mantra concentration is a form of yoga which is widely practiced in America and has been the subject of recent research. It will be considered in detail in Chapter III.

All forms of concentration share the goal of producing a one-pointed mode of perception. Freeing the mind of environmental and internal distractions, clearing the mind of rajas and tamas, and allowing only those thoughts which are willed to enter consciousness, the ability to enter into an inner sphere of intoxicating joy, power and serenity whenever desired is gradually developed (Sivananda, 1954).

7. Dhyana

When the practice of dharana has been well established and the yogi is able to be wholly concentrated on one point for a period of several minutes, the state of dhyana, or meditation is reached. While in dharana there is a continual effort to keep the mind focused on the object but in meditation there is no perception other than the object. An unbroken flow of thought towards the object of concentration defines the content of awareness.

In normal awareness, a thought-wave arises, remains in the mind for a moment and then subsides, only to be replaced by a different wave. In dhyana, a succession of identical waves is raised in the mind so quickly that no one wave subsides before it is replaced by another. The effect is one of perfect continuity. A series of identical images are fused into one stable phenomenon.

Having strengthened and relaxed the body and eliminated mental agitation and inertia, the life-monad begins to illumine the mind directly. A liberation of tremendous amounts of creative energy moves latent potentialities and capacities in all spheres of expression. The dawning of self-actualization is seen in the developing ability of volitional peak-experience. Knowledge, compassion and bliss become established as the prime movers of all behavior (Sivananda, 1954).

The meditative experience produces great psychic regeneration as indicated by characteristic changes in EEG pattern. There is the appearance of alpha waves followed by an increase in amplitude and decrease in frequency and finally the appearance of rhythmical theta patterns (Anand, Chhina and Singh, 1972; Kasamatsu and Hirai, 1966;

Udapapa & Singh, 1972; Wallace, 1970). Based on experiences in meditation, yoga adepts foreshadowed the objective measurement of EEG patterns.

> Considerable changes take place in the mind, brain and nervous system by the practice of meditation. New nerve currents, new vibrations, new cells and new channels are formed. The whole mind and the nervous system are remodelled. (Sivananda, 1954, p. 371)

A true state of meditation is attained only after many years of regular practice of dharana. Upon reaching dharana with occasional advancements into dyhana, the yogi often intensifies his commitment to liberation through withdrawal into seclusion for months or years at a time.

> You can make a beginning in the world but when you have made some progress, you must shift yourself up for advanced practices to a suitable place where you will find solitude. Those who have fixed up their sons in life, who have retired from service and who have no ties or attachment in the world can remain in seclusion for four or five years and practice intense meditation for Self-Realization. This is like entering a University for higher studies or post-graduate work. When the period of solitude is over, when self-knowledge is attained, solitude is abandoned and the knowledge and bliss should be shared with others. (Sivananda, 1954, p. 154)

Though great levels of maturity and creative expression may be reached with periodic and regular meditation, seclusion is usually considered an integral part of the method of yogic self-actualization. It remains to be empirically determined if the final outcome of dhyana, samadhi, can be attained without a prolonged retreat into seclusion. Maharishi (1966) and Satchidananda (1970) both claim that the traditional period of secluded meditation is unrealistic and unnecessary for advanced students in western cultures.

Through meditation ego-identifications are gradually eliminated and the life-monad becomes the sole object of perception. "Perfect control of the thought-waves of the mind," which is Patanjali's definition of yoga (Isherwood & Prabhavananda, 1953, p. 11) becomes developed. With the ability to enter into a state of undistracted meditation for one half hour the final stage of samadhi is reached.

8. Samadhi

Superconsciousness, the yogic term for the highest realms of peak-experience has classically been divided into seven sub-categories (Mishra, 1972), but as the shades of difference are more technical than functional, they are most lucidly portrayed as comprising two classes, lower and higher samadhi. This general level of experience is the culmination of the previous stages of yoga and cannot be attained and integrated without a systematic passage.

> When, in meditation, the true nature of the object shines forth, not distorted by the mind of the perceiver, that is samadhi (absorption). (Isherwood & Prabhavananda, 1953, p. 122)

In the lower or conscious level of samadhi, the object of meditation is seen as a thing in itself, without any imposition of conceptual parameters. Perceiver and perceived melt together into a single act. The mind, generator of dualities, is transcended as the subject penetrates the sphere of the object, fuses with it and reveals its innermost essence.

Dharana, dhyana and lower samadhi together constitute samyama. The ability to make a samyama uncovers the true essence of any internal or external object.

> It is from this technique that the arguments of yoga derive their strength and value. Just as concentration, by appropriate depth and intensity, passes into meditation, so prolonged meditation gives place to samadhi. The yogi then takes the last step to outstrip his human limitations, to change his very nature by transforming his phenomenal consciousness into a supramental consciousness. (Feurstein & Miller, 1971, p. 34)

Knowledge about physical and mental phenomena is obtained directly through intuition during samyama. Freed from mental imaginings and projections, all within the field of perception shines forth in a pristine vision of unity. According to sankhya the phenomenal world is but the outer facet of a vast universe of transpersonal experience, the true depth of which can only be fathomed through the supramental intuition of samadhi (Feurstein & Miller, 1971). When psychopathology, the misleading identifications of the ego, are totally subdued during samyama on an object, the pure light of purusha shines forth through the mind and illuminates all with its pure radiance, further transforming the residual phenomenal personality.

> Destructive forces drop out with the disappearance of their cause, material mind. Constructive, driving forces are manifested. Due to its intrinsic nature of purity, the stream of purusha flows peacefully, calmly and blissfully. Mindstuff flows peacefully by reason of sublime impressions. (Mishra, 1972, p. 230)

While in ordinary consciousness seemingly infinite varieties of stimulation produce an equal amount of mental hues and tones, there is now only one inner response to all stimulation, supramental cognition and bliss. Along with the authoritative noetic quality of samadhi there is the experience of expansive gratification.

> During illumination the floodgate of joy breaks. Bliss, immortality, eternity, truth and love become the core of his being, the essence of his life, the only possible reality. He

> realizes that the deep, everlasting fountain of joy underlies all beings, that this eternal all-embracing love and wisdom supports and guides every particle, every atom of creation. Sin, sorrow and death are but words now for him without meaning. He feels that the elixer of life, the nectar of immortality is flowing in his veins. (Sivananda, 1954, p. 377)

Descriptions of purusha, which transcends all matter, indicate an enlightenment of consciousness. With but an effort of will the self-actualizer may enter into a state of supreme wisdom, compassion and bliss. The eternal values of the species become fused with every expression as all veils of ignorance are lifted.

Lower samadhi is a transitional stage to highest samadhi, for to maintain the first level a conscious samyama must be made on an object, and higher samadhi bears no relationship to any quality of prakriti. There is a limitless, divisionless and infinite experience of pure consciousness which requires no effort of will to maintain. When this experience is known, the mind, desires, actions and even emotional peaks vanish. There can be no cause which will alter awareness as at all times there is the realization of unalloyed self, the essential first cause which manifests all diverse material phenomena.

For one in this state of self-actualization, the entire physical universe of sense objects becomes meaningless in comparison to the intrinsic knowledge of the self which has been set free from all phenomenal projections. The impetus of this experience is to move the self-actualizer to become a teacher in the deepest sense of the word. Having penetrated to the core of being, transcended human limitations, and discovered the true state of the self, there is actually no possibility other than showing, guiding and coaching others and illustrating

methods of need gratification congruent with attaining highest samadhi. Since he has risen above seeking phenomenal gains for these efforts, he becomes a leader in a very wholesome and virtuous way. Having satisfied all his needs he sets no goal other than serving others.

> This is a state to be experienced but rarely in the course of generations. This is the final state of peace, the goal of life. (Savananda, 1954, p. 382)

CHAPTER III

YOGA AS AN APPLIED SYSTEM OF SELF-ACTUALIZATION

From sankhya, the conceptual framework of self-actualization, have evolved specific techniques for attaining samadhi. Known as yoga, they are methods of accomplishing union between the personal and transpersonal levels of being. Through regular and systematic practice of yoga, psychopathology is removed and physical and mental processes come to directly reflect the truth, goodness and beauty at the ground of human identity.

Hatha yoga, consisting of asana and pranayama, includes specific physical movements, postures and patterns of respiration designed to bring about a harmonious interaction between all organ systems and mental operation. The production of revitalized and stable neurophysiological function and reduction of neurotic behavior occurs through the practice of mantra yoga, a specific form of concentration and meditation. Karma yoga, the yoga of selfless service, attains to union through gratifying the needs of others without motivation of personal reward, thus purifying the mind of an identification of self based on object relations.

A. Hatha Yoga

The dependency of personal growth on harmonious interaction between the body and the mind has been established in biology (Montagu, 1971), medicine (Brena, 1972; Luthe, 1963), neo-Freudian analysis

(Lowen, 1958, 1973; Reich, 1949, 1971), and existential-humanistic psychotherapy (Feldenkrais, 1949; Maslow, 1971; Rolf, 1962). In mediational behavior therapy, hatha yoga has been found to be an effective method in the reciprocal inhibition of anxiety (Boudreau, 1972; Gershman & Stedham, 1971). An increasingly articulate and cogent presentation of the deficiencies of a purely verbal approach to self-actualization is rapidly emerging in third-force psychology (Ruitenback, 1970).

In a longitudinal study of twelve males undergoing a six-month course in hatha yoga, significant changes toward increased total functioning were evidenced by reduction in body weight, improved pattern of respiratory function with lowered rate of respiration, increased rate of chest expansion, increased vital capacity, breath holding time and resistance to stress in terms of stability. Endocrinological and metabolic assessment indicated enhanced adrenocortical activity through increased 17-hydroxicorticosteroid excretion, reduction in serum cholesterol and glucose levels, increased serum protein and raised levels of urinary excretion of testosterone. Increased adrenocortical activity indicated enhanced stress competence manifest in both physiological and psychic expression. Psychological evaluation revealed decreased neuroticism, lowered rate of mental fatigability and improved memory quotient. EEG studies disclosed prominent alpha waves with a diminution of spikes interpreted as "a less irritable nervous system" (Udapa & Singh, 1972).

Recent advances in exercise physiology indicate physical conditioning for general fitness is most quickly and efficiently

accomplished through cycles of moderate exertion and rest (Fox & Matthews, 1974) which directly parallel the phenomenologically determined methods of hatha yoga (Behanan, 1965; Brena, 1972; Kuvalayananda, 1972; Satchidananda, 1970; Sivananda, 1971, 1974; Vishnudevananda, 1959; Yesudian & Haich, 1965). Enhanced physiological and anatomical integration are also reflected in improved body-image (Lilly, 1968). Prisoners trained in hatha yoga were observed to be more capable of "relaxation" as evidenced by significantly increased conditionability of EMG and GSR responses on bio-feedback circuits (Grossbach, 1974).

The central practice of hatha yoga consists of posturing the body in a dynamic position and statically maintaining it for a period of time. Although asana may be approached solely on its merits as a system of physical culture, its procedures are designed to produce characteristic changes in an organism that experiences itself as an integrated pychophysical phenomena. Requiring a coordination of physical movement and mental operations within the unitive sphere of consciousness, the posturing of particular movements will exert a direct mechanical effect on the central nervous system and simultaneously produce characteristic alterations in awareness. Thus, a goal of hatha yoga is to effect changes across a wide spectrum of actual and latent psychophysical capabilities.

Though the ultimate aim of asana is to produce a steady seated posture capable of being maintained for long periods of concentration and meditation, it is also an end in itself. Feelings of overall health and well-being, the basic foundation of all higher need gratification, are produced and may prove to be of a greater qualitative and

quantitative dimension than considered by Maslow (1970) to be necessary for maintaining physiological homeostasis. The science of physiology is an integral part of medical science only in that it provides normative and comparative data as to the quantitative dimensions of internal processes for the assessment and treatment of pathophysiological processes. Changes produced in the individual through prolonged training in hatha yoga may point to a profile of physiological actualization rather than normality.

The methods of hatha yoga are a basis of traditional Indian medical intervention and prevention of disease. Though certainly no panacea for inevitable physical disintegration, the recent research (Udapa & Singh, 1972) indicates that regular practice of hatha yoga can cause levels of two extremely important biochemicals, cholesterol and glucose to decrease. Abnormally high levels of these substances in serum lead to decreased cardiovascular output causing and associated with the existential ravages of artherosclerosis, arteriosclerosis, coronary insufficiency, diabetes mellitus and uremia (Robbins, 1974). Preventing or delaying the onset of initially debilitating and ultimately fatal metabolic disorders could contribute to self-actualization by providing an added time span of creative and productive expression.

A current theory of aging assumes that the progressive accumulation of waste products such as lipofuscin in the blood inhibits growth and metabolism of cells (Strehler & Mildvan, 1962). A claim of hatha yoga is that physiological processes are enhanced through increased removal of waste products by mechanical massage and increased blood volume through all organs. While laboratory verification is needed

to substantiate the claim, it seems possible, in view of the biochemical changes already noted to occur through hatha yoga, that potentially dangerous substances might be prevented from reaching clinically significant levels.

Modification of physiological processes through the manipulation of the skeletal, muscular, circulatory, respiratory, digestive, urinary, nervous and endocrine systems are produced through the practice of asana and are reflected in alterations of consciousness. Rajasic and tamasic dispositions become sattvic, thus allowing a direct mirroring of the life-monad. Before examining the specific effects of the basic asanas, five characteristics common to them all demand exposition.

Involving a contraction of some groups of somatic muscles and the relaxation of their antagonists, each asana brings awareness of inefficient bracing efforts unconsciously made with faulty vertebral spinal positions. By breaking down useless antagonistic muscle overcontractions, high levels of physical performance with minimal energy expenditures may be made. It is possible to reduce the basal tension of the muscles to a point that can be compared to the muscle-blocking effects of curare upon the striate muscular fibres (Brena, 1972). A complete, selective relaxation involves a tremendous conservation of energy useful in the subsequent stages of yoga.

While assuming a given posture, the individual learns to visualize, with eyes closed, the somatic structures being contracted, resulting in the ability to experience the nervous energy flowing into the contracted muscles. With progress, perception expands to include actual awareness of internal organs, felt as areas of warmth over the

corresponding somatic structures. Long after the asana has been released, a deep, segmental muscular relaxation is sustained, inducing a phenomenological area of visceral silence.

Each posture brings into focus all the muscles and articulations of a given part of the body. Muscles tending to atrophy through inactivity such as abdominal recti, stomach and intestines are restored to circulation and peak efficiency. Articulations of the joints become soft and increased in their natural range of motion producing tendencies toward agile and graceful movement.

The vertebral spine is exposed to tractions, stretchings and torsions of various degrees in all asanas. Poor attitudes of the spine in positions of sitting, lying and standing are corrected. Sensory thresholds are generally lowered through the stretching and massage of the spinal cord and extended neural ganglia.

Though initial attempts to assume yogic postures may require a good deal of effort, straining is gradually eliminated through better dynamic and static use of muscles brought into contraction. The skilled practitioner learns to expend the minimum amount of energy necessary to maintain a posture. Awareness is centered on the experience of equilibrium for the best articular expression. With the development of physical equilibrium there is a corresponding balance in awareness. Through physical training the practitioner learns to preserve an integrated psychophysical calm independent of environmental contingencies.

The basic modifications of structure and function effected by asana can be illustrated in eighteeen poses though variations are limited only by the creativity of the practitioner. With the exception of

sirshasana and padmasana, all postures in the following analysis may be practiced without the guidance of a professional yoga instructor. A more comprehensive introduction to the field may be found in Satchidananda (1970) and Vishnudevananda (1959).

1. Asana

(a) Bhujanagasana. With all the muscles relaxed fully, the body is placed face down with the forehead touching the floor. The palms are placed on the floor below the corresponding shoulders with the elbows raised and close to the trunk. Legs together and toes pointed, the head is raised and the neck bent as far backward as possible in slow motion. Then the chest is raised with the vertebrae rolling back, one after the other. With practice, even the lumbar vertebrae are thrown back in a curve with the whole pressure felt at the sacrum. Maintained for only a few minutes by novices, it may be held for as long as three minutes by adepts. When coming out of the pose the spinal curve is effaced gradually and the chest and head brought to the preparatory position. While raising into the pose there is inspiration, during maintenance the breath moves normally and while finishing the pose there is an exhalation.

The deep muscles of the back are alternately contracted and relaxed and the articulations of the vertebrae are made elastic. Each ligament and vertebrae shares in pulling the spine anteriorly, correcting slight displacements in the spinal column (Brena, 1972). Deep and superficial muscles of the back are well toned, relieving tension created by general fatigue. The thirty-one pairs of spinal nerves

exiting through the vertebral spaces and the gangliated chains of the sympathetic nervous system imbedded in the muscles on either side of the spinal column receive an increased volume of blood, maintaining their health and activity (Kuvalayananda, 1972).

The kidneys too are regenerated and given an additional blood supply in this pose. During the posture blood is squeezed out of the kidneys, and as the body returns to its normal position a vigorous flow invades them washing away foreign matter, such as mineral calculi, which may have accumulated (Yesudian & Haich, 1965).

Increased intra-abdominal pressure strengthens the abdominal viscera, relieving minor congestion and flatulence. Mechanical pressure in the pelvic area is particularly useful for women as it tones the ovaries and uterus relieving amenorrhea, dysmenorrhea and leucorrhea (Vishnudevananda, 1959). See Figure 1.

(b) Salabhasana. With the face downward and the chin against the floor, the arms are tucked underneath the trunk. The thumbs are locked together with the elbows as close together as possible. Simultaneous to inhalation both legs are raised with knees straight, allowing the weight of the body to rest on the chest and arms. Maintained as long as the breath can comfortably be retained, the legs are slowly lowered on an exhalation, the cheek is brought to one side and the arms and legs separated. After five days of practice this pose may be held for a longer length of time with respiration proceeding normally (Satchidananda, 1970).

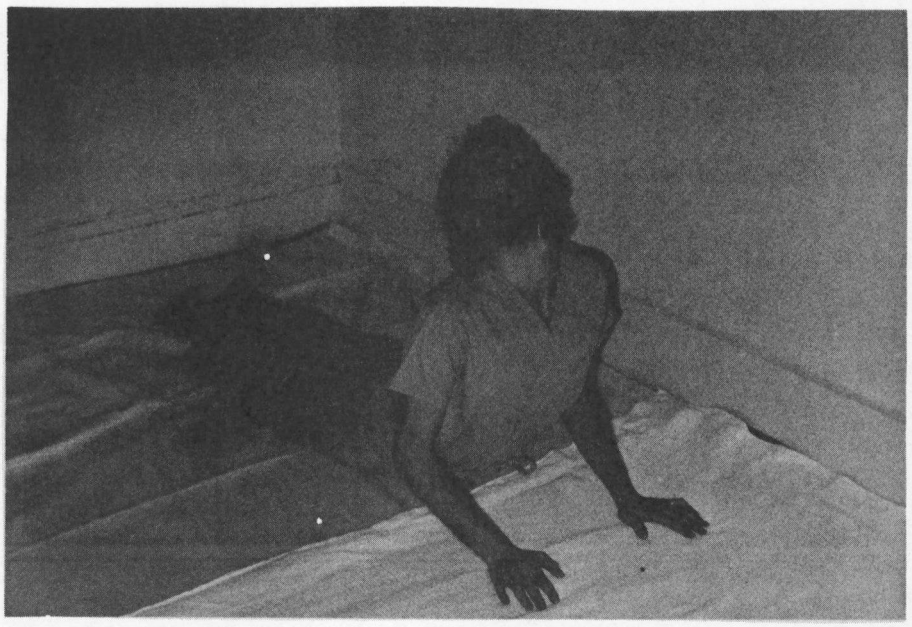


FIGURE 1. Bhujangasana.

The trunk and upper extremities which were contracted during bhujangasana are kept relaxed in this pose while the lower extremities passive there are actively used in salabhasana. Sacral, coccygeal and lower lumbar regions of the spine are softened in their articulations and receive an additional volume of blood (Sivananda, 1974). Extensor muscles are contracted while the flexors remain relaxed, thereby providing a deep mechanical massage. Salabhasana is excellent for stretching and strengthening all the muscles of the back.

While a great many asanas have a beneficial effect on the intestines, this is one of the most effective. By providing a powerful physical stimulus to the viscera, constipation is relieved. The concentrated tensing of these muscles affects the digestive glands along the digestive tract and increases the supply of blood to mucous membranes (Vishnudevananda, 1959). See Figure 2.

(c) Dhanurasana. Lying face downward with the forehead against the floor, the legs are folded back with hands held onto the corresponding ankles. The head, chest and thighs are raised with the back arched and the entire weight of the body rests on the abdomen. There is an inhalation while raising into the pose, a retention during maintenance and exhalation during withdrawal. This pose should be avoided by those suffering from hypertension, abdominal hernia and gastro-intestinal ulceration (Satchidananda, 1970).

It will readily seem that this asana is a combination of bhujangasana and salabhasana, claiming the advantages of both but on a lesser scale. Intra-abdominal pressure is not as great as in

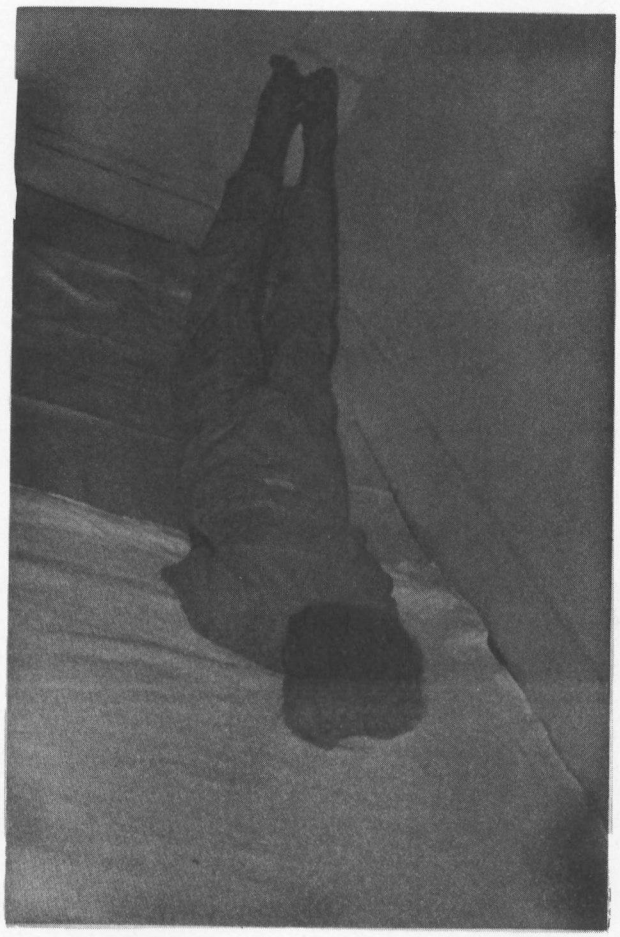


FIGURE 2. Sālabhasana.

salabhasana because even with full inspiration the diaphragm exerts less pressure against the viscera. The deep muscles of the back are better massaged in bhujangasana wherein they direct the backward curve of the spine, while here the arms and legs tugging on each other cause the curve. Waves of contraction and relaxation present in bhujangasana are missed here. A particular advantage of dhanurasana is that the lateral and rectus muscles of the abdomen which flex the hip joints are more fully stretched due to the simultaneous raising of the trunk and legs (Kuvalayananda, 1972).

Those who have practiced dhanurasana regularly for a few weeks are able to create a slight rocking motion by holding the pose steady and slightly speeding the pace of respiration. This brings an added massage to the back muscles and produces a pelvic and abdominal massage. Constipation, dyspepsia and congestion of fluid is eliminated. Digestion improved, appetite is invigorated and fat deposits over the abdominal muscles are broken down (Vishnudevananda, 1959).

A highly beneficial effect upon numerous glandular process is effected through dhanurasana. The thyroid, thymus, liver, kidneys, adrenals, pancreas, ovaries and testes are normalized in their functions through the direct physical stimulation. Dhanurasana is useful in the treatment of diabetes due to its stimulating effect on the pancreas (Yeshudian & Haich, 1965; Satchidananda, 1970). See Figure 3.

(d) Janusirsasana. Sitting on the floor with both legs stretched forward, the left leg is bent at the knee, bringing the heel under the anus. Bending forward as far as possible the right toe, shin or calf

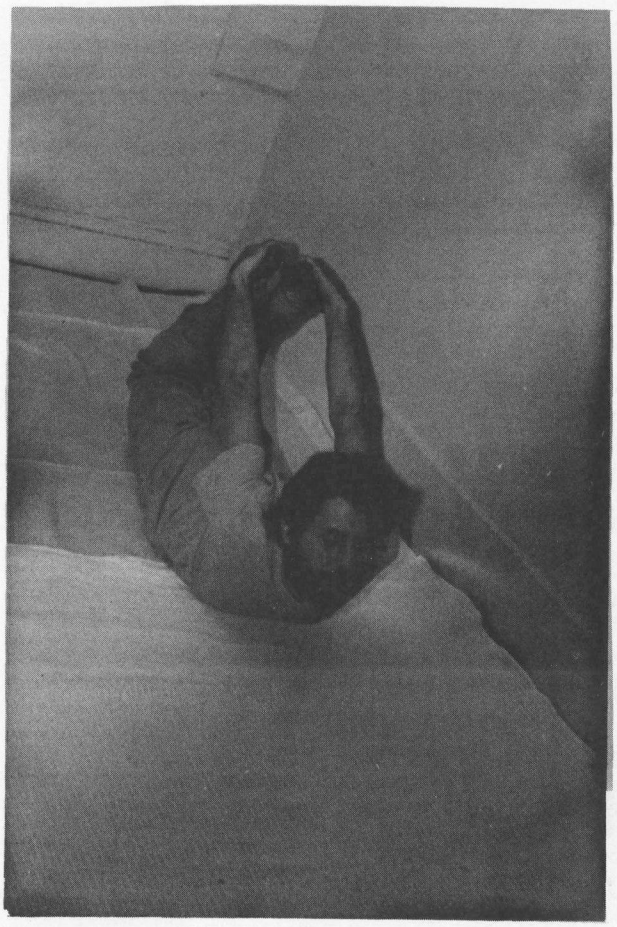


FIGURE 3. Dhanurasana.

is grasped with both hands. It is held as long as is comfortable and then the pose is repeated with the right leg bent.

Along with the flexing and lengthening of the spine the shoulder muscles and thoracic area are stretched and relaxed. Mild pressure on the bladder stimulates evacuation and the viscera, spleen, pancreas and liver are massaged. Janusirsasana brings only mild physiological benefits being primarily a warm up for the full forward bend, paschimotanasana (see Figure 4).

(e) Paschimotanasana. Back flat on the floor, the arms are stretched over the head and alongside the floor with thumbs locked together and the arms almost touching the ears. Stiffening the entire body, the breath is held and the arms, head and chest are simultaneously raised into a sitting position with arms kept stretched overhead. Bending forward, the breath is exhaled and the thumb and index fingers of each hand grasp the big toes. With breath flowing normally the face is slowly brought down toward the knees. The elbows are bent, touching the floor on the outside of either leg and the legs are kept straight, the backs of the knees flat on the floor. If desired, the abdominal muscles may be slightly contracted to bring the pose into added completion. After a few moments in the pose all the movements are reversed and the body is placed prone for relaxation.

Nearly all the posterior muscles of the body are well stretched, strengthened and relieved of excess tension. Nerve fibres radiating from the lumbosacral spine are also well stretched and nourished with additional supplies of arterial blood. Organs of the lower extremities

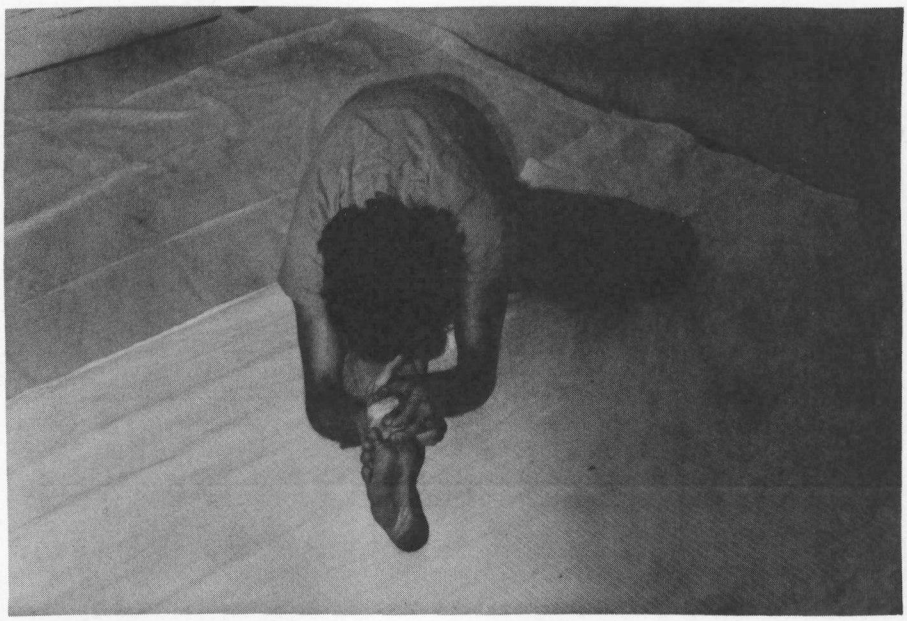


FIGURE 4. Janusirsasana.

and pelvic area controlled by the pelvic plexus are toned up (Yesudian & Haich, 1965).

Being a very powerful abdominal exercise, the stomach, intestines, liver, spleen, pancreas and kidneys are well stimulated. Along with dhanurasana this pose is invaluable in the control of diabetes (Vishnudevananda, 1959). Lack of keen appetite, sluggish digestion, constipation, and intestinal catarrh are often corrected. When done in a series of repetitions, paschimotanasana is effective for reducing fat around the abdomen and the efforts of the lateral muscles develop well-proportioned and slender hips. The major and minor psoas, the quadratus lumborum and the lateral and rectus abdominal muscles are strengthened (Yesudian & Haich, 1965). Those suffering from acute symptoms in the abdominal area should avoid this asana. See Figure 5.

(f) Sarvangasana. Lying flat on the back, palms alongside the body, the legs are raised to an angle of ninety degrees with the soles of the feet facing the ceiling. Pressing against the floor with the palms the trunk is next raised to a vertical position until the chin presses against the chest. As the trunk is brought up the forearms simultaneously support the back without a widening or shifting of elbows. From the neck to the toes the entire body is as straight as possible with the back of the neck lying flat against the floor. The breath moves normally while holding the pose with a brief retention while lifting the legs and bringing them down for completion. Coming out of the pose should be done with control, reversing the order of the induction sequence.

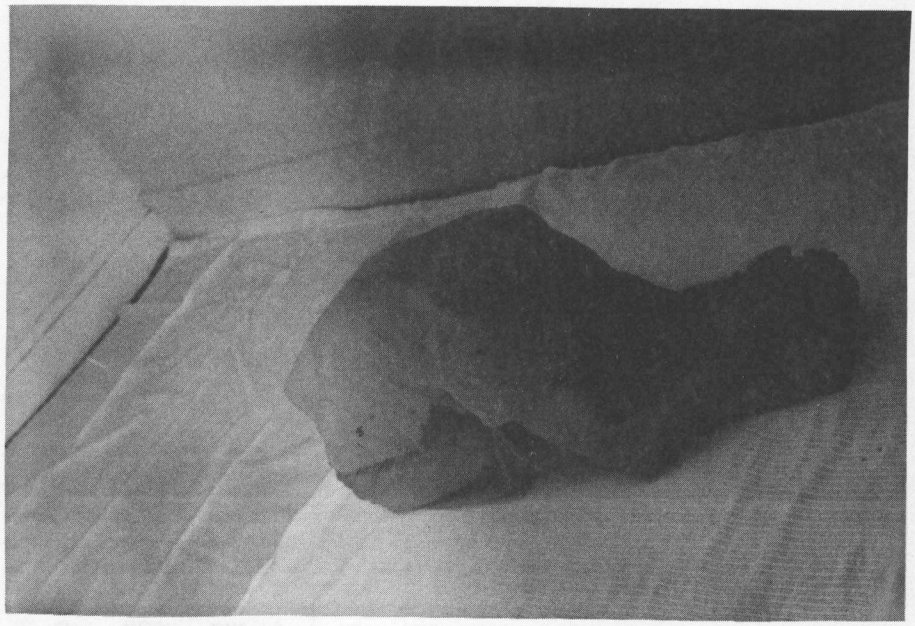


FIGURE 5. Paschimotanasana.

The beneficial results of this pose are due to a dual mechanism of stretching and isometric contraction of three distinct muscular groups--stretching of the back muscles, contraction of the muscles in the abdominal wall and contraction of the muscles of the neck. The stretching of the back muscles leads to a reduction of basal tension with the elimination of many muscular stiffnesses due to poor orthopedic position of the vertebral column. Contraction of the abdominal muscles restores functionality to them and at the same time eliminates fat stored in the abdominal walls. Visceral muscles are revitalized in an excellent way as the stomach, intestines, liver, spleen, pancreas, kidneys, bladder and uterus are gently massaged. A great range of digestive, urinary and uterine deficiencies and ailments can be relieved.

Contractions of the neck muscles combined with pressure of the chin on the chest leads to a redistribution of blood in the upper part of the trunk. While the arterial circulation to the brain remains normal through the vertebral arteries, the arterial thrust in the carotids and the venous deflux is slowed down. Consequently the thyroid, thymus and parathyroids receive an increase in blood flow which stimulates and improves their function (Brena, 1972).

While in this asana the force of gravity has a reversed effect on the body. Those organs which are normally in the upper part of the body are now below; blood now pours into them without the least exertion on the part of the heart. The heart receives a rest that is even more beneficial than that obtained in the prone position and at the same time the lungs are flushed with a fresh flow of blood. Veins in the lower extremities, relieved of the need to pump blood up towards the

trunk will recover resilience, aiding in the relief of hemorrhoids and varicosities in the legs. See Figure 6.

(g) Halasana. With the back flat on the floor, the arms alongside the body and the breath retained, the legs, kept locked at the knees, are raised while the palms are pressed firmly down. When the legs are at a ninety degree angle the hips and lower back are raised and the legs are lowered over the head while the toes touch the floor. Special care must be taken to prevent the body from shaking as control of movement would be lost. The pose should never be attempted if it brings a strain to the shoulders or neck as this will result in a minor sprain (Satchidananda, 1970).

Though the benefits attained in halasana are analagous to those of sarvangasana, there is a greater stretching and a more considerable contraction of the back, abdominal and neck muscles. By its complete stretching of the vertebral spine, halasana begins to correct many postural defects through reinforcement of the paravertebral muscles. It may also relieve entrappments at the level of the vertebral foramina where the nervous fibres to the back muscles branch off (Brena, 1972).

As in sarvangasana, the blood flow is shifted toward thoracic and brain functions with similar results on abdominal and pelvic organs. The compression of the abdominal cavity is quite great in this pose and fat deposits on the abdomen and hips will be reduced. Several repetitions of this pose provides alternate pressure on the chest similar to a cardiac massage, followed by a general benefit on cardio-vascular function. See Figure 7.



FIGURE 6. Sarvangasana.

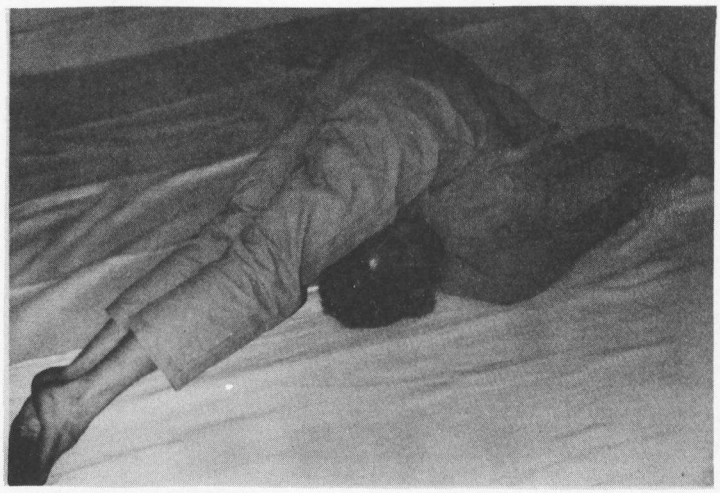


FIGURE 7. Halasana.

(h) Matsyasana. Lying with the back on the floor, the palms clasp the sides of the thighs. With the weight resting on the elbows, the head and trunk are raised, the head is bend backwards, the spine is arched and the crown rests firmly on the floor. The chest is spread as wide as possible and a slight smile is brought to the face, breaking up tension in the jaw. Slow rhythmical breathing rather than retention is advised during this pose as the thoracic area, expanded to its fullest capacity allows for complete lung ventilation. Matsyasana is always practiced immediately following sarvangasana for from one-third to one-half the duration. This insures relaxation of neck and shoulder muscles that may have been cramped during halasana and sarvangasana.

Stiffness in the cervical and lumbar regions is relieved and circulation to these parts is increased. The thyroid and para-thyroid glands are stimulated and incipient colds and tonsillitis may be reduced in intensity. The tightening of facial muscles and the added blood flow to the facial area prevents the formation of wrinkles (Vishnudevananda, 1959). Yesudian and Haich (1965) report this pose to be used in India for the treatment of goiter and Basedows disease. See Figure 8.

(i) Ardha-matsyendrasana. Sitting with the knees raised and the soles of the feet touching the floor about one foot in front of the buttocks, the left leg is placed flat on the floor. The right foot is placed outside the left thigh with the sole resting fully on the floor and the right knee pressed closely against the chest. Twisting the trunk gently so the left arm passes beyond the right knee and presses

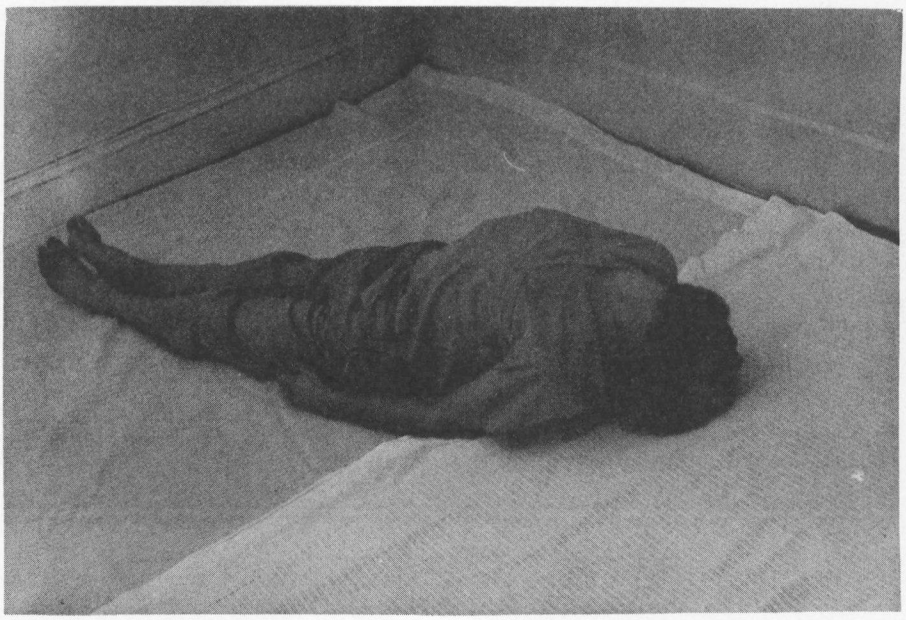


FIGURE 8. Matsyasana.

against it, the left arm is stretched fully with the hand holding onto the left knee. Then the right arm is swung behind and twisted clockwise around the trunk with the hand catching hold of the left thigh. The head is turned to the extreme right, bringing a twist to the cervical vertebrae. Reversing the order of the sequence disentangles the pose which is then repeated to the opposite direction. As this pose is strenuous and complicated for beginners, caution must be exercised. The chest should be straight or stooped forward a bit but never bent backward (Satchidananda, 1970).

This is the only posture which requires a maximum torsion of the vertebral column, first to one side, then to the other, causing the vertebrae to rotate one over the other and to simultaneously bend to the right or left. An energetic massage of the motor, sensory and visceral nerve roots protruding from the spinal cord through the vertebral foramina is effected with consequent revitalization of their functions. The lumbar muscles are stretched and contracted isometrically, considerably improving the function of the kidneys and adrenal glands (Brena, 1972). See Figure 9.

(j) Badrasana. In a sitting position with the legs flat on the floor, both knees are bent and the soles of the feet brought together. The feet are drawn in close to the groin and both hands press the corresponding knees to the floor. This pose gradually lengthens and increases the endurance of the leg and thigh muscles. See Figure 10.

(k) Sirshasana. Kneeling, with the fingers locked, an angle is created on the floor with the forearms by placing them on the floor

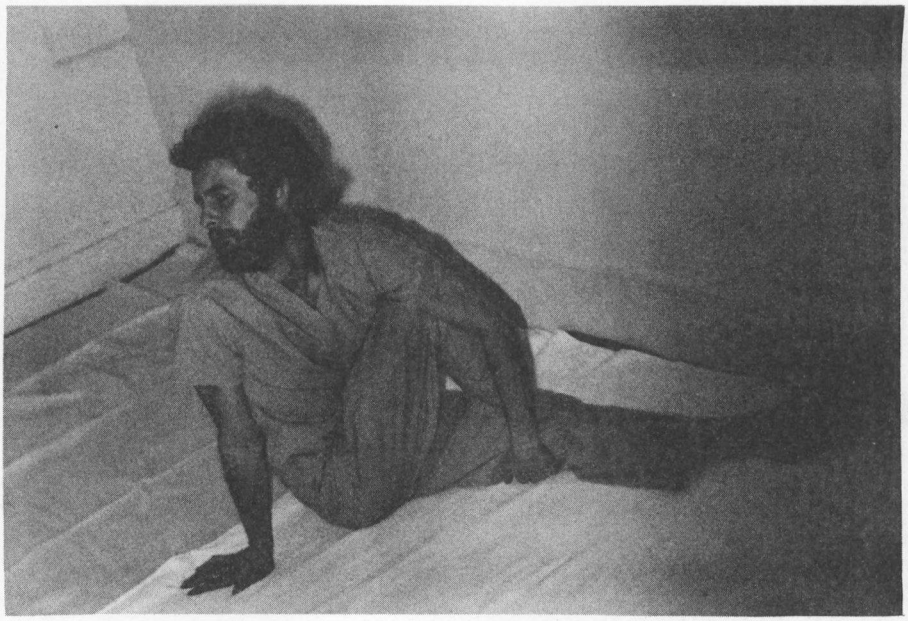


FIGURE 9. Ardha-matsyendrasana.

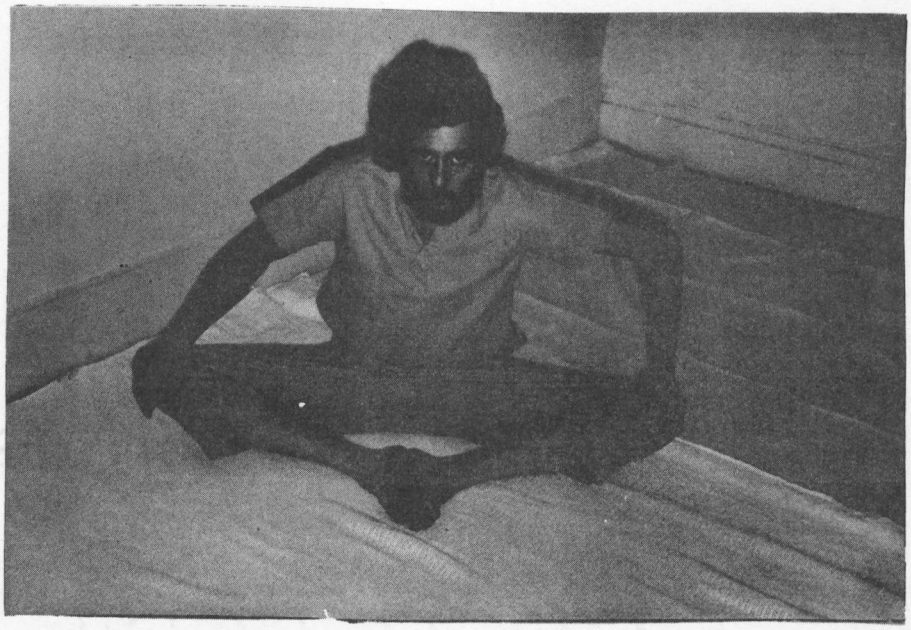


FIGURE 10. Badrasana.

in front of the knees. Letting the locked fingers serve as the vertex with the distance between the elbows a forearms length, an equilateral triangle is formed. The crown of the head is placed on the floor close to the locked fingers so they will support the back of the head. Raising the knees and bringing the toes nearer to the face, the trunk is brought perpendicular to the ground. When the trunk is raised sufficiently the toes will be naturally lifted off the ground without any awkward movement. Conversely, if the trunk is not lifted sufficiently and the toes are jerked up, the trunk will fall backward. After getting used to this early stage of sirshasana the toes are lifted off the floor and the legs are folded so the heels, facing up, are brought close to the buttocks. The thighs are then gently lifted to a horizontal position and straightened in line with the trunk. With the knees folded up and the legs hanging down behind the thighs, the balance must be steady before proceeding. Very gradually the legs are unfolded to complete the pose with the weight of the body initially distributed between the head and forearms. With practice the entire weight should be allowed to fall on the top of the head with the forearms placed lightly on the floor only to maintain balance. This pose should not be attempted by those suffering from hypertension or cardiac dysfunction as increased venous pressure could precipitate pulmonary edema.

Owing to gravitation the arch of the aorta, the common carotids, the innominate and subclavian vessels are flooded with rich arterial blood (Sivananda, 1974). Sirshasana increases the venous pressure on the right side of the heart resulting in improved cardiac output and better distribution of blood to all parts of the body. Swellings,

varicose veins and articular lesions of the lower extremities can be subdued with this asana.

The brain draws an increased supply of blood, expands the field of awareness and stimulates endocranial nerve centers. Located in the head and neck region, the pineal, pituitary and to a lesser extent the thyroid and parathyroid glands, are massaged and cleansed by improved circulation. Congested throat and sinuses are relieved. See Figure 11.

(l) Yoga-mudra. Assuming any comfortable cross legged position, the hands are brought in back of the trunk with the left palm clasping the right wrist. Slowly bending, the forehead and chest are brought down as if to touch the floor. The breath is inhaled while coming into the pose, allowed to flow normally while holding it and exhaled while slowly exiting. Optimally there is an experienced pressure of the heels against the abdomen.

The prolonged practice results in currents of sensation moving through the body along the spinal cord which are very enervating and pleasant. A powerful abdominal wall is developed and the visceral organs and lumbosacral nerves are gently messaged. The cecum and pelvic loop, usual areas of constipation, are stimulated through the pressure of the heels. See Figure 12.

(m) Sukhasana. Along with ardha-padmasana, padmasana, vajrasana and veerasana is this meditative pose. Sitting with the legs stretched forward, the legs are comfortably crossed under the thighs. The easiest of all meditative poses, sukhasana can be practiced on the floor or in an armchair. The back, head and neck are held in a straight line

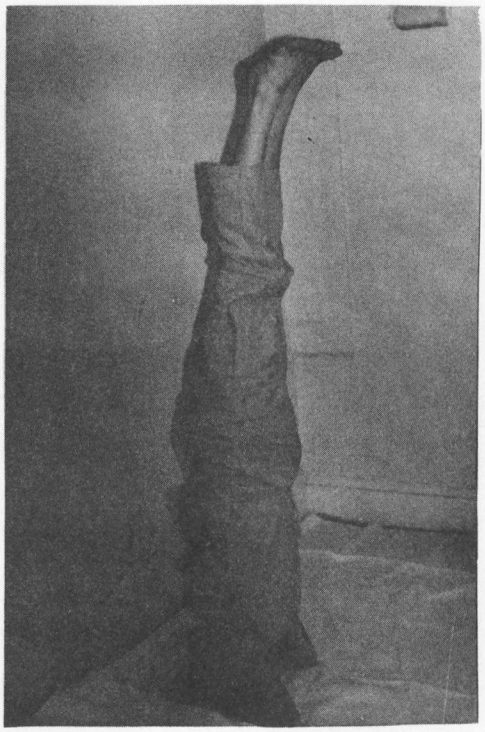


FIGURE 11. Sirshasana.



FIGURE 12. Yoga-mudra.

but not in a stiff and uncomfortable manner. The eyes are closed and the hands folded in front of the body. See Figure 13.

(n) Ardha-padmasana. Sitting with the legs stretched forward, the right foot is rested on the left thigh with the sole turned up. The right knee touches the floor and the left leg is folded so the heel rests under the right thigh. Arms stretched out, the wrists rest against the corresponding knees with palms turned up or down. The head, neck and trunk of the body are in a straight line and breathing is normal. The positioning of the feet and legs gives a firm and comfortable base for sitting and provides an excellent posture for pranayama and dharana. See Figure 14.

(o) Padmasana. When ardha-padmasana can be comfortably practiced, padmasana may be initiated. Sitting with the legs stretched forward, the right foot rests on the left thigh with the sole turned up. With the right knee touching the floor, the left leg is gently folded so the left foot rests over the right foot with the sole turned up. With practice both heels can be made to touch the abdomen. The hands are placed as in ardha-padmasana.

Padmasana is the most perfect meditative posture. The lower limbs, tightly bent and locked over the hip and knee articulations, cause a redistribution of blood from the lower extremities into the abdomen, stimulating the function of the visceral organs. With a perpendicular spine supported by a triangle formed with the two thighs and perineum, there is a perfect sense of equilibrium. See Figure 15.

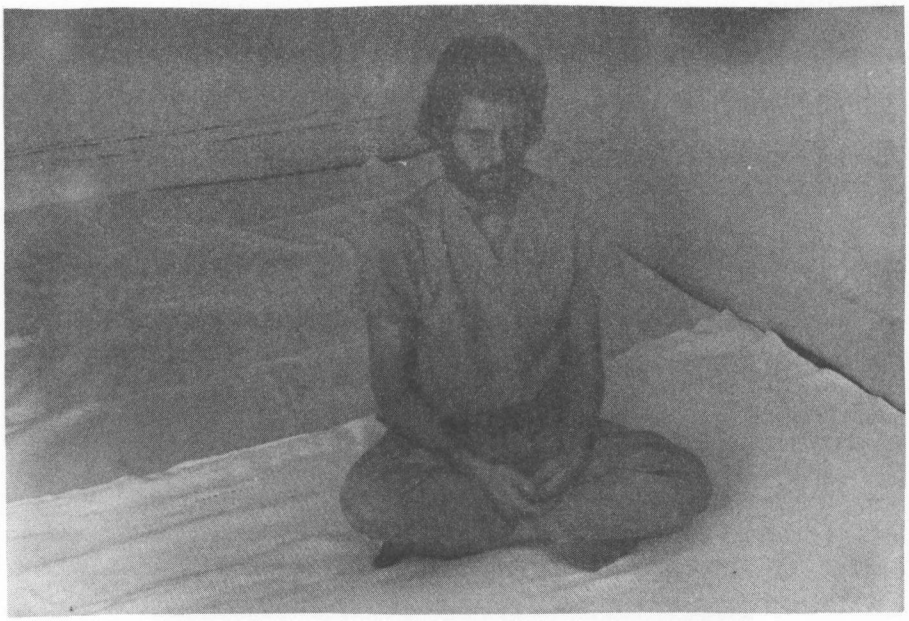


FIGURE 13. Sukhasana.

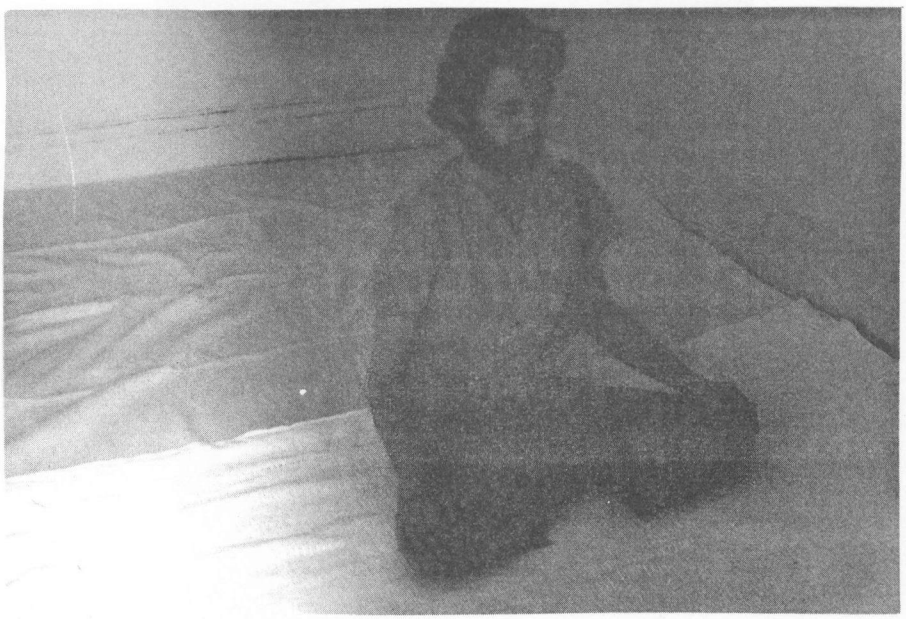


FIGURE 14. Ardha-padmasana.

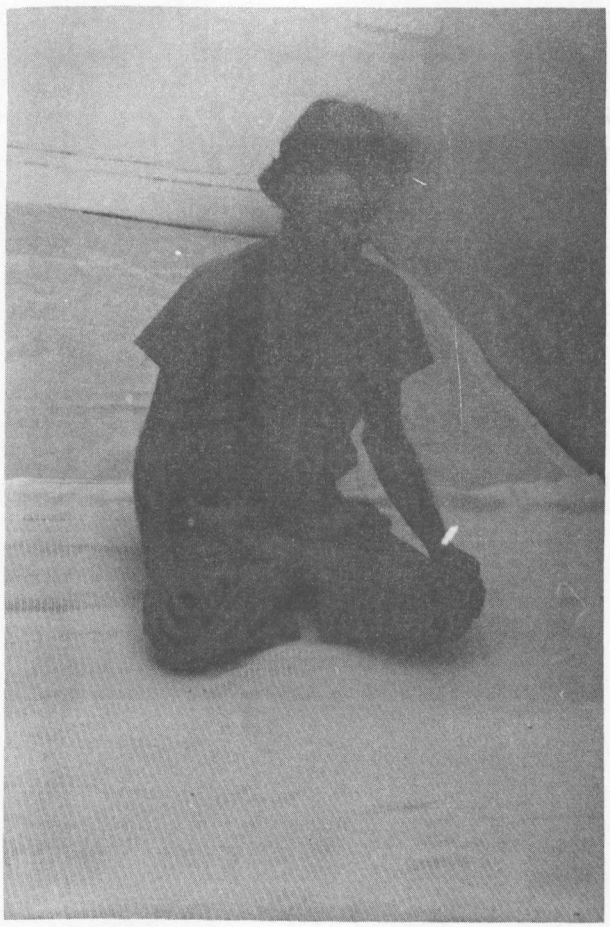


FIGURE 15. Padmasana.

(p) Vajrasana. Kneeling on the floor with the knees together, the entire length of the legs from knees to toes are touching the ground with the heels apart and the toes touching. The trunk, head and neck are in a straight line with the major weight falling on the ankles. The palms are placed over the knees with breath moving normally. An excellent meditative pose, vajrasana is also useful in firming and strengthening leg and thigh muscles and removing flatulence, indigestion and sciatica. See Figure 16.

(q) Veerasana. Sitting on the floor, the left leg is folded back so that it lies outside the right buttock with the left heel pressing against the left thigh. Crossing the right leg over the left, the right heel is brought back so it lies outside the left thigh. The right knee will be raised somewhat. Interlocking the fingers the hands are placed with palms facing inward between the knees. In a straight line are the interlocked fingers, left knee and right knee. See Figure 17.

(r) Savasana. Lying flat on the back with the feet about eighteen inches apart, the arms are at the same distance from the trunk with the palms facing the ceiling. The eyes are closed and all the parts of the body are gently moved to create a general condition of relaxation. If possible, the general level of muscular tension should be phenomenologically assessed and reduced through the application of the will.

The body is next flexed part by part with concentration on the experience. The right leg is stretched out along the floor on an inhalation and the foot, calf and thigh are contracted tightly and raised about twelve inches. After five seconds in this position the

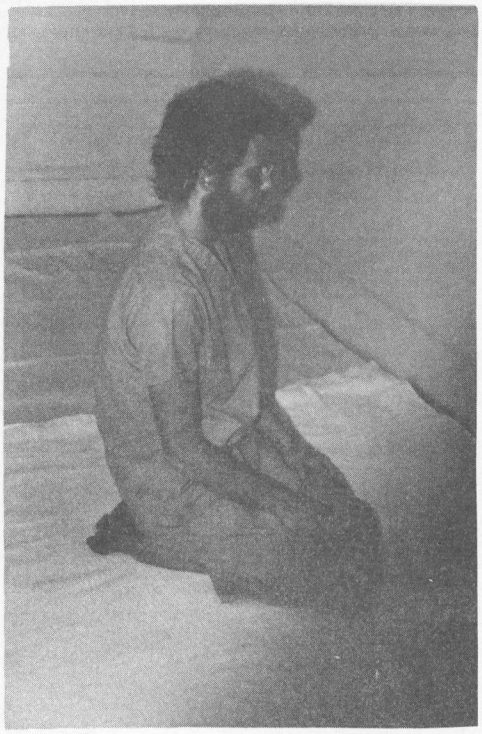


FIGURE 16. Vajrasana.

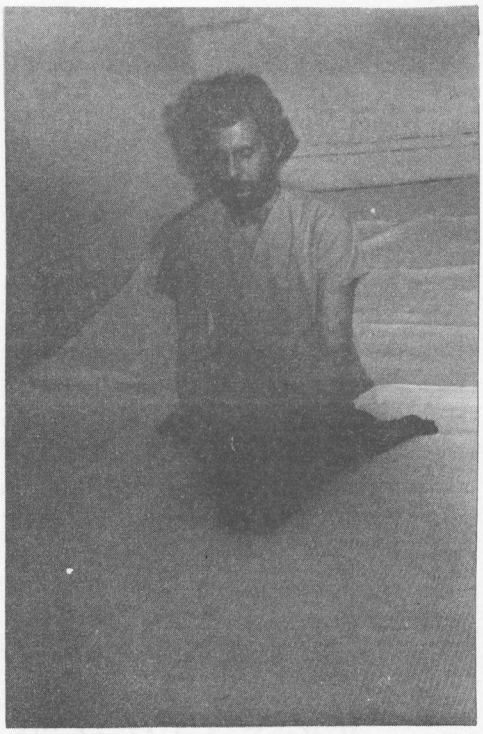


FIGURE 17. Veerasana.

muscles are released at once, allowing the leg to spontaneously fall and the breath to be released. The leg is gently shaken from side to side and awareness drawn from it to the left leg where the process is repeated. An identical process is then performed with first the right and then the left arm.

Bringing awareness to the pelvic and sphincter muscles, there is a contraction during an inhalation held for five seconds followed by release. The process is then repeated. With concentration on the abdominal area the breath is inhaled through the nose causing an expansion of that area. Held for about five seconds and allowed to spontaneously rush out through the mouth, there is a consequent perception of the abdominal muscles and diaphragm relaxing. Inhaling deeply once again the thoracic region is allowed to expand fully, and once again the breath is held and then allowed to sharply exit through the mouth. There is a simultaneous feeling of the chest muscles fully relaxing.

Next, without moving the arms from the floor, the points of the shoulders are raised as if they were going to meet under the chin. Upon exhalation they are allowed to drop back to the floor. Slowly, the neck is rotated to the right, left and back to center with breath flowing normally. Coming to the facial muscles, the jaws, cheeks, eyes and forehead are drawn to the center of the face and contracted during an inhalation. They are held for about ten seconds and then allowed to relax as the breath is rapidly exhaled. Following a pause of a few seconds, the mouth is opened and the jaws are stretched wide, the tongue is stretched out of the mouth, the nostrils are flaired, the eyes opened wide and the forehead raised up toward the crown of the head. After

being held for ten seconds the contractions are released.

With the body completely relaxed, the awareness is brought through all the parts of the body in the same sequence as just completed. If there is any tension perceived, it is concentrated on and willed to diminish. Done without the simultaneous contraction of other muscles will produce deep muscular relaxation. With the body now phenomenologically silent, the awareness is brought to the breath and allowed to be passively aware of its natural movement. At this point the practice of pranayama or breath control, the second major aspect of hatha yoga, begins. See Figure 18.

There are intimate connections between the Greek words psyche--soul, psycho--breathe, psychos--cool, psychros--cold, phusa--bellows, and pneuma--wind and spirit. In Latin is found animus--spirit and anima--soul which relate to the Greek word anemos meaning wind (Jung, 1933). The etymological similarities point to a phenomenological affiliation between the experience of the moving breath and the soul or spirit, which, stripped of any particular definition is perenially recognized to be the core or essential aspect of being. Respiration is a function that can be controlled consciously or allowed to move on an involuntary basis. It is consistent with sankhya and yoga to postulate that through making the normally unconscious process of respiration conscious and controlled, equally unconscious elements of the psyche may be brought into consciousness. The specific claim is that the essential life-monad can be focused on through training in pranayama.

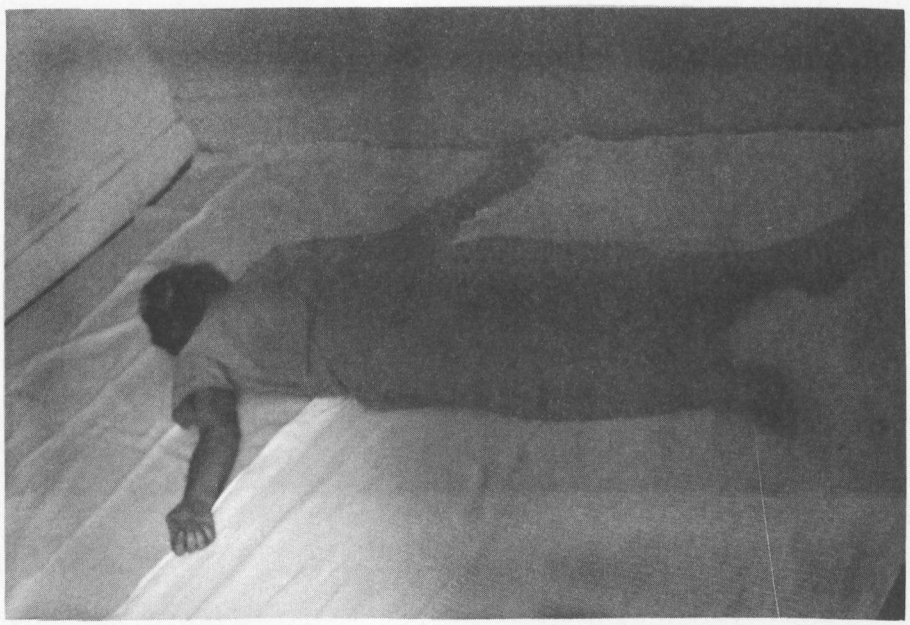


FIGURE 18. Savasana.

Bills (1927) indicated that mental efficiency is greatest during the experience of mild muscular tension, and Behanan (1965) revealed a diminution of ability to solve adding, coding, coordination, chinese puzzle and color naming tests following pranayama. Jacobson (1929) in his classical work on relaxation showed that subjects completely relaxed through a technique identical to savasana reported absence of mental imagery when the occular region was completely relaxed and a disappearance of "mental speech" when the lips, tongue and throat were relaxed. Luthe (1963) reveals similar phenomena in the successful application of autogenic training to individuals suffering from acute psychosomatic symptomatology.

Preliminary indications are that the normal flow of both secondary and primary process thoughts is retarded during pranayama. This would tentatively validate the experientially determined claims of the yogic school that pranayama does clear the mind of thoughts. When successful pranayama is attained, the gaps between thought increase in duration, providing initial and low intensity experiences of the purusha and preparing awareness for the more advanced techniques of pratyahara, dharana, dhyana and samadhi.

The techniques of pranayama are available to all persons but without systematic and regular practice no sustained benefit will be derived. With practice, a superior ability to control the mind through the breath will be developed. Six methods of pranayama can be done in a one-half hour period following completion of asanas.

2. Pranayama

(a) Savasana pranayama. Lying in savasana with all muscles completely relaxed, awareness is focused on the breath with no attempt to control it in volume of duration. The practice of observation is held to two or three minutes at first and gradually lengthened to ten minutes. Thoughts will naturally enter awareness and bring the concentration away from the breath. This tendency is to be checked by becoming aware of the distraction, observing its content and then bringing awareness back to the breath. Each time the mind is distracted from concentration it is checked. Within a week it will become obvious that respiration is normally irregular. Not only are inhalation and exhalation irregular but each is not uniform in itself. Without attempting to modify the volume of respiration, inhalation and exhalation are made to be regular by simply lengthening the shorter and shortening the longer one. The desired result is an even rythmical flow. If air hunger develops the rythmical process is briefly terminated and recommenced when there is no discomfort.

After two weeks of rhythmical breathing, volume is gradually increased. There should be no radical increases but rather smooth and steady increments without disturbing the timing of respiration. The most difficult aspect of this training is the concentration and discipline demanded. There should be no impatience in passing through the various stages.

(b) Deergha swasam. Along with the following pranayama techniques, deergha swasam requires positioning in a meditative posture. There is

an initial exhalation followed by a slowed inhalation through the nose, simultaneously expanding the abdominal area and chest and allowing the maximum amount of air to flow in. At the moment inspiration is complete there is a slow exhalation through the nose with a contraction of the chest and then the stomach. In both inhalation and exhalation the breath should flow in one steady continuous motion. This method fills and empties the lungs to capacity, increasing vital capacity and counteracting tendencies toward using only the upper chest muscles for respiration.

(c) Kapalabhati. Forcefully and rapidly the breath is inhaled and exhaled for as long as is comfortable. The sharp contractions of the abdominal muscles will force the air out and their natural elasticity following expansion will draw fresh air back in. After this basic technique has been mastered a slight additional force may be added to exhalation. Upon completion of a round of rapid respirations there is a complete exhalation followed by a deep inhalation. Then, holding the breath for a few moments, the neck is bent and the chin brought as close to the chest as possible. As soon as there is the slightest awareness of air hunger the head is raised and the breath is slowly exhaled. This technique should be stopped if dizziness results. With practice, even a few rounds of kapalabhati will quickly stimulate all levels of being.

(d) Nadi suddhi. Sitting in a meditative pose the breath is silently observed for a few minutes. The right arm is extended, and from the hand, clenched in a fist, are extended the thumb, ring and small

fingers. Brought close to the face, the thumb gently closes the right nostril and the breath is then exhaled. The arm rests for support against the chest. An inhalation through the left nostril follows the exhalation and the two extended fingers are then pressed against the left nostril. Exhalation is now through the right nostril and followed by an exhalation. Respirations are full and inhalations rhythmical with as little sound as possible produced. There is no fixed time or number of rounds of respiration but as soon as air hunger is experienced the process should be terminated until it passes. When comfortable, nadi suddhi may be resumed.

After an initial degree of success has been attained, duration may be gradually increased until there is a one to two ratio between inhalation and exhalation. This ratio is continued until there is a mental count of ten to twenty between the incoming and outgoing air. When this ratio can be comfortably practiced for thirty rounds an additional variation may be supplemented. Instead of immediately exhaling upon full inspiration, the breath is retained for a count of ten so the ratio is now ten to ten to twenty. When thirty rounds of this variation can be comfortably practiced, retention is slowly incremented by counts of five until the final ratio is ten to forty to twenty.

Nadhi suddhi bring a feeling of lightness to the body, equanimity, good concentration, enhanced digestion and sound sleep. The mind becomes controlled and the quantity of thoughts entering awareness diminishes, preparing the way for concentration and meditation. It is of paramount importance to proceed slowly in nadi suddhi, as in all pranayama techniques, and preferably under the guidance of an

individual who has mastered the methods. Immoderate and hasty practice may result in release of great sums of unintegrated psychic energy.

(e) Ujjayi. In a meditative pose the mouth is closed and the breath completely exhaled. Followed by a slow and even inhalation, the glottis, located at the base of the nasal passage, is partially closed. A soft, continuous hissing sound is heard within the head. Following the exhalation the breath is inhaled without friction in the nose and retained as long as possible and then followed by an exhalation through the left nostril while the right one is blocked by the ring and small fingers. Ujjayi can be practiced as long as there is an absence of air hunger and may be done without nostril pressure while standing or walking.

(f) Bramari. Inhaling through both nostrils while in a meditative pose, the lungs are filled to capacity. Upon exhalation a humming sound is produced which may be felt on the soft palate and nose. Repeated as much as desired, a gentle vibration will be experienced that stimulates the entire skull and brings a gentle massage to the entire brain. It can be usefully practiced for the elimination of headaches caused by tension or fatigue.

B. Mantra Yoga

Turning the attention inward towards increasingly subtler levels of a thought until the mind transcends the awareness of the thought itself and arrives at its source, purusha, defines the process of concentration and meditation. In mantra yoga, also known as japa yoga

or transcendental meditation, the thought used is a short set of sounds, usually no more than three syllables, which are repeated for a period ranging from several minutes to many hours, but usually for twenty minutes to one hour. The mind becomes clear and physical processes come to reflect the creative intelligence at the core of the self. Quantitative changes in psychophysiological functioning point towards the emergence and at least initial gratification of self-actualization needs.

Although the use of a mantra as a personal growth technique is as old as man's attempts to transcend his limitations, only recently has a standardized technique of instruction, free of religious dogma been developed (Maharishi, 1966). Since individuals practicing transcendental mediation have been uniformly initiated, quantification of effects have been, and continue to be fruitful. Beyond this point little will be added about the conceptual underpinnings of mantra yoga as empirical data suggest effects verifiable independent of theoretical considerations.

During the repetition of a mantra for a twenty minute period, oxygen consumption decreases to a level significantly lower than in an equal period of sleep or hypnosis (Wallace & Benson, 1972). Allison (1970) noted a spontaneous decrease in respirations per minute indicating a relaxed and rested state. Significant decreases in cardiac output (Wallace, 1970) and serum lactate, which is associated with hypertension and phenomenological anxiety (Wallace, Benson & Wilson, 1971; Wallace et al., 1972) were noted. Wallace et al. (1971) and Orme-Johnson (1973) report reduction of spontaneous GSR responses during a meditative period which appears to generalize to post-session behavior.

Indications are that resistance to environmental stress, psychosomatic disease, behavioral instability and increased efficiency of the nervous system releases more energy for purposeful expression.

While most subjects showed spindles of alpha waves at ten cycles per second during rest, during a period of mantra repetition brain waves also showed periods of beta spindels at twenty-two cycles per second synchronized and in phase from all points on the scalp. This suggests functional integration of analytic and verbal skills of the left hemisphere with synthetic and spatial skills of the right hemisphere as the nervous system simultaneously increases in flexibility and stability (Banquet, 1972, 1973).

> The frequency of this highly ordered pattern indicates inner wakefulness and, in correlation with deep matabolic rest, may represent the underlying physiology of the reported experience of "profound wakefulness," or "pure awareness," or "unbounded awareness." (Banquet, 1973)

Improved reaction time to auditory and visual stimuli (Shaw & Kolb, 1974), increased clarity and refinement on perceptual discrimination tasks (Brown, Stewart & Boldget, 1971; Grahm, 1974) indicate a general enhancement of being and increased actualization of human skills essential for environmental interaction. Orme-Johnson (1973) reports a significant change towards habituation of GSR in response to stressful stimuli.

Increases in short and long term recall is positively correlated with number of years engaged in regular use of a mantra (Abrams, 1974). University students chosen for a stable grade point average showed steady and significant improvement over three semesters following commencement of transcendental meditation (Heaton & Orme-Johnson, 1974).

Meditators showed increased job satisfaction, improved performance, more productivity at executive and lower levels and enhanced relations with supervisors and coworkers (Frew, in press). Measured one month prior to beginning practice and again two months subsequent to initiation, subjects showed positive improvement in spontaneity, self-regard, acceptance of aggression, capacity for intimate contact and inner and outer directedness on the POI (Seeman, Nidich & Banta, 1972; Nidich, Seeman & Dreskin, 1973).

Reduced anxiety, psychosomatic disease, depression, irritability, nDom and inhibition and increased sociability, self-assuredness, emotional stability and ability to concentrate as measured by the Freiburger Personality Inventory has been reported (Fehr, Nerstheimer & Torbes, 1974).

Decreases in anxiety positively correlated with length of time practicing transcendental meditation were reported using the Institute for Personality and Ability Anxiety Scale (Farwell, 1974), Spielberger Anxiety Inventory and Cattell Anxiety Scale (Ferguson & Gowan, 1974). Decreases on the hypochondria, schizophrenia and anxiety scales of the M.M.P.I. were significant after several months practice with a mantra (Orme-Johnson, 1974). Significant reductions in feelings of physical and social inadequacy, depression and rigidity with increased self-esteem were observed as measured on the Netherlands Personality Inventory (Van der Berg & Mulder, 1974). Subjects practicing transcendental meditation revealed significant increases in self-actualization positively correlated with term of practice as measured on the Northridge Developmental Scale (Ferguson et al., 1974).

Reports of significant reductions in use of alcohol, amphetamines, barbiturates, marijuana, LSD, other hallucinogens, narcotics and cigarettes was reported in 1,862 subjects practicing transcendental meditation for an average of twenty months (Benson & Wallace, 1972). Shaffi, Lavely & Jaffe (1974) indicate a similar conclusion as to discontinuation of marijuana use.

A review of significant findings on meditation reveals that basic changes in neurophysiological functioning are reflected in increasingly greater use of latent psychological capabilities. The production of a state of awareness characterized by stability and deep revitalization is both intrinsically gratifying and seemingly capable of eliminating neurotic trends in expression. Especially noteworthy is the production of a characteristic EEG pattern different from the priorly established profiles of normal awareness, dream states and sleep. Preliminary indications are that expanded states of awareness or enlightenment, formerly relegated to the practice of mysticism and considered outside the domain of psychology, can be learned by any person not severely impaired, and the results quantified in controlled laboratory study. The practice of transcendental meditation, a particular method of mantra yoga, reduces psychopathology and allows self-actualization needs to emerge.

C. Karma Yoga

Karma yoga is a method of attaining direct perception of the life-monad through action on physical and mental levels. The mind becomes cleared of agitation and lassitude through the transmutation of

all activity into the service of others. A problem solving rather than egocentric orientation, and an attitude of detachment from the results of action become cultivated.

As mentioned in Chapter II, the initial stages of self-actualization involve a reshaping of the phenomenal personality. The aspirant, through self-discipline, seeks to eliminate aggressive propensities and develop contentment, serenity and awareness. Karma yoga is both a means to an end product of this perspective. It aims to quiet the mind by directing action towards the needs of others. In addition, the performed actions are done without the motive of personal reward. Metaphorically, "karma yoga purifies the heart" (Sivananda, 1974).

The yogi, orienting himself toward the needs of others, transcends motives based on ego-identifications. In this way, the perspective of self comes to include all of nature and the life-monad. While western platitudes admonish the individual to be his brother's keeper, the karma yogi would state that the apparent brother is but an extension of self. He would behave towards all as myriad facets of self. While engaged in selfless service all needs are perceived as his own while motives of material reward are absent. Work becomes a complete end in itself and equanimity develops. Since there is no loss or gain from any action, there is no anxiety over outcome. The mind, cleared of low level motivations, not threatened by object loss, attains to compassion and bliss.

The attitude during action is of greatest importance. Without detachment from physical or social rewards, pleasure or pain, attachments, rather than sublime impartiality, results. A constant process

of self-analysis unfolds during karma yoga. As resistances to selfless service develop, they are subjected to a process of discrimination. Fundamentally, all resistances are based on preferences for lower order ego-identifications. The karma yogi, seeking to avoid such identifications, learns to sharply discriminate ego-involvement from selfless service and thus expand perception of the essential self.

Of all the forms of yoga, karma is the most simple yet most difficult to perform. Desires to attain sense objects, as opposed to realization of self as distinct from those objects, become clearly distinguishable during the analysis of resistances. Until great progress has been made, strong motivations to act out sense desires emerge. The ability to truly practice karma yoga takes continued practice, and its reward, paradoxically is not a reward. The mind, cleared of disturbance, becomes perfectly prepared for concentration and meditation.

CHAPTER IV

THE PHENOMENOLOGICAL EFFECTS OF YOGA

Yoga as an applied system of self-actualization develops specific techniques for the uncovering of transpersonal identity. Students of hatha, mantra and karma yoga will gradually but inevitably move toward fuller use of physical, mental and spiritual resources (Satchidananda, 1970). The frequency of phenomenological reports indicating benefits from yoga are directly related to term of practice.

A. Design

A questionnaire was constructed to elicit a maximum number of phenomenological statements concerning the perceived benefits of yoga (Appendix A). Questions were also included to allow for expression of perceived negative effects. Specific sections were oriented towards eliciting perceived benefits on physical, mental and spiritual levels though such responses were not limited to any section. Congruent with the Taoistic perspective, questions were open ended to allow for the widest possible variation in response. As this was a preliminary investigation into a previously unresearched area, it was felt that a comprehensive survey of yogic phenomena was preferable to forced choice questions. One section however, P4, was presented in the form of a checklist surveying specific physical dysfunctions prior to, and relief subsequent to, initiating the practice of yoga.

B. Relation of Empirical Data to Theoretical Propositions

Self-actualization means fully developing, integrating and realizing all aspects of self. For Maslow (1970), the satisfaction of physiological needs allows the emergence and potential satisfaction of more mature social, cognitive and spiritual needs. Sankhya and yoga propose an identical pattern of optimum development though greater emphasis is placed on spiritual rather than social growth. Operationally defined categories for rating subjective statements derive directly from both self-actualization theories. The use of phenomenological reports indicating personally assessed growth along physical, mental and spiritual dimensions is accordant with essential features of the humanistic research paradigm.

C. Subjects

The subjects were sixty-nine yoga students who voluntarily agreed to anonymously respond to the questionnaire. Mean age was 26.8 years with 36 females and 33 males responding. Twenty-three S's had at least a high school degree, 33 had at least a BA, 9 had an MA, 2 had an MD, 1 had a JD and 2 did not state degree of academic attainment. Nine S's held jobs that were motorically oriented, 25 were ideationally oriented, 5 were affectively oriented, 19 were spiritually oriented and 5 did not state occupation.

Highly selective factors were operating in the selection of subjects. The open ended format and a length of 12 pages resulted in a verbally sophisticated sample. This limited the ability to generalize results to the general population of yoga students.

For purposes of testing the hypothesis, S's were divided into five groups. Though ultimately arbitrary, the division of groups by years of practice allowed effects over time to be readily discriminated, as the following figures represent: Group 1, 18 subjects, 0-1 years in yoga; Group 2, 14 subjects, 1-2 years in yoga; Group 3, 11 subjects, 2-3 years in yoga; Group 4, 14 subjects, 3-4 years in yoga; and Group 5, 12 subjects, 4 or more years in yoga.

D. Sampling

Four hundred questionnaires were divided into twenty-five packets and mailed to each of sixteen Integral Yoga Institutes in New York, New York (two branches); Pomfret, Connecticut; New Britain, Connecticut; Boston, Massachusetts; Dallas, Texas; San Francisco, California; Los Angeles, California; Santa Cruz, California; Columbia, Missouri; Detroit, Michigan; Washington, D. C.; Boulder, Colorado; and Garfield, New Jersey. Standardization of instruction methods across institutes and E's previous experience as a teacher with the organization were determining factors in the choice.

A hand written letter of introduction to the purposes of the questionnaire was included in each packet (Appendix B). Stamped, self-addressed envelopes were attached to each questionnaire to facilitate responses. Seventy-two questionnaires, representing a return of 18 percent were received after three months. Three were discarded for illegibility.

E. Techniques of Measurement

Refinements in the basic hypothesis that length of time practicing yoga relates directly to perceived physical, mental and spiritual actualization were made to facilitate categorization of data.

1. Physical Categories

   (a) Statements indicating increased amounts of physical activity, energy, stamina, fortitude or vibrancy.

   (b) Statements indicating increased physical relaxation, contentment, complacency, health, satisfaction or absence of dysfunction.

   (c) Statements indicating increased experiential awareness of cardio-pulmonary, neurological, skeletal-muscular and other physiological and anatomical processes.

   (d) Reports of poor sleep, fatigue, headaches, spine curvature, nervousness, nausea, poor hearing, stiff joints, skin problems, overweight, tremor, underweight, indigestion, smoking, drinking and other (S specified) prior to, and relieved as a result of yoga.

2. Mental Categories

   (a) Statements indicating improved mental concentration, intensification or clarity.

   (b) Statements indicating increased relaxation, peace, bliss, harmony, balance, decrease in conflict, equanimity, composure, satisfaction or contentment.

(c) Statements indicating improved understanding of self, awareness of motives or insight.

(d) Statements indicating improved interpersonal relations.

3. Spiritual Categories

(a) Statements indicating increased orientation toward seeking actualization of deeper potential, or higher, transcendent, spiritual or ultimate goals and values.

(b) Statements indicating experiences of nearness to a higher being, greatness, goodness, unity, wholeness or integration.

Two raters were used for the coding or responses. R_1 was an accounting major at The University of Tennessee who received undergraduate credit for participation. He received training in response rating and coded all raw data over a two month period using the questionnaire checklist (Appendix C). R_2 was an undergraduate major in psychology acting as a reliability check on R_1. He received a lesser degree of credit for coding fifteen randomly selected questionnaires previously checked by R_1.

Total responses per category for each of the questionnaires were checked for reliability according to the following formula:

$$\text{Percent Agreement} = 100 - \frac{\text{Number of disagreements}}{\text{Number of scored responses}} \times 100$$

Percent of agreement ranged from 75 percent to 100 percent with a mean of 89.6 percent (Appendix D). Reliability indices were based on total number of disagreements per category rather than inter-rater comparison for each response. Percent agreement, though apparently

quite strong, reflected this source of indeterminancy. Therefore the reliability level may have indicated an inflated method of comparison.

F. Results

This section graphically presents data bearing directly on the study's hypothesis. A tabular presentation of category P4 (not graphed) is also made. Descriptions were based on data reported for all categories and groups as well as collapsed data under physical, mental and spiritual headings.

1. Functionality of Categories

Though all categories were distinct in terms of operational definition, the underlying phenomena seemed not so delineated. It was evident that line P2 in Figure 19, "statements indicating increased physical relaxation, contentment, complacency, health, satisfaction and basence of dysfunction," represented more subtle distinctions in body awareness than line P3, "statements indicating increased awareness of cardio-pulmonary, neurological, skeletal-muscular and other physiological and anatomical processes." P3 revealed a deeper understanding of self than P2. Line M3 in Figure 20, "statements indicating improved understanding of self, awareness of motives or insight," also represented an understanding of self, but on a deeper and more subtle level. Line S1 in Figure 21, "statements indicating increased orientation toward seeking actualization of deeper potential, or higher, transcendent, spiritual or ultimate goals and values" signified a yet deeper assessment of self.

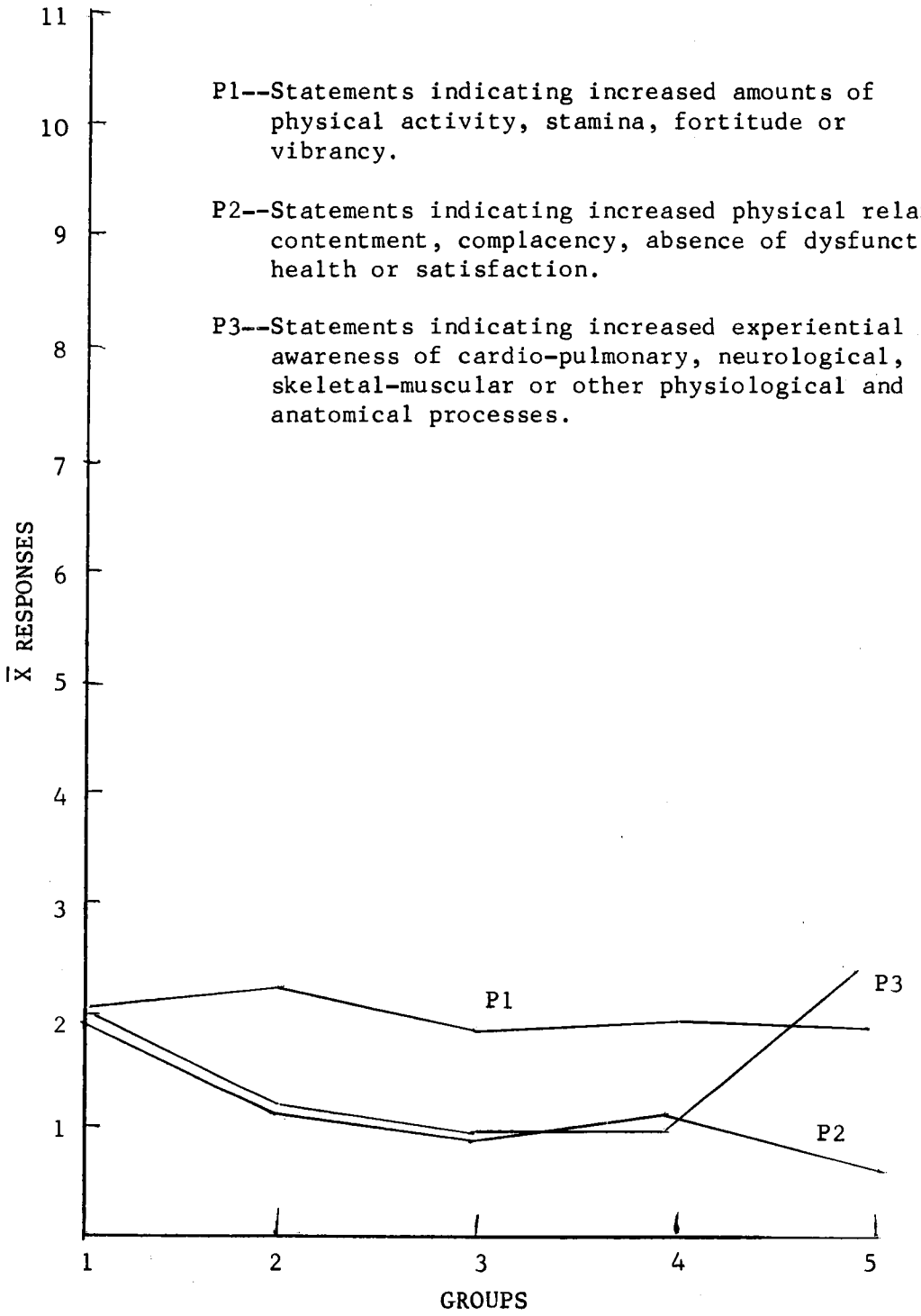


FIGURE 19. Physical categories.

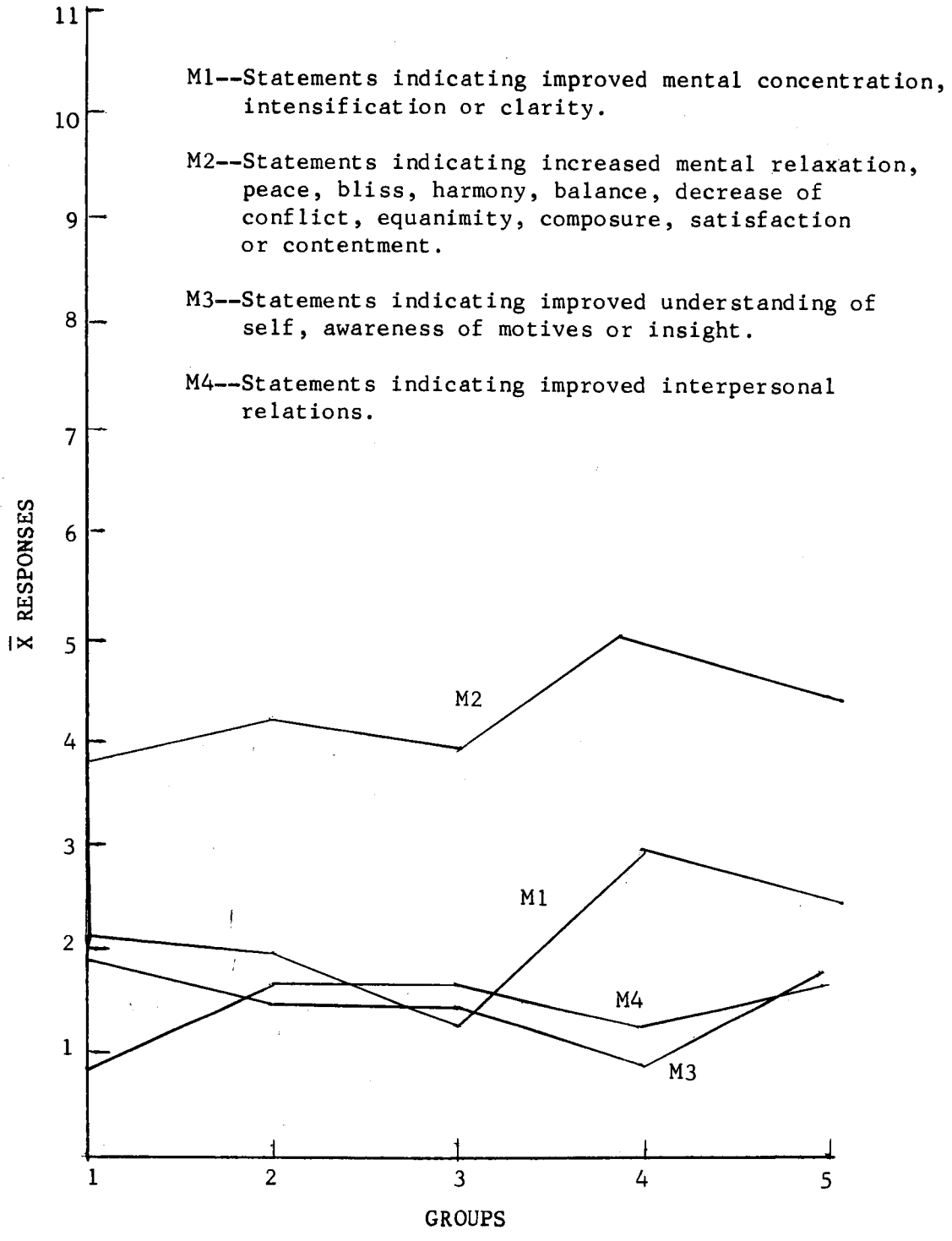


FIGURE 20. Mental categories.

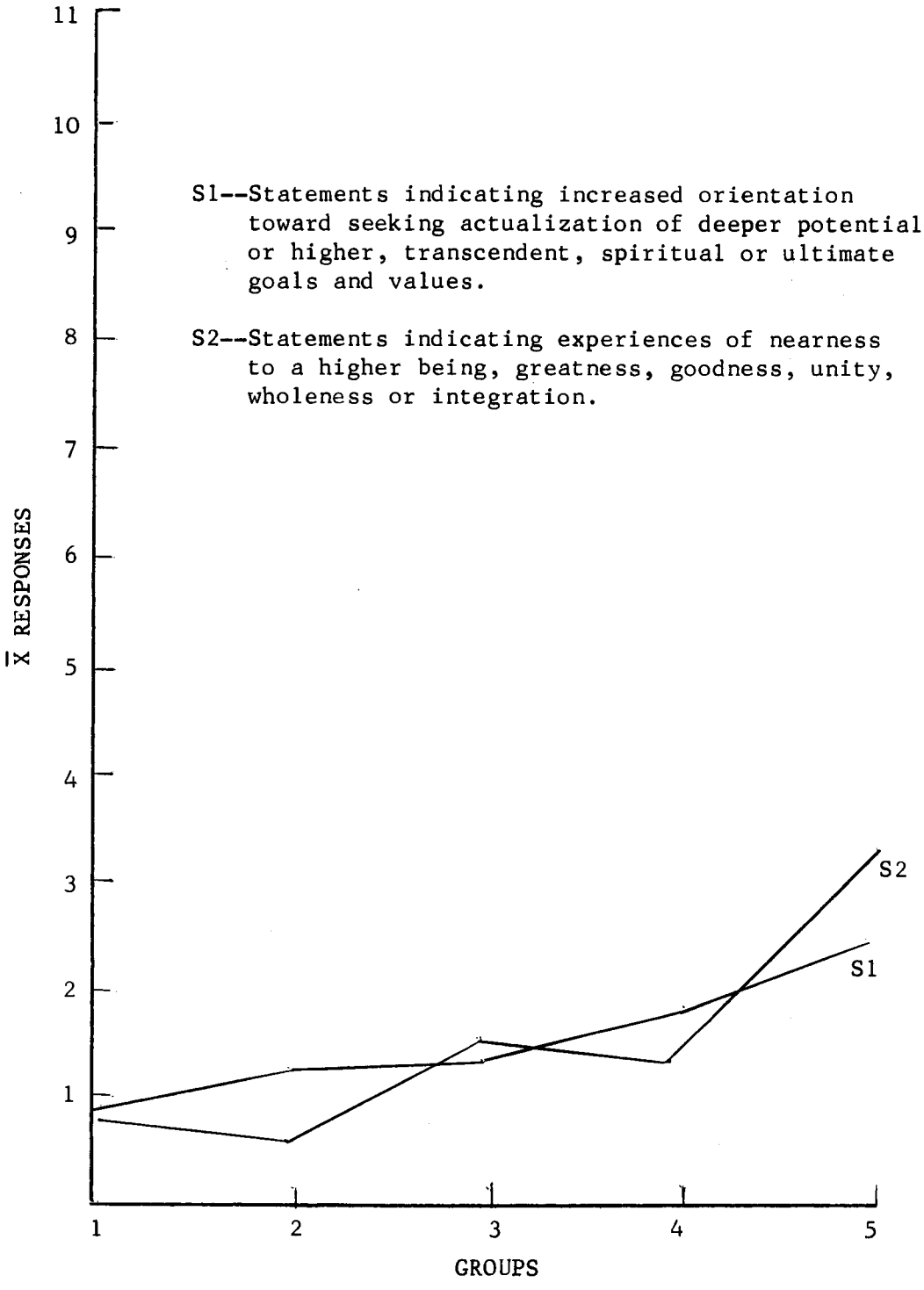


FIGURE 21. Spiritual categories.

Although P3, M3 and S1 shared in the generally high reliability index (R = 89.6 percent), the distinctions seemed based on conceptual rather than phenomenological considerations. Of the twelve respondents in Group 5, nine listed their occupation as yoga instructor. Because of their background they were able to make fine distinctions in physical awareness as represented by P3. Instead of responding in the general terms as defined by P2, body awareness was expressed quite specifically. A representative sample was "I am aware of buildups of tension and the whole digestive process." While exemplifying a facet of understanding more specific than P2, it was less subtle than a sample statement from category M3, "meditation helps me be a more conscientious, together person." This level of insight was, in turn, less profound than a statement scored for S1, "I feel that whatever way creation is expressed through me, my ultimate goal is to grow in the understanding of our spiritual unity."

While the general headings of physical, mental and spiritual adequately represented comprehensive distinctions in content of awareness, absolute phenomenological distinctions between response categories were not so represented. Self-understanding seemed to be a more basic phenomena that was independent of, yet manifest through a hierarchy of objects and concepts ranging from physical to spiritual. As guiding concepts for the organization and communication of subjective statements as to personally perceived benefits of yoga the categories possessed facility, but they did not do more than statically symbolize the fluid nature of the underlying phenomenological reality.

2. Physical Categories

Figure 19, page 129, revealed the specific curves for mean responses scored in categories P1, P2 and P3. P1, "statements indicating increased amounts of physical activity, energy, stamina or vibrancy," remained unchanged across groups. Though there were indications that yoga did increase physical energy, the increase did not occur across groups. Thus the hypothesis is refuted for this category. Line M1 in Figure 20, page 130, represented a parallel concept to P1 but on a mental level, "statements indicating improved mental concentration, intensification or clarity," and suggested that reports of mental energy did uniformly increase across groups. A tentative explanation is that increases in physical energy were uniformly present across groups while further energy increments were manifest on a mental level.

Line P2, "statements indicating increased physical relaxation, contentment, complacency, health or absence of dysfunction," significantly decreased across groups. Two possible explanations for this unexpected refutation of the hypothesis were offered. First, individuals may have become more tense and unhealthy as a result of practicing yoga. A second alternative is that relaxation and satisfaction became expressed in a parallel response category.

The first alternative seemed unlikely through a review of all subjective statements indicating adverse effects from yoga. Only two responses out of the entire sample justified the conclusion that negative effects emerged through yoga. One female expressed a problem with unexpected weight gain while another perceived the emergence of negative emotions consequent to an improved ability to relax. It

therefore seemed unlikely that prolonged practice of yoga resulted in decreases of physical contentment or the development of poor health.

The second explanation, that relaxation and absence of dysfunction became expressed in a different category, seemed more plausible. The review of empirical studies in Chapter III revealed that both hatha and mantra yoga produced benefits on physical and mental levels (Boudreau, 1972; Seeman, Nidich & Banta, 1972; Wallace & Benson, 1973; Udapa & Singh, 1972). Line 2 in Figure 20, page 130, "statements indicating increased mental relaxation, peace, bliss, harmony, balance, decrease of conflict, equanimity, composure, satisfaction or contentment," represented an analogue to P2 but on a mental level. This line was composed of responses that did increase as a function of time. It seemed likely that increased relaxation, health and absence of dysfunction did not decrease as a function of time, but became perceived and expressed in a more holistic and mental fashion.

P3 in Figure 19, page 129, presented a U shaped curve with slightly more responses in Group 5 than Group 1. It seemed apparent that the large number of yoga teachers in Group 5, trained to experience and articulate fine discriminations in body awareness, was the primary cause of this increase. Line P2, varying inversely with P3 for Group 5 was a less discriminating measure of physical benefits. This further suggests that increased responses in Group 5 revealed changes from general expressions of relaxation and body awareness to more specific discriminations.

The decreasing tendency of P3 across the first three groups is consistent with lines P1 and P2. Perceived benefits on the physical

level decreased while analogous mental benefits, as illustrated in M1 and M2, increased. Instructors of yoga, with highly developed body awareness, learned physiological and anatomical discriminations to a high degree and were responsible for Group 5 increases.

Category P4, Tables 1 and 2, showed perceived dysfunctions prior to yoga as well as subsequent relief. The data, gathered in a checklist form, illustrated clear trends for all dysfunctions. There were more reports of, and subsequent relief from, all dysfunctions across all groups. Table 3 "percentages of subjects reporting other dysfunctions and relief," illustrated increased relief of S specified dysfunctions.

Reports of dysfunctions increasing over time indicated progressively increasing awareness of finer and finer levels of potential physical discomforts. As specific body awareness, P3, increased, so did awareness of dysfunctions that may have been undiscriminable before. Increasing across groups were reports of dysfunctions and relief. A tentative explanation is that as awareness of sources of dysfunction increased, the ability for self-correction was equally enhanced.

All dysfunctions reported could have had functional or organic bases, but, irrespective of their causes, were expressed in terms of experiential symptoms representing inhibited physiological actualization. Mental tension undoubtedly played a great part in the manifestation of all dysfunctions. The increased reports of relief form a tendency similar to line M2 in Figure 20, page 130, which indicates increased mental relaxation, contentment and absence of conflict. Overall increased levels of contentment and health might have represented an underlying process of psychophysical integration as suggested by

TABLE 1. Percentage of Subjects Reporting Dysfunctions.

Dysfunction	Group 1	Group 2	Group 3	Group 4	Group 5
poor sleep	39	21	27	21	58
fatigue	61	50	55	50	67
headaches	39	35	45	35	67
body aches	61	21	36	29	58
spine curvature	33	35	27	00	42
nervousness	61	35	64	71	92
poor vision	17	21	09	14	21
nausea	00	00	09	00	08
poor hearing	06	07	09	00	08
stiff joints	17	21	18	21	50
skin problems	22	21	18	21	50
overweight	28	35	27	35	42
tremor	00	00	09	07	00
underweight	06	07	09	00	17
indigestion	11	35	55	43	58
smoking	33	35	55	43	42
drinking	17	43	27	29	25

TABLE 2. Percentage of Subjects Reporting Relief Through Yoga.

Dysfunction	Group 1	Group 2	Group 3	Group 4	Group 5
poor sleep	33	14	27	21	50
fatigue	33	50	45	50	67
headaches	33	21	45	28	58
body aches	44	14	36	21	58
spine curvature	28	07	09	00	33
nervousness	44	35	55	71	67
poor vision	07	00	00	00	14
nausea	00	00	09	00	08
poor hearing	00	00	00	00	08
stiff joints	10	21	18	21	33
skin problems	17	07	09	29	17
overweight	22	35	18	29	33
tremor	00	00	09	07	00
underweight	06	00	09	00	00
indigestion	11	35	18	14	50
smoking	28	29	36	35	33
drinking	17	33	27	28	25

TABLE 3. Percentage of Subjects Reporting Other Dysfunctions and Relief.

Dysfunction	Group 1	Group 2	Group 3	Group 4	Group 5
sexual frustration	06	00	00	00	00
laziness	06	00	00	00	00
menstrual cramps	06	07	00	00	00
diabetes	06	00	00	00	00
colds	00	07	00	07	17
migraine	00	00	09	00	00
drug dependence	00	14	00	14	08
asthma	00	07	00	00	00
allergies	00	00	18	00	00
hay fever	00	00	09	00	00
constipation	00	00	09	00	00
hypertension	00	00	00	07	00
chest pains	00	00	00	00	08
bronchitis	00	00	00	00	08
ulcer	00	00	00	00	08
hypoglycemia	00	00	00	00	08
kidney malfunction	00	00	00	00	08
aging	00	00	00	00	08

Banquet (1973). The increased practice of yoga worked directly to gratify physiological needs, allowing S's to proceed toward the fulfillment of more cognitive capacities.

Though it seemed unlikely that benefits on a physical level decreased over time, the collapsed data for P1, P2 and P3, Figure 22, pointed to that conclusion. Reports of physical benefits, except for responses by Group 4 (which contained four yoga teachers out of fourteen respondents) and Group 5 (containing nine out of twelve teachers) decreased while reports of mental benefits inversely increased. There was an interesting body attitude among some Group 5 subjects. Some illustrative reports follow.

> The motive is important. If you understand that it is only an aid to finding peace but not the goal then you aren't attached or constantly drawn to it. If asanas are the goal by itself you only stop short at physical relaxation, beauty and energy.
>
> By introducing the idea that the body is just a vehicle for the inner force or spirit to serve through--that the inner soul--peace--is within--brings lasting peace. I try to stay in touch with that and just let the body be the vehicle for it.
>
> . . . remember the body is an instrument to do God's work.

These Group 5 responses may be contrasted with two examples from Group 1.

> My motivations for continuing yoga are to become healthier and more sensitive to the workings of my body.
>
> The chief manner in which yoga relates to the rest of my life is as a source of health.

The general tendency for reports of physical benefits to decrease over time did not indicate that benefits of a holistic nature decreased. Figure 22, representing collapsed data for physical, mental and

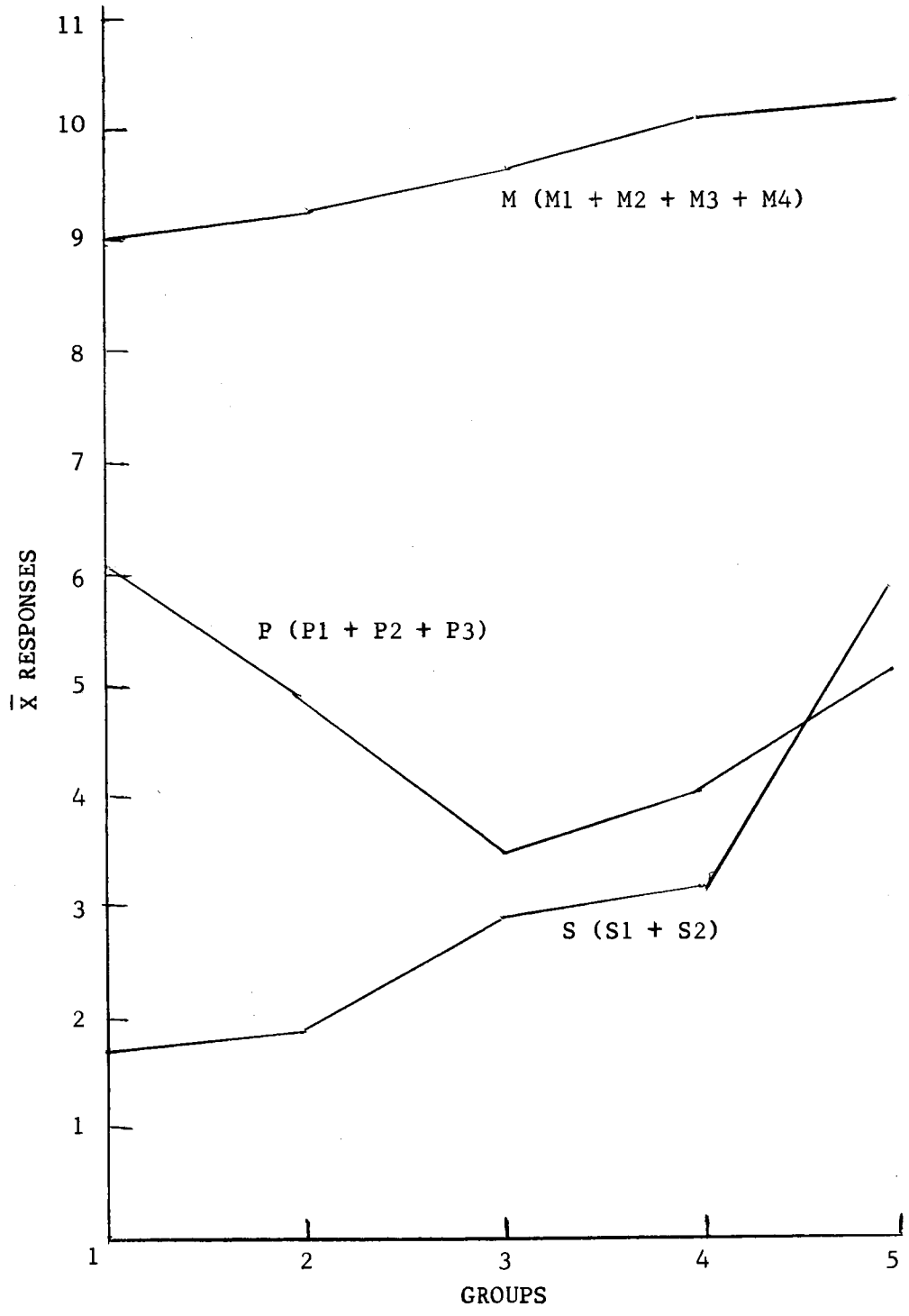


FIGURE 22. Collapsed data--all categories.

spiritual benefits, showed quite clearly that, over time, mental and spiritual needs became pre-eminent over physiological needs. The satisfaction of higher needs became more central in the organization and expression of behavior as physiological mechanisms reached homeostasis. Specific physical dysfunctions, surveyed in a forced choice checklist and not subject to a freer projection of needs, did increase across groups along with reports of subsequent relief.

3. Mental Categories

Line M1 in Figure 20, page 130, "statements indicating improved mental concentration, intensification or clarity," showed a gradual increase across groups, supporting the hypothesis that perceived benefits of yoga increased as a function of time. Hatha, mantra and karma yoga, practiced regularly to some degree by all S's, seemed to produce gradual increments in the actualization of directed and clear thinking.

Line M2, symbolizing "statements indicating increased mental relaxation, peace, bliss, harmony, balance, decrease of conflict, equanimity, composure, satisfaction or contentment," showed gradual increments across groups remarkably similar to line M1. While the two categories represented fairly distinct organizations of statements, the underlying phenomena were either dependent on each other or dual aspects of a singular and unitive process. While it seemed that increased capacity for concentration and clarity of thought would be directly related to mental relaxation and inhibition of conflict, the similarities in response frequency suggested a more unitive process of actualized human potential.

"Statements indicating improved understanding of self, awareness of motives or insight," as indicated by line M3, Figure 20, page 130, showed a slight decrease across groups. The goals of yoga, oriented towards the cultivation of inner awareness, seemed non-supported by this finding. As noted previously, however, this line varied inversely with line S1 in Figure 21, page 131, "statements indicating increased orientation toward seeking actualization of deeper potential, or higher, transcendent, spiritual or ultimate goals and values." Increased benefits of line M3, which reached a peak during the first year of practice, was supplanted by an orientation of seeking insight and meaning on deeper, spiritual levels. The distinction between M3 and S1 proved to be verbal as the underlying fluidity of self-awareness was manifest in both mental and spiritual content. A tentative explanation is that yoga did increase perceived self-understanding as individuals moved from a mental level toward intuitive recognition of more subtle levels of self.

Line M4, Figure 20, page 130, "statements indicating improved interpersonal relations," increased gradually over time in a fashion similar to M1 and M2. As M4, interpersonal relations, M1 mental concentration and M2, mental relaxation increased over time, it became increasingly likely that a process was becoming manifest through numerous dimensions of expression. Hatha and mantra yoga, though often practiced in groups, are primarily intra-personal growth techniques. Karma yoga, also done in group situations, still places the emphasis upon intra-personal analysis and development. A fundamental growth process seemed to have occurred at a psychic level preceding the differentiation of

energy into mental or interpersonal phenomena. At whatever level of need this process became actualized, gratification ensued.

4. Spiritual Categories

Line S1 in Figure 21, page 131, "statements indicating increased orientation toward seeking actualization of deeper potential, or higher, transcendent, spiritual or ultimate goals and values," significantly increased across groups and clearly supported the study's hypothesis. Increased exploration of self led to awareness of deeper goals and values of a decidedly existential-humanistic and spiritual nature. The absolute extent of personality transformation could not be determined from the type of data collected, but at least some alteration in life orientation away from materialistic and toward spiritual goals seemed indicated.

Line S2, "statements indicating experiences of nearness to a higher being, greatness, goodness, unity, wholeness or integration," was an indicator of peak-experience. Though the mode of categorization was not designed to assess the quality or intensity of these experiences, it seemed clear that a unitive process was directly experienced as a function of increased duration of yogic practices. Especially noteworthy is the sharp increase in these reports for Group 5.

5. Collapsed Data--All Categories

Figure 22, page 140, revealed line P, collapsed from P1, P2 and P3, line M from M1, M2, M3 and M4 and line S from S1 and S2. The most striking relationship is in the comparison of P with M and S. P sharply decreased over three groups and, taking into account the unusual

composition of Groups 4 and 5, reveals a general decline across all groups. M and S both varied inversely with the function of P, Groups 1-3. Apparently, the most immediate effects of yoga were felt increases in physical energy and relaxation, with the status of body awareness equivocal. Increases in self-assessment and treatment of physical dysfunctions, and improvements in mental concentration, relaxation, insight, interpersonal relations, goals of transcendence and peak-experience were noted during the first year of practice but in a less dramatic way. By the second year of yoga this trend was reversed as mental and spiritual needs and fulfillment became pre-eminent. It seemed likely that increased physical comfort and awareness provided the support for the emergence of self-actualization needs.

The other noteworthy relationship was in the rise of perceived physical benefits for Groups 4 and 5 of which category P3 "statements indicating increased experiential awareness of cardio-pulmonary, neurological, skeletal-muscular and other physiological and anatomical processes" was responsible. It seemed probable that this increment was due in part to the inordinate number of yoga teachers in this group, who would be expected to be quite aware of specific physical processes. It may be possible that, with over four years of regular yoga practice, it became quite natural for individuals to become instructors. The difficulty of assessing the increases of physical benefits of yoga over time depends upon the determination of how well these groups represented yoga students of four or more years practice.

G. Discussion

1. Overview

The study was designed to describe the phenomenological effects of yoga as an analogue to Maslow's and Patanjali's theories of self-actualization. Though separated by 12,000 miles and 2,400 years, both personologists conceptualized human growth as the hierarchical development of physical, mental and spiritual capacities. Ensuing from this supposition is the hypothesis that perceived physical, mental and spiritual benefits of yoga increase with term of practice.

Sixty-nine practitioners of yoga responded to a lengthy, open ended questionnaire constructed to elicit statements on the effects of yoga. S's responses were divided into five groups organized around years of continued practice.

It became apparent that the specific response categories (Appendix C) were linguistic distinctions rather than precise reflections of underlying phenomena. Though useful for the communication of general effects of yoga, they were static representations of the S's reality. Reports of increased physical activity, which decreased over time, were verbally distinguishable from reports of mental intensification, which increased over time. In retrospect, the categories did not function to clearly delineate two separate phenomenological processes. Decreases in reports of physical relaxation, general health and absence of dysfunction also varied inversely with increased reports of mental relaxation, contentment and absence of conflict. In addition, the awareness of specific physiological processes, sharply rising for

Groups 4 and 5, represented finer experiential delineations than "relaxation."

Statements in categories P1 and P2, representing increased physical activity and relaxation, respectively, decreased across time in refutation of the study's hypothesis. Categories M1 and M2, respectively, representing mental intensification and relaxation, inversely increased with P1 and P2. In view of this interesting relationship, it was suggested that the initial effects of yoga were as physiological gratifiers, then bringing the individual to experience more subtle mental effects. Continued practice from the point of physiological homeostasis allowed the emergence of higher order; i.e., mental and spiritual needs.

The ability to make fine phenomenological distinctions in body awareness decreased for groups 1-3 and were congruent with the above explanation. Sharp increases in this category for groups 4-5 which consisted, respectively, of four out of fourteen, and nine out of twelve yoga teachers, were noted. It was concluded that the increases in this ability were due to their specific training. Whether or not delineated body awareness actually increased over time was equivocal and may have been dependent on the composition of groups 4-5.

Reports of a wide variety of physical dysfunctions and consequent relief through yoga linearly increased across groups, supporting the hypothesis. As reports of dysfunctions increased with relief, it was suggested that increased body awareness, as indicated in P3, made assessment of discomfort possible. As the practice of yoga became self-sustaining, the ability to treat the symptoms also increased.

Mental concentration, M1, and mental relaxation, M2, both increased gradually across groups. This directly supported the hypothesis that yoga produces actualization of directed, clear and relaxed thinking.

Improved understanding of self, represented by category M3, did not significantly increase across groups. However, reports of increased orientation toward spiritual or transcendent goals, S1, represented a higher order of self-understanding and did increase. Increments in self-understanding were expressed primarily on a transpersonal rather than personal level.

Indications of improved interpersonal relations, M4, across groups supported the hypothesis. Such reports gradually increased over time in a fashion similar to mental concentration and relaxation. The relationship between these similar curves suggested the actualization of a more basic unifying process.

S1, representing increased spiritual orientation, and S2, reports of peak-experience, both increased over time. Physical and mental gratifications allowed the emergence of self-actualization needs, increasing an orientation toward more subtle yet powerful fulfillment. Neither phenomena was seen to cause the other. Probably, increased orientation towards spiritual experience led to such perceptions which in turn enhanced the orientation.

2. Relation of Results to Yogic Theory

The central postulate of yoga is that man's deepest nature transcends conceptual thought; his true identity is one with the universe.

Through specific practices man can transform himself to a point where this eternal, omniscient and omnipotent presence is directly reflected upon a tranquil mind. Such experiences vary in frequency of occurrence and intensity and bestow bliss, compassion and wisdom on the experiencer. The eternal values of humanity can be directly known during such enlightenments.

Specific techniques for attaining this awareness are arranged in a hierarchy and include (a) non-aggression on all levels, (b) mental purity, discipline, contentment and selfless service, (c) asana, strengthening, purifying and relaxing the body, (d) pranayama, control of the life-force through breath regulation, (e) pratyahara, withdrawal of the mind from sense objects, (f) concentration of thought, (g) meditation, uninterrupted experience of one thought, and (h) oneness with the universe. Degrees of progress along the hierarchy bring related levels of actualized bliss, compassion and knowledge. Without restating the analysis of the data, some basic trends seemed to support the validity of the hierarchy.

Enhancement of perceived equanimity, contentment and self-discipline were reported. Dramatic increments in body awareness and health were obtained during the first year of practice and then became of second order importance to improved concentration, clarity, harmony and bliss. As yogic skills developed, the essential self came to more frequently illuminate awareness and thus actualize these capacities.

Peak or spiritual experiences, feelings of unity, closeness to God and the orientation to further develop such phenomena were clearly observed to increase with term of practice. Apparently, direct

awareness of the essential self generated the need for further experiences. For such experiences to effect a reorientation in values spoke directly to its inherent magnitude.

The analysis of response categories pointed to several underlying factors. First was the development of insight along a dimension ranging from physical to spiritual. Increased awareness of specific physiological processes and mental and spiritual being were observed. This would support the supposition that approaching the essential self generates knowledge. Reports of increased physical and mental activity suggested the presence of a second factor, greater contact with the world. Yoga appeared to actualize a fundamental source of energy which was expressed physically and mentally. The increased ability to physically and mentally relax suggested a third factor. In terms of yoga, anxiety decreases directly with dependence of external rewards. The yoga students, exploring their inner nature on all levels, discovered sources of contentment and meaning, and became less dependent on environmental reinforcement, hence less anxious.

Along with self-understanding, increased energy and relaxation, a "healing" or integrating factor may have been present. The data for relief of dysfunctions pointed to the development of wholeness. The range of ailments reported relieved pointed to a comprehensive rather than specific mechanism of physiological integration and gratification.

Of all possible factors hypothesized to explain the reported benefits on all levels, this integrative factor deemed most serious consideration. Though physiological, behavioral and phenomenological parameters have merit in the study of self-actualization, it is only

the external manifestation of this process which may be observed and measured. The underlying, more basic process intimated through this study seemed uncommunicated through the methods devised. The observation and categorization of yogic phenomena remained one step removed from experiential fusion with it. To report the possibility of an organismically integrating process potentially actualizable through systematic technique, though possibly possessing merit in itself, awaits to be existentially validated by those interested in its applications.

3. Future Research

Subsequent investigations of yoga from a physiological, observational or applied perspective seem indicated but must consider weaknesses in the design of this study. As the purpose was to obtain comprehensive data on a previously unresearched phenomena, many antecedent variables were uncontrolled. The use of a lengthy, open ended questionnaire offered a wealth of preliminary observations but acted only to filter categorizations of the most general and experientially apparent effects.

Subjective reports of perceived benefits of yoga may have been affected by the need to conform to social influences. Asch (1956) showed that the assertion of majority opinion, even without any effort to persuade, may lead some persons to agree with group opinions contradictory to their own judgments. Kelly and Volkart (1952) revealed that the strength of attraction to a group is directly related to conformity to group norms. Respondents susceptible to such social influence, possibly a reflection of security or belongingness needs, may have been

expressing group beliefs rather than personal experiences, thus providing a source of data variability.

Such a factor may have been operating to effect recall of personal functioning prior to yoga. Increasing commitment to a yoga group over time may have affected a lower level of perceived personal effectiveness prior to yoga and an inflated perception of personal growth consequent to yoga.

The method of data collection resulted in a rather homogeneous group of respondents. Highly verbal and intelligent, with 28 percent having at least one graduate degree, any generalization to a population not so composed must be guarded. Such individuals seeking intra-personal growth through yoga were probably not representative of all practitioners.

No data were collected on individuals practicing yoga for a period of time and then discontinuing practice. It seems possible that those continuing the techniques may have initially operated at a significantly lower level of need gratification than those who terminated practice sooner. Otis (1974), however, in a study comparing those who continued transcendental meditation with those quitting, reported only one significant factor--age. The older an individual was when beginning meditation, the more likely he was to continue. The determination of personality profiles for prediction of success in yoga looms as an important investigation.

Enhanced endocrinological, neurological and skeletal-muscular functions as revealed by Udapa and Singh (1972) and as indicated by the phenomenological reports in this study, offer a wide variety of

physiological parameters to be recognized in future study. Both physiological and subjective data point to the development of stress-competence with continued practice. While the precise mechanism causing predictable increases in 17-hydroxicorticosteroids and serum proteins, and decreases in cholesterol and glucose are obscure, the role of self-applied deep visceral massage while maintaining asanas seemed central. Reports of enhanced digestion and weight control may have resulted from increased proprioceptive awareness consequent to the physical stimulation in the entire digestive tract. Enhanced functioning of this system through the deep visceral massage may have brought about greater awareness of the quantitative and qualitative effects of food.

Diminished headaches, fatigue, spine curvature and body aches may have been caused by a structural realignment in the skeletal-muscular system. The role of unnecessary energy expenditure during movement and the relationship of body structure to the gravitational field might be considered areas of interest in the etiology of dysfunction. The similarity of yoga postures to those used in physical rehabilitation and conditioning for natural childbirth (Brena, 1972) points to the role of a flexible spinal column in effective living. Other similarities between yoga and progressive muscle relaxation (Jacobson, 1929, 1964; Luthe, 1963; Wolpe, 1958) and EMG biofeedback approaches to tension and migraine headaches (Budzynski, Stoyva, Adler & Mullaney, 1973; Raskin, Johnson & Rondestvedt, 1973; Sargent, Green & Walters, 1973; Wickramasekera, 1972) indicate the possibility of a synthesis of these methods into a more comprehensive approach to disorders with pronounced muscular contraction.

Changes in EEG patterns with lowered amplitude and increased frequency of alpha and theta waves during meditation questions the relationship between neurological activity and higher need gratification. If an individual can learn to control alpha patterns and simultaneously produce a state of attentive relaxation, the physiological and phenomenological limits of human capacity must be expressed cautiously. Of crucial importance is what individuals can learn to control what neurological processes under what conditions. Paskewitz and Orne (1973) have shown that alpha conditioning proceeds not from feedback but from the ability to isolate consciousness from internal and external stimulation.

> The subjective experiences reported to be associated with alpha feedback training may be understood as a consequence of acquiring skill in disregarding stimuli in the external and, perhaps, internal environment which would ordinarily inhibit alpha actively. Increased alpha densities, then, may best be viewed not as an end in themselves, but as one convenient index of a subject's ability to acquire this skill.

This highly significant finding lends credence to the yogic notion that the preparation for meditation is withdrawal of the mind from sense objects. A comparative study of alpha production between feedback and meditation techniques might further clarify the exact mechanism operating to bring control of differential neurological activity.

An adequate observational study of yoga can only be accomplished by controlling the larger part of an individual's non-yoga behavior. Outside of institutionalized prisoners, psychiatric patients, soldiers and school children, adequate control of confounding variables seems

unobtainable. Randomly selecting persons from these populations with some matched controls receiving a similar treatment such as a combination of gymnastics and alpha biofeedback, and some receiving no treatment, offers the outline of a potentially viable longitudinal study. Pre- and post-measures of personality, dysfunction and growth potential could be accomplished with psychodiagnostic measures as well as observationally defined criteria of behavioral efficiency such as interpersonal effectiveness and task efficiency.

Three classes of disorders commonly seen in medical and counseling settings might be alleviated through the use of yoga. They are (a) psychomotor hypermobilization, (b) inadequate coping mechanisms, and (c) psychophysiological disorders.

Psychomotor hypermobilization means sustaining high levels of muscle contraction as seen in anxiety states, tension headaches, low back syndromes and other assorted muscle aches and spasms. As these complaints may be referred to different parts of the body with the sight of origin obscure, the treatment of the entire psychophysical system with a comprehensive yoga regimen might bring about more accurate monitoring of tension and relaxation levels and at the same time work directly to stretch and loosen spasm nodules. Recognizing specific bodily sources of tension as an adjunct to psychotherapy has been advocated in approaches as diverse as open encounter (Schutz, 1971) and office psychiatry (Gessel, 1974).

Anxiety and depression are frequent manifestations of cognitive error in the interpretation of self and others. As well as the possibility of correcting endocrinological, neurological and muscular

facets of these dysfunctions, access to an individual's character armor and body language may be effected. Inadequate bracing efforts could be assessed and conceptualized as stress reactions to fantasy and real life. While offering a direct approach in the modification of unproductive muscular-skeletal positions, the individual can be taught to meet these stresses without the unnecessary bracings with techniques such as systematic desensitization, autogenic training or guided fantasy.

Whether conceptualized as a physiological or phenomenological process, "anxiety" plays a large part in psychophysiological dysfunctions such as essential hypertension, duodenal and peptic ulcer, spastic colon, dysmenorrhea and insomnia. Datey, Deshmuhk, Dalvia and Vinekar (1969), Frederick and Barber (1972) and Patel (1973) have shown that persons with a diagnosis of essential hypertension can learn to control heart rate and blood pressure to a clinically significant level with yoga. Regestein, Buckland and Pegram (1973) have demonstrated that daily periods of alpha conditioning reduce the necessity of sleep during the night following experimental trials. While no data for the relief of dysfunctions in the digestive or reproductives systems is available outside of this study, the possibility of applying yoga in such cases seems possible and merits further inquiry.

A final note as to the locus of responsibility for success in the delivery of yoga to clinical syndromes must be made. While a professional can learn similar techniques such as progressive muscle relaxation and biofeedback rather quickly, yoga demands a much greater training commitment. Only to the extent that an individual practices

hatha and mantra yoga successfully and possesses a conceptual background in physiology, pathology and behavior can he safely apply these methods. Another caution is the use of the doctor/patient model with yoga. In this atmosphere it would be difficult if not impossible to play the role of the expert training a person to accept the responsibility of his own well-being. The responsibility for developing self-control skills involves a regular, daily practice of techniques for a certain period of time. Client expectations of passively receiving treatment are in opposition to self-responsibility for change and make the task of training extremely difficult.

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APPENDICES

APPENDIX A

YOGA QUESTIONNAIRE

Age_____ Sex_____ Marital Status_____ Educational Level_____

Occupation_____

I have been practicing yoga for:

1-3 Mos._____ 3-6 Mos._____ 6-12 Mos._____ 1-2 Yrs._____

2-3 Yrs._____ 3-4 Yrs._____ 4-5 Yrs. _____ 5+ Yrs. _____

My current practice involves approximately:

_____minutes per day of Hatha Yoga (posture).

_____minutes per day of meditation.

_____minutes per day of pranayama (breathing exercises).

_____minutes per day of study.

_____minutes per day of selfless service.

_____minutes per day of other (please specify).

The persons or organizations most responsible for my interest in yoga are_____.

I.

The main reason I started yoga is that I sensed _____ _____ inside myself.

The main change I notice about myself since starting the practice of yoga is _____ _____.

The main thing that disturbs me about my continued practice is _____ _____.

If I had started practicing yoga five years sooner _____ _____.

The thing that I value most about yoga is _____ _____.

The chief manner in which yoga relates to the rest of my life is _____.

My motivations for continuing to practice yoga are _____ _____.

Before practicing yoga the main way I would relax _____ _____.

Compared to yoga, the way I used to relax is _____ _____.

Since starting yoga I have noticed the following negative effects: _____.

Have you ever suffered from any of the following difficulties:

_____poor sleep	_____nervousness	_____tremor
_____fatigue	_____nausea	_____underweight
_____headaches	_____poor hearing	_____indigestion
_____poor vision	_____stiff joints	_____smoking
_____body aches	_____skin problems	_____drinking
_____curvature of the spine	_____overweight	_____other (specify)

Have the yoga asanas helped you in finding relief from these difficulties? If so, indicate which ones.

_____poor sleep	_____nervousness	_____tremor
_____fatigue	_____nausea	_____underweight
_____headaches	_____poor hearing	_____indigestion
_____poor vision	_____stiff joints	_____smoking
_____body aches	_____skin problems	_____drinking
_____curvature of the spine	_____overweight	_____other (specify)

In relation to my overall physical health, the yoga asanas have

_____

_____.

Have the yoga asanas had any adverse effects on your health? _____

If so, indicate what they are _____

_____.

In comparison to my state of health before practicing asanas I now

_____

_____.

In what ways, if any, have you become more aware of your physical processes. _____

_____.

If someone asked you to list the ten main benefits of asanas, what would you tell them? _____

_____.

After doing yoga asanas for the first time I felt _____

_____.

Did your interest or enthusiasm for asanas start after doing them for the first time or did it take a while to develop? _____

_____.

How do you account for this? _____

_____.

The chief way that asanas affect me mentally is _____

_____.

The chief way asanas affect me emotionally is _____

_____.

The chief way that asanas affect the way I think is _____

_____.

The activities I pursue after finishing a set of asanas are usually

_____.

Do you find that asanas have helped you to be more creative or productive in your education or in your occupation? If so, indicate how.

_____.

If you sometimes stop the practice of asanas for a period of time, what motivates you to start doing them again? _____

_____.

At what point in the practice of asanas has one reached a level of perfection or near perfection? _____

_____.

Do you find it easier to sit and meditate or to do asanas? _____

_____.

If I practiced asanas twice a day for six months I would find _____

_____.

The chief obstacle in starting to do a set of asanas is _____

_____.

Do you ever compete with yourself while doing asanas? How do you deal with this? _____

_____.

The chief relationship between asanas and pranayama is _____

_____.

How does pranayama make you feel physically? _____

_____.

Which do you prefer to do, asanas or pranayama? _____.

How do you account for this? _____.

Do you feel that a person can make more progress doing asanas or pranayama? _____. Why do you think this is so? _____

_____.

Do you tend to look at people differently after doing a set of asanas or pranayama? _____. How would you explain this? _____

_____.

Do you think it is possible for a person to become more attached to their body by practicing hatha yoga? _____ If so, how could this be best understood. _____

_____.

II.

The main benefits I notice from practicing meditation are:

_____.

The first time I tried to meditate _____

_____.

What type of meditation do you most commonly practice (for example, mantra, mental, image, part of body)?_____

_____.

Have you tried other forms of meditation that were not so rewarding as your current method? _____. If so, what kinds did you try and why were they unsatisfactory? _____

_____.

What effect, if any, does meditation have on the way you think?

_____

The main way meditation effects the awareness of my body is

_____.

The chief obstacle to successful meditation is _____
_____.

If you had a spare thirty minutes to practice yogic discipline, which would you choose, asanas or meditation? _____. The reason for this is _____.

The main effects meditation has on my emotions are _____
_____.

If you find that meditation has had a noticeable effect in your school work or occupation please explain. _____
_____.

All in all, the main way mediation has effected my personality is
_____.

If, from time to time you stop meditation, what brings you back to it?
_____.

I would like to spend more time in daily meditation, but don't because
_____.

What effect does your "ego" have on your meditation? _____
_____.

Have you noticed any changes in your relations toward family and friends since starting to meditate? Why do you think this is so? _____
_____.

Have you ever had an experience during meditation that you would describe as spiritual? _____. If so, explain what the experience was like. _____
_____.

The main way this experience effected the rest of my life was to
_____.

III.

Does the yoga of selfless service form an important part of your life? _____. If so, what kind of reward do you get from it? _____.

Does the motivation to perform Karma Yoga (selfless service) ever arise during a meditation period? _____. If so, how do you explain the emergence of this need? _____.

The main relationship between Hatha Yoga and Karma Yoga is that _____.

The main relationship between Karma Yoga and the pursuit of the highest "Truth" is _____.

Karma Yoga contributes to my mental, spiritual, and physical well being in that it _____.

If Karma Yoga is self-less, that is, without self, what is present during the practice of this discipline? _____.

The similarity between the uplift of meditation and that of Karma Yoga is _____.

The chief obstacle in my Karma Yoga is _____.

In the final event, my Karma Yoga will cause me to _____.

The chief manner in which "creativity" relates to Karma Yoga is _____.

Karma Yoga is most difficult when _____.

Karma Yoga is most effortless when _____.

The way in which "Cosmic Consciousness" relates to Karma Yoga is

_____

_____.

Can the highest possible state of awareness be reached with Karma Yoga? _____. If your answer is yes, what words would best describe this experience? _____.

Can the highest state of awareness be reached with methods other than Karma Yoga? _____. If your answer is "yes" what are these methods. If your answer is "no," what is the reason? _____

_____

_____.

IV.

If yoga has had a profound effect on your orientation to life, please use the rest of this page to explain what the change has been.

_____

_____

_____

_____

_____

APPENDIX B

QUESTIONNAIRE INTRODUCTION TO INTEGRAL YOGA INSTITUTES

August 12, 1974

Hari Om,

The enclosed questionnaires are being offered to the I.Y.I.'s throughout the country. I have been living and teaching at the Garfield Institute since February and will be returning to The University of Tennessee to complete graduate work. Results of the questionnaire will form the data for an M.A. thesis in Psychology.

It would be of service if the enclosed surveys could be offered to students and teachers at your center. The study outcome will be forwarded to you on completion.

Om Shanti,

Tim Thorpe

APPENDIX C

QUESTIONNAIRE CHECKLIST

Physical

1. Statements indicating increased amounts of physical activity, energy, stamina, fortitude or vibrancy.

2. Statements indicating increased physical relaxation, contentment, complacency, absence of dysfunction, health or satisfaction.

3. Statements indicating increased experiential awareness of cardio-pulmonary, neurological, skeletal-muscular or other physiological and anatomical processes.

4. Reports of dysfunction prior to yoga and relief consequent to yoga.

Dysfunctions

_____poor sleep	_____nervousness	_____tremor
_____fatigue	_____nausea	_____underweight
_____headaches	_____poor hearing	_____indigestion
_____poor vision	_____stiff joints	_____smoking
_____body aches	_____skin problems	_____drinking
_____spine curvature	_____overweight	_____other

Relief

_____poor sleep	_____nervousness	_____tremor
_____fatigue	_____nausea	_____underweight
_____headaches	_____poor hearing	_____indigestion
_____poor vision	_____stiff joints	_____smoking
_____body aches	_____skin problems	_____drinking
_____spine curvature	_____overweight	_____other

Mental

1. Statements indicating improved mental concentration, intensification or clarity.

2. Statements indicating increased mental relaxation, peace, bliss, harmony, balance, decrease of conflict, equanimity, composure, satisfaction or contentment.

3. Statements indicating improved understanding of self, awareness of motives or insight.

4. Statements indicating improved interpersonal relations.

Spiritual

1. Statements indicating increased orientation toward seeking actualization of deeper potential, or higher, transcendent, spiritual or ultimate goals and values.

2. Statements indicating experiences of nearness to a higher being, greatness, goodness, unity, wholeness or integration.

TOTALS

Category P1 _____

Category P2 _____

Category P3 _____

Category M1 _____

Category M2 _____

Category M3 _____

Category M4 _____

Category S1 _____

Category S2 _____

APPENDIX D

TABLE 4. Percent of Agreement for Response Categories.

Questionnaire	Percentage Agreement
4	96
6	93
15	93
23	100
27	76
28	87
31	82
33	95
38	75
42	91
44	89
51	95
58	90
63	92
68	92
	Mean 89.6

VITA

Timothy J. Thorpe was born in Newark, New Jersey, on February 16, 1949. His family soon moved to the nearby town of Nutley. He attended grammar and high school there except for brief periods when the family lived in Alaska and California. He attended Fairleigh Dickinson University in Rutherford, New Jersey, and was graduated cum laude from the University Honors Program in 1971.

The following September he entered Graduate School at The University of Tennessee in Clinical Psychology. After two years of study his insights led him to take a Leave of Absence for one year to study yoga under Sri Yogiraj Swami Satchidananda, the only person ever granted permanent alien status in this country under the category of "Minister of Divine Words." Returning to Tennessee he incorporated these experiences with his interest in existential-humanistic psychology, did empirical research on yoga, and received the Master of Arts degree with a major in Psychology in March, 1975.