

A
Scientific/Personal
Exploration

Meditation:
Self-Regulation Strategy
&
Altered State
of Consciousness

Deane H. Shapiro, Jr.



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To my colleagues

*Joan Emerson, Ellen McGrath, Gerald Piaget,
Johanna Shapiro, and Roger Walsh,
who have offered support, firmness,
therapy, and friendship*

*as we, alone and together,
struggle to*

*“blend,” “time-share,” “synthesize,”
“integrate,” and/or “transcend”*

*power and intimacy,
spirituality and the ways of the world. . .*

and

to my “babies”

Shauna and Jena, who already know how

Table of Contents

Overview	xiii
Preface	xviii
1. Perspectives on Meditation— Clinical and Psychotherapeutic Applications	1
2. Meditation as a Self-Regulation Strategy: Case Study—James Sidney	55
3. Meditation as an Altered State of Consciousness: Case Study—A Content Analysis of the Meditation Experience	85
4. Practical Instructions	119
5. Meditation as a Self-Regulation Strategy: The Empirical Literature	133
6. A Model for Comparing Self-Regulation Strategies: Meditation and Behavioral Self-Control	163
7. Meditation as an Altered State of Consciousness: The Empirical Literature	187
8. Components of Meditation	209
9. Mediating Mechanisms of Meditation	229
10. Methodological Issues in Meditation Research: An Applied Clinical Model	253

11. Epilogue: A Personal Essay	265
Appendices	273
A. Motivation, Expectation, Adherence Questionnaire	274
B. Notes	279
C. References	281

Tables and Figures

Chapter One:

Table 1.1	What Effect Does the Teaching of Meditation Have on an Individual Who Practices, and Why?	10-11
Table 1.2	Examples of Concentrative Meditation	17
Figure 1.1	A Five-Step Model of Zen Breath Meditation	21

Chapter Two:

Figure 2.1	Sleep: Baseline Data Weeks One and Two	61
Figure 2.2	Weekly Mean of Sleep and Non-Sleep (Hours)	74
Figure 2.3	Nights per Week Without Valium	75
Table 2.1	Weekly Mean of Sleep, Non-Sleep (in hours), and Number of Times Awakened. Total, with Valium and Without Valium	76
Figure 2.4	Mean Hours of Sleep and Non-Sleep: With and Without Valium	77

Chapter Three:

Table 3.1	Coding Instrument	96
Table 3.2	Percent of Breath Blocks: Thought and	
& Figure 3.1	Non-Thought	98
Figure 3.2	Mean Time of Breaths in Thought and Non-Thought Blocks/Session	99
Table 3.3	Mean Time of Breaths in Thought and Non-Thought Blocks/Session	100

Figure 3.3	Mean Time of Breaths, In Seconds: Comparison of Cycles Within Session	101
Table 3.4	Mean Time of Breaths, In Seconds: Comparison of Cycles Within Session	102
Figure 3.4	Percentage of Thought and Non-Thought Blocks/Cycle: Mean Across All Ten Sessions	103
Table 3.5	Thought and Non-Thought Blocks per Cycle	104-105
Figure 3.5	Percent of Breath Blocks/Session of Positive, Negative and Neutral Thoughts	107
Table 3.6	Percent of Breath Blocks/Session of Positive, Negative and Neutral Thoughts	108
Table 3.7	Number of Thoughts (and Percentage) Across Ten Sessions, per Coding Category	108
Table 3.8	More Detailed Breakdown of Category II: Thoughts Related to Task at Hand	110
Figure 3.6	Percent of Positive, Negative, Neutral Thoughts in Each Cycle	111
Table 3.9	Percent of Positive, Negative, Neutral Thoughts in Each Cycle	111
Chapter Five:		
Table 5.1	Studies on Fears and Phobias; Stress and Tension Management	136-138
Table 5.2	Studies on Addictions: Drugs/Cigarettes/Alcohol	143
Table 5.3	Studies on Hypertension	145
Table 5.4	Summary of Indian Yogic Tradition Based Partially on Woolfolk (1975)	147
Table 5.5	Summary of Studies of Transcendental Meditation Based Partially on Woolfolk (1975)	148-149
Table 5.6	Summary of Studies on Zen Meditation Based Partially on Woolfolk (1975)	150
Table 5.7	Summary of Studies Comparing Meditation with Other Self-Regulation Strategies: Physiological Measures	155-156
Table 5.8	Summary of Studies Comparing Meditation with Other Self-Regulation Strategies: Clinical Measures	158

Chapter Six:		
Table 6.1	Meditation and Behavioral Self-Control: Comparison and Contrast	178-181
Chapter Seven:		
Table 7.1	Subjective Changes Following Meditation	200-201
Table 7.2	Studies on Attention and Perception	203
Chapter Eight		
Figure 8.1	An Omni-Determinism Model of Mediating Mechanisms of Meditation	211
Table 8.1	Meditation: An Omni-Determinism Analysis	213
Chapter Ten:		
Figure 10.1	An Interactive Systems Theory Model for Utilizing Meditation as a Self-Control Technique in the Management of a Clinical Problem	255

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Although every effort has been made to review all the experimental literature on meditation published in the major English language journals, because of the ever-present problem of time lag while a book is in press (and as a temper to obsessive-compulsive tendencies), a cut-off date was needed, and some studies may have been missed. I apologize to those whose recent efforts are not included, and, while promising their inclusion in future revisions, I can only hope that the main themes discussed in this volume are based upon a body of evidence sufficient to provide a comprehensive overview of the current state of the art.

Overview

Preface

 THE PREFACE cites the four goals for the book: 1) Providing a comprehensive scientific approach to meditation; 2) Showing its clinical applications — indications and contraindications (bridging research literature and clinical practice); 3) Pointing out potential blinders to scientific study of meditation; and 4) Combining the scientific approach with a personal one.

CHAPTER ONE: *Perspectives on Meditation: Clinical and Psychotherapeutic Applications.*

Chapter One poses the question which provides the structure for the book: What *Effect* does the *Teaching of Meditation* have on the *Individuals* who *Practice* it. After exploring potential areas of paradigm clash and overviewing the book, I examined each of the key words in this sentence. *Effects:* Positive and adverse effects are mentioned. *Teaching:* The therapist's orientation is discussed from a psychoanalytic, humanistic, behavioral, and transpersonal perspective. Further topics include the role of relationship; resistance and (counter) transference; the qualities of the "good" therapist; and whether meditation might be useful

for the therapist; adverse effects, and how the therapist deals with them. *Meditation*: A working definition is offered; different types of meditation are reviewed and comments made on the difference between meditation as a self-regulation strategy and as an altered state of consciousness. *Individuals*: A discussion of the literature bearing on who seeks out meditation and why? What is their motivation? Are they a particular, definable sub-population? Of those who begin to meditate, who drop out, who continue? Of those who continue, who have a "successful" experience; who have "adverse" experiences? *Practice*: Issues of adherence and compliance are explored, including the importance of practice to the outcome of treatment.

CHAPTER TWO: *Meditation as a Self-Regulation Strategy: Case Study—James Sidney.*

This case explores in practical terms issues raised in Chapter One. The therapist's orientation, and belief in the efficacy of the strategy are noted; and the client's background, presenting problem, expectation and motivations are explored. Baseline information is gathered on client concerns—insomnia, assertiveness, social skills, general stress, and job—and both meditative and non-meditative interventions utilized. Specific indications and contraindications of meditation for this client are cited, and the role of relationship issues, selection of a meditation technique, and use of a tape are discussed. Results are presented as well as a discussion of whether meditation and therapy worked effectively for this client, and if so, why.

CHAPTER THREE: *Meditation as an Altered State of Consciousness: Case Study—A Content Analysis of the Meditation Experience.*

This chapter explores the importance of phenomenologically based research and cites previous research on the phenomenology of meditation. Four hypotheses are generated regarding thoughts (images, sensations) and non-thoughts during meditation, and the affect associated with them—positive, negative, neutral. Subject background, including type and length of meditation; adherence and compliance; initial motivation and commitment (maintenance of the practice) are cited. The setting, procedures, coding instrument are presented, followed by results, discussion and implications of the case-study experiment.

CHAPTER FOUR: *Practical Instructions.*

Practical instructions for a breath meditation technique are presented. Topics include how to present meditation to the client; cultic versus non-cultic meditation; specific instructions; issues of generalization and adherence; more advanced meditative techniques; ways to combine informal meditation with behavioral self-control skills; and a note to therapists on evaluation.

CHAPTER FIVE: *Meditation as a Self-Regulation Strategy: The Empirical Literature.*

This chapter contains a brief definition of a self-regulation strategy and a description of "round one" literature showing meditation's effect on stress and stress disorders, psychotherapy, the addictions, hypertension, and physiological changes. The second section of the chapter describes the "round two" literature comparing meditation with other self-regulation strategies, both physiologically and clinically.

CHAPTER SIX: *A Model for Comparing Self-Regulation Strategies: Meditation and Behavioral Self-Control—A Case in Point.*

A rationale for comparing self-regulation strategies is offered, followed by a discussion of different behavioral self-management techniques and a comparison with meditation: behavioral self-observation, self-evaluation, goal setting, environmental planning (stimulus control) and behavioral programming. Ways for clinically combining behavioral self-control strategies with formal and informal meditation are discussed and a therapeutic rationale offered.

CHAPTER SEVEN: *Meditation as an Altered State of Consciousness: The Empirical Literature.*

A working definition of altered state of consciousness is offered, followed by a discussion of problems in studying altered states, as well as approaches available. Research bearing on the following topics is then presented: subjective experiences during meditation, concurrent validity for subjective experiences, subjective reports of changes in attitude and perceptions after meditation, and non-self-reported indications of attitude and perceptual change. Implications of these findings are discussed.

CHAPTER EIGHT: *Components of Meditation.*

A contextual model of omni-determinism—mutual causality among multiple parts, in which behavior (meditation), environment, and the person all interact with each other—is presented. Then, the components of meditation are reviewed, including the following: antecedent variables of preparation and environmental planning and components of the behavior itself; physical posture (or movement)—lotus versus half-lotus versus sitting—; attentional focus and style; and breathing. The following questions are explored. Which posture is most stable for whom? What is the relationship between practice and attention, between the ability to attend, and clinical improvement? How important is the object of attention? mantra versus non-mantra? What is the most suitable style of attention—e.g., active or passive?

CHAPTER NINE: *Mediating Mechanisms.*

A summary overview of the mechanisms posited to mediate meditation effects is cited. Then this chapter looks at *physiological mechanisms*: general constellations of change, specific variables (e.g., oxygen consumption; skeletal relaxation), ergotropic/tropheotropic states. Also considered is the role of *cognitive mechanisms* including expectation effects and demand characteristics; and finally *attentional mechanisms*; active versus passive attention; deautomization; the role of discrimination; the information-processing literature; global desensitization. The chapter concludes with a discussion of the technique-specific and state-specific nature of mechanisms.

CHAPTER TEN: *Methodological Issues in Meditation Research: An Applied Clinical Model.*

This chapter outlines an interactive model for applied clinical research on meditation. Issues include the need for a precise theoretical rationale between the independent and dependent variables; care in matching treatment strategy to the clinical concern of a particular individual; care in noting indications and contraindications for treatment; more precise specification of both the independent and the dependent variables; relevance of data-gathering strategies (group design or $N = 1$); and comments about the philosophy of science in relation to meditation research.

CHAPTER ELEVEN: *Epilogue: A Personal Essay.*

A personal offering of unanswered questions with regard to meditation in general and this book in particular. Issues focused on include the struggle of how to integrate a scientific approach with a personal one without doing a disservice to both; the role of ego; the difficulty of “practicing what you preach”; and a discussion of the tasks that are left, the challenges that remain.

APPENDIX


The Appendices consist of a Motivation, Expectation, Adherence Questionnaire—(Appendix A); and the references for the book—(Appendix B), including 424 references.

A NOTE ON FURTHER READING

For individuals who wish more in-depth reading, there is a list of suggested readings at the end of all chapters (except the two case studies, Chapters Two and Three, and the methodological and personal summaries, Chapters Ten and Eleven).

Many of these suggested readings—both reprints and original articles—may be found in the forthcoming volume, D.H. Shapiro and R.N. Walsh (Eds.), *The Science of Meditation*, New York: Aldine, 1980.

Preface

 I BEGAN THIS BOOK with three goals. First, I wanted to provide a book which offered the most comprehensive, up-to-date, scientific approach available to the study of meditation. That book became the product of over three and one-half years preparation and involved reading every scientific article on meditation published in any major English language journal.

Second, based on my research, training, and experience as a clinical psychologist and behavioral scientist, I wanted the book to show the potential health-care, medical, and therapeutic uses of meditation: both indications and contraindications. As more and more people begin to meditate in our culture, sensitive clinicians and therapists are faced with the need to know about the nature of meditation, both its positive and adverse effects.

Although there has been a dramatic increase in the number of meditation studies, the quality remains variable; many of them are trivial, and most remain unreplicated. In addition, meditation research has been plagued by insubstantial theorizing, global claims, and the substitution of belief systems for grounded hypotheses. With this in mind, I hope this book can puncture some of the myths.

For example, some hold meditation to be a global panacea, though it is unlikely that any unimodal technique will ever be the treatment of choice for all clinical problems. Not only does

meditation not serve all populations equally well, but its varying components may not all be equally effective. How is the clinician to know which of the plethora of different meditative techniques to use? Or, how to choose between meditation and an alternative form of self-regulation such as biofeedback, hypnosis, autogenic training, behavioral self-control? Clinicians need to know *when* meditation will be useful for themselves, for *which* of their clients, for *which* clinical problems. They need to know how meditation compares in terms of effectiveness with other self-regulation strategies. Further, they must know when their patients misuse it.

By attempting to provide a well-reasoned, objective critique of the literature, this book tries to answer the above questions as completely as currently possible while attempting to support and provide impetus for a thorough follow-through where more information is needed, as suggested by the American Psychiatric Association, (1977):

“the Association strongly recommends that research be undertaken in the form of well controlled studies to evaluate the specific usefulness, indications and contraindications of various meditation techniques. The research should compare the various forms of meditation with one another and with psychotherapeutic and psychopharmacological modalities” (p. 720).

To facilitate this effort, in each of the chapters there is a discussion of the major questions to be addressed, followed by a detailing and critique of important theoretical, clinical, and research issues. In several instances the reader will find to his or her chagrin as well as, I can assure you, mine, that questions seem to beget questions: research bearing upon certain issues may be contradictory, or not yet of sufficient thoroughness. In these cases, I have tried to suggest the specific kinds of future research necessary to resolve the current issues. In this way we can determine which claims about meditation are justified, and which are not.

I hope this approach can help provide a bridge between research and clinical practice. Currently the profession of psychology itself is, and has been, in a polarized debate between the “practitioners” and the “experimentalists.” The latter accuse the former of being “soft, non-empirical, non-scientific,” while the practitioners accuse the experimentalists of conducting research which is essentially

irrelevant to human concerns. On the one hand, this book attempts to look at issues in a refined "reductionistic" way; however, at the same time, it attempts to show the practical applications of the research and not lose sight of the human perspective.

The third goal I have for this book is to shed light upon potential biases we as Western scientists might have in approaching meditation as an area of study and to help to prevent what I might call a meditation backlash. In other words, once it is seen that meditation is not a panacea, I am concerned that it might be totally dismissed by the scientific community as a useless curiosity at best, or as a harmful, illusory artifact of morbid psychological processes at worst. In light of these biases, it is well to remember that biases against altered-state phenomena are not new, that during most of the last century hypnosis was regarded by the scientific establishment as illusory, that those physicians who practiced it were considered suspect and were unable to have their papers accepted by any reputable scientific or medical journal. The power of this bias was such that some patients were accused of maliciously colluding with surgeons in pretending to feel no pain while major amputations were performed on them. Biases against meditation are likely to prove just as harmful to science and psychotherapy as uncritical enthusiasm.

Therefore, as we look at these claims and counterclaims, I believe we must be aware that caution is needed "on both sides." We the scientists need to critically examine the data to temper others' uncritical enthusiasm and evangelic fervor. Yet we must also be cautious of our own cultural blinders and the resultant potential paradigm clashes when we try to place meditation within our scientific clinical perspective. Meditation is a technique developed within a religious/philosophical framework to give individuals a new sense of self-understanding and meaning, a harmony within themselves, and with the world around them. It should be noted that this book deals only briefly with the theoretical values and goals of meditation, and the background of Eastern psychology and philosophy which provided the context and *raison d'être* of meditation (see Shapiro, 1978b for a more detailed discussion). Some of the issues of potential paradigm clash are raised in Part I, and one subtitle of the book—Self-Regulation Strategy and Altered State of Consciousness—is my attempt to make this potential clash explicit. The West primarily

views meditation as a possible self-regulation strategy for use in clinical problems. The East sees meditation as a vehicle for altered states of consciousness and enlightenment, be it called *Nirvana*, *Satori*, *Kensho*, or *Samadhi*. We must become aware of and acknowledge these differences and their potential hindrance in our efforts to study meditation.

Finally, in the course of writing the book a fourth goal has evolved. About two years ago, having already spent nearly a year and a half on the book, I became aware of it, a goal somewhat difficult for me to articulate. I realized that the first two, and to a certain extent the third, goals of this book remain firmly within the orthodox scientific tradition. I have great respect for the utility and necessity of that approach. But I became conscious of certain general, and for a book of this nature particular limitations. For example, how could I presume to be able to *objectively* and scientifically read and report on the meditation literature? Call it authorship bias if you will, but clearly the fact that I lived for fifteen months in the Orient studying Zen and Eastern thought and that I have now meditated on a regular basis for nearly ten years would surely influence my reading and interpretation of the data. Further, my personal background and experience was one of the critical motivations in my interest to write a book of this nature in the first place. Finally, I became aware that a complete understanding of meditation was *not* going to come from keeping my own personal meditation experiences separate from my scientific study through research and writing. Though this insight may seem trivial to some, for me it was a difficult one, one which caused me much fear. During my meditation training I had been admonished repeatedly as to the danger of analysis and intellectual endeavors, and I feared that I would be in danger of placing my personal meditation experience in the service of science, thus sabotaging that experience. I decided to take that risk, and, therefore, the fourth goal involves having the book provide a model for what I have termed a "scientific/personal" exploration. I do not mean to imply by this term that the book will involve a review of my "personal" meditation journals. I do not yet feel ready for that intimacy with an audience. However, I did want to become more a part of the book (or acknowledge where I already had, but was not aware of it). The clearest examples of

this occur in Chapters Two (where I am the therapist); Chapter Three (where I am the subject) and in the "Epilogue: A Personal Essay" where I try to share some of the implications of this new model. I realize this is only a beginning effort, and ask the readers to be gentle in their critiques, as it still feels a somewhat vulnerable experiment.

From a personal standpoint, as I noted earlier, I am just as concerned about exaggerating meditation's benefits as I am about uncritical dismissal. The book strives for an accurate appraisal between these two extremes—what might be called Buddha's Middle Way and what I have called a scientific and personal exploration. I am trying, in the best tradition of the philosophy of science, to tread a middle ground: acknowledging where we do not have the conceptual, methodological, and research tools to ferret out the experiential subtleties and delicacies of meditation, and where meditation does or does not meet its purported claims. It is my contention that it is only this middle way which will prevent us from doing a disservice to both the spiritual disciplines of the East and the scientific research of the West.

At this point I need to acknowledge, in light of the scientific/personal exploration, a certain hubris in deciding to write a book on the state of the art of meditation. On the one hand, since meditation is purported to have a pronounced effect on human attitudes and behavior, it is certainly a subject worth close scientific examination. On the other, one wonders, for example, what relevance this book might have for yogins or Zen masters.

At times, during the writing, I empathized with the sentiments expressed by e.e. cummings in his poem, "oh sweet spontaneous," in which the probing fingers of researchers and philosophers analyze and dissect the meaning and significance of the seasons, and the earth responds with a flower. There often seemed a contradiction in analyzing and dissecting a technique which was developed in the Eastern philosophical and religious tradition as a means for learning sensitive, non-analytical, non-verbal living in the here and now. I believe that all of us who study and practice meditation need to be careful that the research and methodological analysis do not obscure and distort the very essence of the technique which we are attempting to study.


I believe that a balance between these two poles—scientific analysis and experiential (personal) knowledge—is not only possible but also necessary. To this balance, this middle way, this book is dedicated.

D.H.S.
Palo Alto and Laguna Beach

Perspectives on Meditation: Clinical and Psychotherapeutic Applications

What effect does the teaching of meditation have on an individual who practices?


1.1 Effects

 AT FIRST GLANCE, the answer to this question would be an overwhelming “several!” A brief review of the literature reveals that meditation has been found to influence an impressive number of different outcome criteria in a positive direction. For example, meditation has been shown to be effective for clinical concerns such as stress, substance abuse, fears and phobias (Shapiro & Giber, 1978), psychosomatic complaints (Udupa, 1973, Vahia et al., 1973), reduction of neuroticism and

depression (Ferguson & Gowan, 1976; Vahia et al., 1973), increasing congruence between a person's real and ideal self (Bono, 1980 in press), fostering self-actualization (Seeman, Nidich & Banta, 1972; Nidich, Seeman & Dreskin, 1973), helping an individual develop a sense of personal meaning in the world (Osis et al., 1973; Kohr, 1977; Goleman, 1971), a sense of personal responsibility (Shapiro, 1978a, 1980 in press), increased internal locus of control (Hjelle, 1974), and an increase of positive self-statements, feelings of creativity, and a concomitant decrease of negative self-statements (Shapiro, 1978a).

In addition to the literature on positive effects, there has recently been a small, though growing literature suggesting some of the adverse effects which might occur with meditation (e.g., French et al., 1975; Lazarus, 1976; Otis, 1980 in press).

1.2 Clinician's/Trainer's Orientation

 BECAUSE OF THE broad range of positive effects meditation seems to produce with different dependent variables, clinicians and therapists from several orientations have been attracted to it. Some have conceptualized it as a self-regulation strategy useful in behavioral medicine (Stroebel & Glueck, 1977; Schwartz & Weiss, 1977), or as a clinical tool for anxiety and the addictions within the behavioral framework (Shapiro & Zifferblatt, 1976a; Shapiro, 1978b, Berwick & Oziel, 1973; Woolfolk & Franks, 1980 in press). Some have conceptualized it as a useful means of becoming aware of one's own self-actualizing nature, of developing increased congruence between one's real and ideal self, as a way of taking more responsibility for one's life and therefore useful in humanistic psychotherapy for clients and therapists (e.g., Keefe, 1975; Schuster, 1979; Lesh, 1970); as an integral part of holistic medicine (e.g., Hastings & Fadiman, 1980 in press). Others have conceptualized meditation as an "evocative" strategy which allows repressed material to come forth from the unconscious (e.g., Carrington & Ephron, 1975) and allows for controlled regression in the service of the ego (e.g., Shafii, 1973); and as therefore useful from a psychoanalytic viewpoint. From another viewpoint, meditation has been conceptualized as a technique

that helps individuals let go of thoughts, become relatively egoless, yielding, present centered; and is therefore useful in transpersonal psychotherapy (e.g., Weide, 1973; Goleman, 1971; Clark, 1977; Shapiro, 1978b; Walsh & Vaughan, 1980).

From a historical perspective, this interest in meditation and Eastern thought by Western scientists and health-care professionals is relatively recent. For example, a little over thirty years ago Carl Jung (1947) wrote a foreword to D.T. Suzuki's *Introduction to Zen*. This represented one of the first attempts by a psychologically trained Westerner to interact with and write about Eastern thought and philosophy. And as recently as the late sixties, Charles Tart (1969) noted in his book on altered states that by including two articles on meditation, he was including two thirds of the published English-language experimental work. Since Tart's book, and a related book edited by Robert Ornstein (1972), the scientific literature on meditation has increased exponentially. Further, there have been increased attempts to look for theoretical insights, combinations, and blendings between Eastern thought and Western psychology, ranging across many theoretical orientations from Sullivanian interpersonal theory (e.g., Stunkard, 1951) through psychoanalysis (e.g., Fromm, 1960) and existentialism (e.g., Boss, 1965) to behavior therapy (e.g., Shapiro, 1978b).

Why this sudden interest? It appears that Western scientists and health care professionals have begun to look seriously at Eastern techniques such as meditation for four primary reasons. First, the interest of the Western scientific community was catalyzed in the mid 1960's by reports from India and the Orient detailing extraordinary feats of bodily control and altered states of consciousness by meditation masters (Wenger & Bagchi, 1961; Gundu Rao et al., 1958; Kasamatsu et al., 1957; Anand, Chinna & Singh, 1961b). These reports from the East were not summarily dismissed because they paralleled a rather major shift in Western scientific *zeitgeist* and models. For example, Miller and DiCara, among others, were showing that voluntary control of the autonomic nervous system was possible (Miller, 1969; Di Cara, 1970; Shapiro, Tursky & Schwartz, 1970; DiCara & Weiss, 1969); and Tart (1971) was pointing out how a variety of arcane, seemingly incomprehensible phenomena of non-Western psychologies could be rendered understandable within the framework of state-dependent tech-

nologies. Further, increased sophistication in scientific instrumentation gave rise to the possibility of replicating and substantiating these anecdotal reports.

Second, there is a growing dissatisfaction among health-care professionals in our culture who find themselves treating stress-related disorders with pharmacological solutions (cf. Glueck & Stroebel, 1975, Benson, 1975). This has resulted in attempts to find non-drug-related self-regulation strategies by which individuals may learn to better manage their own internal and external behaviors. Meditation is viewed as one such potential self-regulation strategy.

Although Western psychology and psychiatry were born out of a concern with pathology (e.g., Freud's index contains four-hundred references to neurosis and none to health; *all* the psychiatric diagnostic categories of the DSM [Diagnostical and Statistical Manual] are pathological), recently there has been a shift in interest toward exploring positive mental health (e.g., Maslow, 1968; Walsh & Shapiro, 1980). There is a recognition of the self-fulfilling power of scientific models in general (Kuhn, 1971) and of models of the person in particular (Bandura, 1974). This interest in models of positive health has led to a turning to other traditions, such as the Eastern, in which years of effort have already been expended toward developing and seeking to implement an expanded vision of our human potential.

Fourth, many individuals in this society are looking for values and meaning alternative to those of our competitive, fast-paced technological culture, and the Eastern tradition offers them one such alternative. A Gallup Poll in November, 1976 noted that nearly eight percent of the American population—sixteen million people—were involved with Eastern disciplines and Eastern techniques such as meditation and yoga. Further, according to the Transcendental Meditation organization, as of December, 1978 more than one million Westerners had been instructed in the specific TM practice. This large number of individuals provides Western science with a potential subject pool of meditators instructed in a standardized practice, thereby facilitating opportunities for research. Finally, more and more researchers, clinicians, and health-care professionals either meditate themselves or come into contact with clients or patients who do, and therefore need to be at least conversant with the meditation literature.

1.3 Areas of Potential Paradigm Clash: Science, Religion, Experience and Analysis

WHEN WE, as Western scientists and clinicians, attempt to understand, study, and/or utilize, either personally or professionally, a technique which originated in a different philosophical and cultural framework, some problems may occur. Although we may not be able to totally avoid them, a certain sensitivity to their potential existence becomes important.

First, it is critical to acknowledge that both science and religion are based upon belief systems. Acknowledging that religion is based on quite a strong belief system—i.e. faith—scientists are often less willing to acknowledge their own preconceptions—"paradigms"—of the world (Kuhn, 1971, Tart, 1972; Polanyi, 1958). These "scientific" belief systems (concepts, models, paradigms) not only may affect the *content* of what is observed, but also the *process* by which it is observed and interpreted. They may act as self-fulfilling prophetic filters for experimental and experiential knowledge, acquisitions, and interpretations.

Infrequently recognized by Western science, two basic types of knowledge exist—1) experiential (non-symbolic, direct) and 2) map knowledge (cartographic, conceptual, symbolic, inferential)—and three modes of knowledge acquisition: 1) physical (science), 2) conceptual (philosophy), and 3) contemplative (religion, spiritualism). Failure to recognize these fundamental distinctions results in a variety of errors (called category errors) which result in miscommunication and misunderstanding between Eastern and Western approaches (Wilbur, 1977).

For example, scientists attempt to gain conceptual knowledge of phenomena. This involves setting up hypotheses, hypothetico-deductive reasoning, empirical testing, and evaluation of results. From this process, we gain a map, primarily in linguistic or symbolic form. The meditation traditions point out the critical difference between conceptual and experiential knowledge and the danger of confusing them (category error) or of obliterating the experiential by the conceptual. They state that only through direct experience can "true" reality be understood. As D.T. Suzuki noted (1956, p. 9), true understanding involves, "a special transmission outside the scriptures: no dependence on words or

letters." Lao-tsu observed (1972, p. 56):

Those who know do not talk.
Those who talk do not know.

The type of approach represented by Lao-tsu, Suzuki and the meditation traditions in general is a scientist's nightmare. How can we form testable hypotheses about experiences which cannot be conceptualized or talked about, and in which the practitioners themselves say that any attempt to analyze will cause one to completely lose the experience itself? This is a real dilemma. Unfortunately, scientists have often reacted by dismissing mystical experiences as "epiphenomena" not worthy of consideration, or by trying to place those experiences within their own Western paradigm, and calling them delusional, psychotic, catatonia-like (e.g., Alexander, 1931; Group for Advancement of Psychiatry Report, 1977).

The mystical traditions, on the other hand, have for the most part ignored scientific analysis and therefore have no scientific frame of reference for evaluating the efficacy of their hypotheses and practices. Scientists are expected to use the data from their research to evaluate the veracity of their hypotheses, and where data do not accord with belief, change their beliefs. Those who believe only on faith, use data (whether confirming or negating their beliefs) as a means of strengthening what they already believe.

Can these two models complement each other? Although my belief is that they should, the task is not easy. First and foremost, the very act of translating "holistic" (direct, non-symbolic knowledge) experiences into verbalizations about these experiences (symbolic, cartographic, knowledge by inference) is fraught with difficulty (Franks, 1977), perhaps analogous to the difficulties encountered in quantum physics in measuring the properties of a subatomic particle (e.g., Heisenberg, 1963). As soon as one begins to analyze one's "altered state," it changes. Therefore, the Eastern tradition is correct in admonishing us not to equate conceptual knowledge with subjective experience.

Nevertheless, it is true that the two modes may complement each other. For example, we may use pinpointed analysis to learn more precisely about the subjective experience of meditation

(Osis et al., 1973) and how these experiences are influenced by a subject's anxiety level, prior meditative experience, and adherence to meditation (e.g., Kohr, 1977). This can help us better teach and transmit the technique of meditation. Conversely, the experiential knowledge gained from practicing meditation can help us develop more sophisticated and sensitive research hypotheses and methodologies for scientific study.

What seems critical at this point is a complementary science which combines the experience of the practitioner with the experimental rigor of the researcher. Especially in studying meditation research and its clinical applications, we need to be careful not to make two errors: a) scientific and conceptual study without experiential knowledge; or b) experiential practice without scientific evaluation.

As scientists, we need to honestly and openly look with precision at the variables involved in the phenomena we are studying. In the case of meditation, this analysis does not need to negate the poetic, transcendent qualities and the visionary experiences that can occur. Although reading and writing about meditation are not meditation, I believe it is possible to feel and live the experiential and poetic *and* also be willing to honestly assess and evaluate the nature and causes of those effects. The scientific tradition requires this level of openness and intellectual honesty in its practitioners.

1.4 Overview of the book

WITH THE ABOVE context in mind, let us return to the question with which we opened this chapter: What effect does the *teaching of meditation* have on an *individual* who *practices*? What is the best way to answer this question? The approach utilized in this book is to look in a very precise, fine-tuned way at the key words of the sentence: 1. effect; 2. teaching; 3. meditation; 4. individual; and 5. practices. A useful analogy is to look at this sentence and these words under a microscope. We begin the inspection at a low power and then subject it to increasingly higher and more detailed examination.

For example, we have already looked briefly at the first key word in our sentence *effects* (Chapter One, 1.1). We then need to review in more detail the question does meditation work? For

what types of concern? In Chapter Five we attempt to define self-regulation and then look at meditation as a self-regulation strategy to see its clinical effects for stress management, psychotherapy, dealing with the addictions, decreasing hypertension, and its general physiological effects. We then ask the next level of questions: How do the effects of meditation compare with other self-regulation strategies on these clinical and physiological parameters? Is meditation unique? How different is it from other self-regulation techniques? In Chapter Six we offer a model for comparing self-regulation strategies. We then attempt to define "altered states" and look at meditation as an altered state of consciousness to determine subjective experiences during meditation, concurrent validity for these changes, and subjective changes following meditation (Chapter Seven).

The next key word is *teaching*. Here we need to explore two issues. First, we need to look at the teacher's (psychotherapist's, clinician's, guru's) orientation. What are the teacher's hopes, expectations (demand characteristics) in teaching the strategy? What is the teacher's experience and style of teaching? A related issue is the *relationship*. Here we need to look at issues of trust and confidentiality, the establishment of rapport, the length of the therapeutic contact, how issues of resistance* and transference*/counter-transference are dealt with. We briefly mentioned the issue of therapist orientation in Chapter One (1.2) and will explore issues related to teaching in more detail at the end of this chapter (1.11-1.13).

The third key word is *meditation*. We initially (Chapter One, 1.3) ask the basic question of what is meditation and attempt to develop a working definition. We explore different types of formal meditation and the difference between formal and informal meditation. Finally, still at a basic level, we offer a model to describe the different levels or depths of the meditation experience. Later (Chapter Eight) we refine our analysis even more and discuss the different components of meditation. For example,

*I do not use these terms in their classical Freudian sense (1912). They refer here to patient/client resistance to learning the technique; and student/teacher, client/clinician issues of a *general* interpersonal nature that might effect treatment outcome.

we look at the antecedent or preparatory variables, and at the components of the behavior itself: attentional focus and style, posture, breathing. We do this in order to further our understanding of which components of the descriptive label "meditation" may be active in determining treatment effects and which inert.

The fourth key word is *individual*. What is the psychological profile of the person who wants to learn meditation? What are his/her expectations, initial motivations? What is the profile of the person who drops out of meditation, the person who continues, the person who continues and has "successful" outcome (Chapter One 1.8-1.9)?

The fifth word we look at is *practice*. This involves questions of prior experience, adherence and compliance, nature and length of practice, and intensity of effort directed toward the training (Chapter One, 1.10).

The above five issues, though presented separately, obviously interact. For example, the orientation of the psychotherapist/spiritual teacher who is presenting the technique determines what effects are being sought. The motivation of the individual effects the length of practice and adherence to the technique, etc.

In Chapter Eight, we present a general systems model of reciprocal interaction and omni-determinism to help give a context to our discussion and to show the way these different topics interact. Finally, in Chapter Nine, *Mediating Mechanisms*, we look at the question of "why" the practice of meditation does (or does not) have an effect on an individual. We look in particular at physiological, cognitive, and attentional mediating mechanisms.

The above material provides an overview for the issues we are going to deal with throughout the book. Table 1.1, summarizing the issues embodied in the sentence, *What effect does the teaching of meditation have on an individual who practices, and why?* may be useful for the reader to refer to in order to maintain an overview of the structure of the book.

The first part of this chapter (1.1, 1.2) looked briefly at the effects of meditation and the therapist's orientation. The rest of the chapter provides a brief overview for the remaining parts of the sentence; therefore, let us now turn to the question of "What is meditation?"

1.5 *What is Meditation: Toward a Working Definition*

ONE OF THE problems in studying meditation is the lack of a clear definition. Because of its effects, some have tried to define it as a relaxation technique (e.g., Benson, 1975). This raises problems similar to those encountered in the relaxation literature (Davidson & Schwartz, 1976) where a relaxation technique is defined as one producing certain effects—decreased skeletal-muscular tension, decreased sympathetic arousal, etc. Defining a technique by its effects, however, is tautological and not very useful, as we shall see in subsequent sections on meditation's effects, components, and mediating mechanisms. For example, one might describe one type of meditation as a "technique in which one focuses on one's breathing in a calm way." Therefore, a definition of the independent variable would be "calm, attentional focus on breathing." The effect of this focus (dependent variable), interestingly enough, has been shown to be decreased respiration (Hirai, 1974)! Further, some have argued that decreased oxygen consumption—an anaerobic state—is the primary mediating mechanism accounting for meditation's effect (Watanabe, Shapiro & Schwartz, 1972)!

Others have defined meditation by its goal: a state of complete concentration with no extraneous thoughts (i.e. concentrative meditation), a state of complete mindfulness, living in the here and now, a choiceless awareness, without analysis and intellectual constructs (opening-up awareness). These definitions are useful in that they provide an end state. However, they are not really a definition of the process of meditation, and therefore may blind us to what may actually occur during meditation—e.g., discrimination training, covert self-instructions, etc. Further, many of the insights that individuals gain from meditation are a result of *learning about* what happens to them while meditating.

A third definition of meditation often used comes directly from the *Random House Dictionary of the English Language (1973)*: To meditate is to "engage in thought or contemplation, reflect. Synonym 1. contemplate, plan, devise, contrive. Synonym 2. ponder, muse, ruminate, cogitate, study, think." This definition equates meditation with thinking or planning as in, "I want

to meditate about my future direction in life." Although this type of rumination may take place during meditation, as noted in definition two above, it is not its goal or central characteristic. Therefore, to equate meditation with cognition does not give us a complete definition either.

Another problem is that there are many different types of meditation. Some involve sitting quietly and produce a state of quiescence and restfulness (e.g., Wallace, Benson, & Wilson, 1971); some involve sitting quietly and produce a state of excitement and arousal (e.g., Das & Gastaut, 1955; Corby et al., 1978). Some, such as the Sufi whirling dervish, Tai Chi, Hatha Yoga, Ishiguro Zen involve physical movement to a greater or lesser degree (e.g., Hirai, 1974; Naranjo & Ornstein, 1971). Sometimes these "movement meditations" result in a state of excitement, sometimes a state of relaxation (e.g., Davidson, 1976; Fisher, 1971).

Accordingly depending on the type of meditation, the body may be active and moving, or relatively motionless and passive. Attention may be actively focused on one object of concentration to the exclusion of other objects (e.g., Anand, Chinna, & Singh, 1961). Attention may be focused on one object, but as other objects, thoughts, or feelings occur, they too are noticed, and then attention is returned to the original focal object (e.g., Vipassana, TM). Attention may not be focused exclusively on any particular object (e.g., Zen's Shikan-taza, Kasamatsu & Hirai, 1966; Krishnamurti's choiceless awareness, 1979).

From this plethora of different types of meditation techniques, to find one, all-encompassing definition becomes quite difficult. The definition should take into account the limitations of the other definitions discussed above, and encompass the variety of techniques—specific, attention-focusing strategies—which are subsumed under the label meditation. We may be helped to formulate our definition by a brief digression into the neurophysiology of attentional processing mechanisms. According to Pribram (1971), brain attentional mechanisms are similar to a camera and of two types: 1) when the focus is similar to a wide-angle lens: a broad sweeping awareness, taking in the entire field; and 2) when the focus is similar to a zoom lens—a specific focusing on a particular restricted segment of the field. The attentional strategies in meditation seem to involve either one or the other of the above types of awareness; or a shifting between

them: i.e. a focus on the field, a focus on an object within the field, or a shifting back and forth between the two.

Therefore, as a working definition, let me suggest the following:

Meditation refers to a family of techniques which have in common a conscious attempt to focus attention in a non-analytical way, and an attempt not to dwell on discursive, ruminating thought.

If we look closely at the above definition, we notice several important things. First, the word conscious is used. Meditation involves intention: the intention to focus attention either on a particular object in the "field," or on "whatever arises." Second, the definition is non-cultic. It does not depend on any religious framework or orientation to understand it. This statement does not intend to imply that meditation does not or cannot occur within a religious framework. It does suggest however, that what meditation is, and the framework within which it is practiced, though interactive, are two separate issues and need to be viewed as such. Therefore, although there may be overlap in terms of the concentration on a particular object, or repetition of a sound or phrase, we should not *a priori* equate meditation with prayer. This is particularly true when the intent of the prayer has a goal-directed focus outside oneself (e.g., asking a higher power to absolve one of one's sins).

Third, the word attempt is used throughout. This allows us to deal with the process of meditation. Since meditation is an effort to focus attention, it also involves how we respond when our attention wanders; or how we respond when a thought arises. There is a continuum of instructions, from quite strong to quite mild, in terms of how to deal with thoughts (Carrington, 1978). For example, Benson (1975) instructs students to "ignore" the thoughts; Deikman (1966) to exclude them; a fifth century Buddhist treatise to "...with teeth clenched and tongue pressed against the gums, he should by means of sheer mental effort hold back, crush and burn out the thought..." (Conze, 1969, p. 83); the Vipassana tradition instructs one to merely notice and label the thought (e.g., thinking thinking); or, in Zen, to merely notice, observe with equanimity, and when weary of watching, let go (Herrigel, 1953).

Fourth, there is an important "meta-message" implicit in the definition: namely, the *content* of thoughts is not so important: They should be allowed to come and go. Consciousness, or aware-

ness of the *process* of thoughts coming and going, is more important. The context—conscious attention—is stated to be the most important variable. Although cognitions and images may arise, they are not the end goal of meditation. Thus, although there may be overlap in content, we should not *a priori* equate meditation with techniques of guided imagery (Kretschmer, 1969); daydreaming (Singer, 1975); covert self-instructional training (Meichenbaum & Cameron, 1974); hetero-hypnosis (Paul, 1969); self-hypnosis (Fromm, 1975); or other cognitive strategies (cf. Tart, 1969).

1.6 Types of Meditation

THE "FAMILY" of meditation techniques may conveniently be divided into three groupings: concentrative meditation, opening-up (mindfulness meditation), (Naranjo & Ornstein, 1971; Goleman, 1972), and a combination of the above (Washburn, 1978). Let us turn to a brief discussion of opening-up and concentrative meditation techniques and illustrate the differences by the results of two now classic research studies, one by Anand, Chinna, and Singh (1961a) studying Rāja Yogins practicing concentrative meditation; and one by Kasamatsu and Hirai (1966) studying Zen masters practicing opening-up meditation.

CONCENTRATIVE MEDITATION

There are almost as many different types of concentrative meditations as there are spiritual disciplines. For example, the Taoist focus is on the abdomen; the Zen practitioner focuses on a *koan*—a "nonsense" question such as, what is the sound of one hand clapping?—or on breathing; the Christian focuses on a phrase or the cross; the Yogin focuses on a *chakra*—areas near major endocrine glands—or symbol. However, all types of concentrative meditations have certain elements in common. In all types of concentrative meditation, *an attempt is made to restrict awareness by the focusing of attention on a single object.* Other stimuli in the environment are usually ignored, and complete attention is focused on the stimulus labelled the "object of

meditation." During the act of meditation an attempt is made to be directly aware of the object in a non-analytical way rather than indirectly, via thought. For example, in his instructions to people focusing on a blue vase, Deikman (1966) stated:

"By concentration I do not mean analyzing the different parts of the vase, or thinking a series of thoughts about the vase, or associating ideas to the vase, but rather, trying to see the vase as it exists in itself, without any connections to other things. Exclude all other feelings or sounds or body sensations. Do not let them distract you, but keep them out so that you can concentrate all your attention, all your awareness, on the vase itself. Let the perception of the vase fill your entire mind" (p. 103).*

The "object of meditation" can be located in either the external or internal environment. Examples of objects in the external environment include a kasina—a plain disc (Theravada Buddhism), abdomen (Taoism), the cross (Christianity) or a vase. The meditator can also focus on internal stimuli, such as visual images, the third eye, the vault of the skull (e.g., as done by Rāja Yogins); or internally generated sounds such as a mantra, sutra; a prayer; a sentence (e.g., a Zen koan).

The element in common in all these types of concentrative meditation is the attempt to restrict awareness to a single object and to the focus on that object over a long period of time.

The now classic study of Rāja Yogins practicing concentrative meditation was carried out by Anand, Chinna and Singh (1961) in

*I would slightly change these instructions, to minimize the law of reverse effects (formulated by Allport 1955; discussed by Shapiro, 1978b, with reference to cognitive focusing strategies). Simply stated, it argues that sometimes our instructions to ourselves seem to have the opposite effect: e.g., an injunction, "Do not eat that thick, lovely, gooey pastry" may cause us to eat it; or an injunction, "For the next five seconds *Don't Think of Pink Elephants*"...1...2...3...4...5, may cause you to. Therefore instead of *exclude* I would instruct: "If other feelings, sounds, or bodily sensations arise, notice them, and then return your focus to the vase. Try to concentrate all your attention, all your awareness on the vase itself. Let the perception of the vase fill your entire mind." For a further discussion of techniques, see Chapter Four.

India. These Rāja Yogins practiced concentrative meditation by pinpointing consciousness on the back of their skulls, a third eye, or the tip of their nose. During meditation their eyes were closed. In this experiment, a variety of external stimuli were administered to the Yogins: photic (strong light), auditory (loud banging noise); thermal (touching with a hot glass tube); and vibration (tuning fork). According to the authors:

None of these stimuli produced any blockage of alpha rhythm when the yogis were in meditation. When the yogis' hands were immersed in cold water (four degrees centigrade) for forty-five to fifty-five minutes, there was persistent alpha activity both before and during the period which their hands were immersed. In other words, the yogis did not see, hear, or feel the stimuli presented to them (p. 453).

TABLE 1.2 *Examples of Concentrative Meditation*

	<i>Auditory</i>	<i>Visual</i>	<i>Tactile</i>
<i>overt, external environ- ment</i>	verbal— Sufi dervish call mantra	kasina mandala cross vase abdomen	touching thumb to each finger
<i>internal environ- ment</i>	verbal— mantra koan	third eye vault of skull symbol of guru (image)	heart beat breathing

(After Shapiro, 1978b, p. 39)

These results are consistent with the stated purpose *during concentrative meditation* of reducing reactivity to stimuli in the environment. As we shall see in the next paragraph, they present a marked contrast to the EEG responses of experienced meditators practicing opening-up, or mindfulness meditation.

OPENING-UP MEDITATION

In opening-up, or mindfulness meditation, an attempt is made to be responsive to all stimuli in the internal and external environment, but not to dwell on any particular stimulus. In the Kasamatsu and Hirai study (1966), Zen subjects meditated with their eyes open. As with the Rāja Yogins, soon after the onset of meditation (fifty seconds) alpha waves were recorded in all brain regions. The longer the monk had been in training, the more pronounced the changes in his alpha activity. However, when a click sound was made, there was alpha blockage for two or three seconds. The click sound was repeated twenty times, and each time there was alpha blockage for two or three seconds followed by a resumption of alpha waves. As noted above, this presents a marked contrast to the results of the experiments with the Rāja Yogins, whose alpha waves were not blocked even though very strong stimuli were presented.

COMBINATION

Some meditation techniques integrate elements of both concentrative and opening-up types. For example, a person may focus on breathing (Zen and Vipassana meditation) or a mantra (e.g., Transcendental Meditation) but be willing to allow attention to focus on other stimuli if they become predominant, and then return to the breathing (or mantra). In other words, they remain open to other stimuli, but have an "anchor" to which to return their attention. Also, in the classic texts, a distinction is made between fixed concentration, i.e. focus on a single object continuously; and momentary concentration in which, during opening-up meditation, attention shifts from object to object as one object becomes salient and another loses salience.

FORMAL VERSUS INFORMAL MEDITATION

Formal meditation refers to the practice of meditation at certain times during the day, usually in a consistent, specified place and generally in a specific posture (classically the lotus or half-lotus position). Informal meditation is practiced throughout the day, in


no specified posture or specified place. It involves an attempt to be conscious of everything that one does, to attend very closely to one's everyday actions, without judging or evaluating.

As Walpole Rahula (1959) noted,

"Be aware and mindful of whatever you do, physically or verbally, during the daily routine of your work and your life. Whether you walk, stand, sit, lie down, or sleep, whether you stretch or bend your legs, whether you look around, whether you put your clothes on, whether you talk or keep silent, whether you eat or drink, whether you answer the calls of nature—in these and other activities you should be fully aware and mindful of the act performed at the moment, that is to say, that you should live in the present moment, the present action" (p. 71).

In informal meditation, conscious attention becomes a way of life. I mention informal meditation here because most Western researchers focus primarily on formal practice. However, the end goal of meditation is not simply to be able to "make an effort to consciously focus attention" twice a day during formal sittings but to maintain and generalize that "conscious attention" to all parts of the day.

1.7 Comments on Meditation as a Self-Regulation Strategy and Altered State of Consciousness

 IN PREVIOUS EFFORTS (Shapiro & Zifferblatt, 1976a; Shapiro & Giber, 1978; Shapiro, 1978b), I have, for heuristic purposes, conceptualized meditation both as a self-regulation strategy and as a means for inducing altered states of consciousness. Because that division forms one of the primary bases for the organization of this book, I review it here, presenting also a critique of that distinction.

The distinction grew out of a need to clarify meditation as an independent variable. Western research has primarily conceptualized meditation as a self-regulation strategy and looked for its effects on dependent variables such as stress (Glueck & Stroebel, 1975), addictive behaviors (Marlatt et al., in press 1980),

and hypertension (Benson et al, 1974a, 1974b). The primary rationale for meditation as a treatment for these dependent variables has been its relaxation effects (Wallace, Benson, Wilson, 1971).

Meditation, however, was originally conceived within the religious philosophical context of Eastern spiritual disciplines. It was a technique utilized in those traditions primarily as a means for developing insight (wisdom), purification (lack of anger, greed and selfishness), concentration, as well as inducing altered states of consciousness. In these ways, meditation was a means for changing an individual's perception of the world and for developing a more veridical, unified, and accepting view of one's self, of nature, and of other people. The research literature on meditation as an altered state of consciousness suggests that subjective phenomenological changes occur during meditation, ranging from relatively strong alterations of perception in short-term meditators (Deikman, 1966; Maupin, 1965) to more pronounced feelings of "self-transcendence," "felt meaning in the world," "a heightened sense of connectedness with the world and with others, a sense of purpose and meaningfulness, deep positive emotion" (Osie et al., 1973; Kohr, 1977).

One way of visually representing this distinction is by looking at meditation as involving different levels of depth of experience. On the opposite page is a simple, 5-step model of Zen breath meditation that offers such a distinction. I use the word simple because each level may be refined several-fold more, both within this meditation technique, as well as across different techniques, for example, a discussion of the Jhānas in the Abhidamna (Goleman, 1972) or the classical texts of the Mahāmudra tradition (Brown, 1977). However, for the purposes of illustrating this distinction, it seems a useful and sufficient model.

The division of meditation into different steps is used here only as a heuristic device to help understand the "process" of meditation, not to give the impression that meditation consists of discrete, nonoverlapping steps. Further, the different steps discussed should be considered only as plausible hypotheses until verified by additional research.

STEPS ONE AND TWO: MEDITATION AND ORDINARY AWARENESS

These two beginning steps involve similarities to ordinary

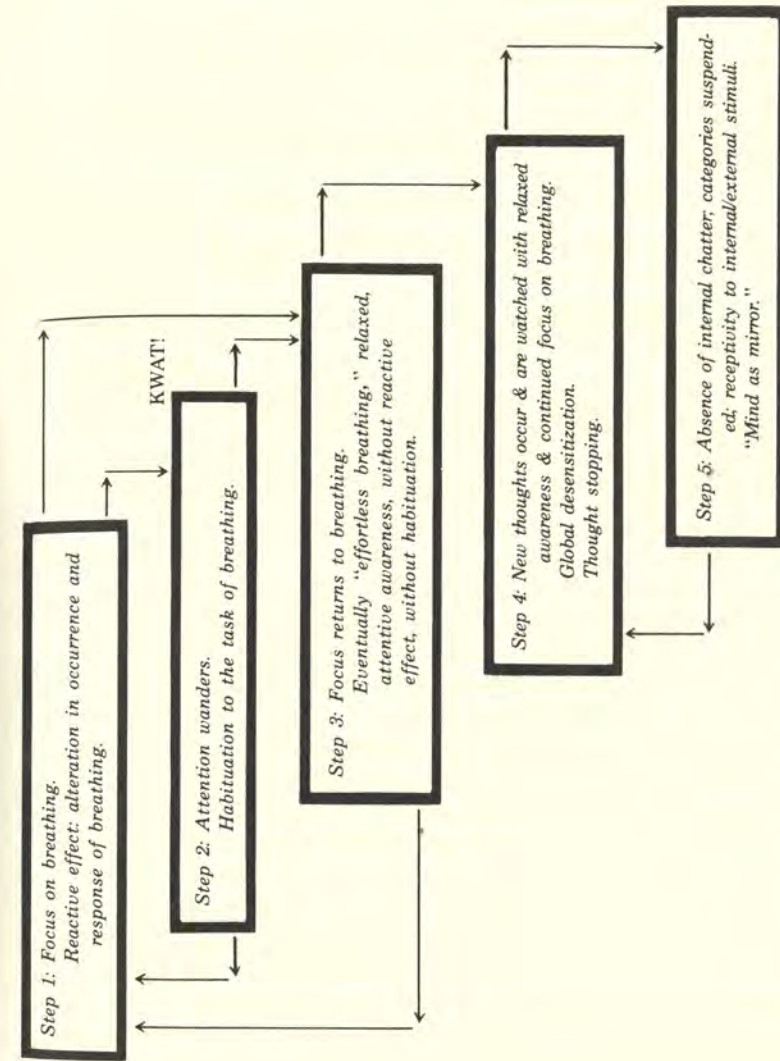
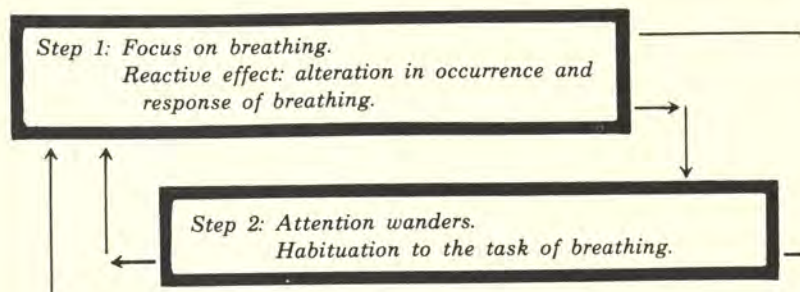


FIGURE 1.1 A Five-Step Model of the Zen Breath Meditation

awareness: a reactive effect (step one) and habituation to task (step two). Anecdotal data suggest that when the person is first asked to observe his or her breathing, there is often an alteration in this behavior. The person has difficulty letting the air "come," catches his/her breath, and breathes more quickly and shallowly than normal. Often the person complains about not getting enough air and of "drowning" (step one, Shapiro and Zifferblatt [1976]).



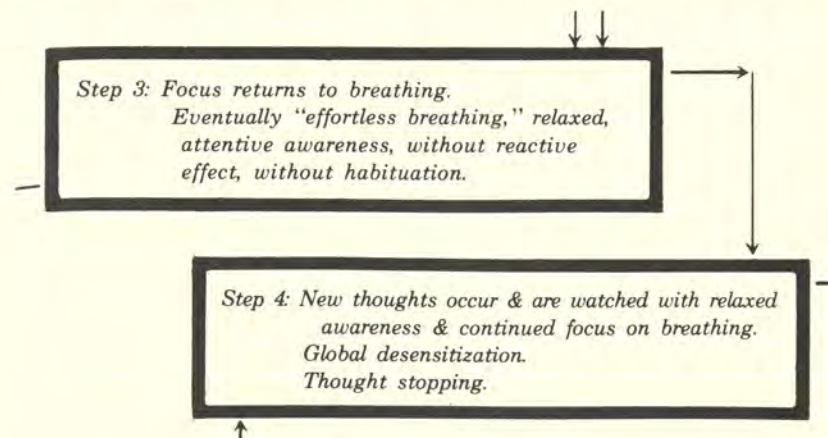
Soon, however, the meditating person forgets the task at hand, stops focusing on his/her breath, and unrelated thoughts and images occur (step two). When this nonattentive dialogue occurs and the individual becomes aware of it, s/he is asked to bring attention back to the act of breathing. In Japan, the meditator is aided in this task by the Zen Master, who walks around the meditation hall, carrying a big stick. The Master watches each of the meditators to make sure they are alert and receptive. Since sleepiness (*kanchin*) is not desirable in Zen training, when the Master sees one of the students sagging, or not concentrating, he approaches that person and bows. (The meditator, if aware of a wandering mind, can also initiate the bow.) The Master then raises the stick and gives a blow (called a *kwat*, after the Zen Master Rinzai), intended to return the individual to conscious alertness immediately.

When no Master is present, the beginning meditator is told to be his or her own master: to learn to identify when attention wanders from the task of breathing and to bring it back to that task.

STEPS THREE AND FOUR: MEDITATION AS A SELF-REGULATION STRATEGY

With practice the individual learns to focus on breathing without

altering the behavior of breathing (the reactive effect of step one)



and without habituating to the task (as in step two). Step three, described as "effortless breathing," is what Benson (1975) refers to when he discusses the relaxation response; it may be the critical one in the reduction of blood pressure, stress and tension, and insomnia.

In the fourth step of meditation the individual maintains the effortless breathing of the third step, yet new thoughts occur. However, when new thoughts occur, the meditator is able to "just observe them... and let them flow down the river."

That is, in the fourth step an individual does not enter into dialogue with a thought, but merely watches it, and lets it go, while maintaining the effortless breathing of the third step. This step seems to have an important effect in helping an individual overcome anxieties, phobias, and other concerns. We assume this effect occurs because whatever is important to a person comes into awareness; and, the relaxed, physically comfortable posture prevents what does come into awareness from becoming threatening.

An illustration from some of my research with heroin addicts vividly illustrates this fourth step (Shapiro & Zifferblatt, 1976a). One of the subjects noted that while meditating he saw a movie screen, on which flashed pictures of his life and questions such as, "Hey man, what are you doing with your life? You're really blowing it. What are you going to do with yourself?" He said

that normally these questions would cause him a great deal of anxiety and turmoil and lead him to use heroin again. However, becoming aware of these questions while meditating, he felt none of the anxiety, none of the guilt: "I could merely be an observer of my own life." In other words, the fourth step of meditation serves to present whatever is of concern to the person at that time in a calming, non-emotional manner. As new thoughts are self-observed, the meditator is able to take note of them and to continue focusing on breathing. Because the person is in a relaxed, comfortable, and physically stable posture, he is able to self-observe with equanimity everything that comes into awareness: fears, thoughts, fantasies, guilts, decisions, and other covert events. No attempt is made to systematically structure the covert stimuli; rather, there occurs what may be referred to as a "global hierarchy" consisting of things currently "on a person's mind" (Goleman, 1971). In this way, the individual learns to discriminate and observe all covert stimuli that come into awareness, without making any judgment, thereby desensitizing him/herself (unstressing) to those covert images and statements (step four).

As Eugene Herrigel (1953) noted in *Zen and the Art of Archery*,

As though sprung from nowhere, moods, feelings, desires, worries, and even thoughts incontinently rise up in a meaningless jumble... the only successful way of rendering the disturbances inoperative is to... enter into friendly relations with whatever appears on the scene, to accustom oneself to it, to look at it equitably, and at last grow weary of looking (pp. 57-58).

Meditation as an Altered State: Step Five

Step 5: Absence of internal chatter; categories suspended; receptivity to internal/external stimuli.
"Mind as mirror."

The fifth step of meditation is the step that has been referred to in various Eastern literatures as *satori*, *nirvana*, *kensho*, *samadhi*. In the West it has been referred to as an altered state or higher state of consciousness. It involves an ability to observe with equanimity and mindfulness, and eventually to reduce the "internal chatter"

of covert thoughts and images; a sense of timelessness (Kairos), as opposed to chronological time (Chronos), goallessness and non-striving: an openness and receptivity to what is occurring in the moment. Davidson (1976) has suggested the term "mystical states" for those experiences which occur during meditation and involve an alteration in consciousness. Stace (1960), after reviewing the literature, described certain qualities associated with this state, such as "deeply felt positive mood"; "unity" or "union"; "a oneness with all things"; "a sense of ineffability"; "an enhanced sense of reality"; "an alteration of time and space." Davidson (1976) points out that these mystical experiences do not occur in most meditation experiences.

Altered state, as I am using the term, needs to be seen along a continuum. On one end of the continuum are "full blown" mystical and spiritual experiences (e.g., nirvana, satori, kensho, samadhi), at the other, profound, intense, but more common alterations of perception.


COMMENTS ON UTILITY
AND LIMIT OF THIS DISTINCTION

This distinction between meditation as self-regulation strategy and as altered state of consciousness has proved to be a useful one. First, it allows more precision in viewing meditation as an independent variable, thereby influencing the dependent variable selected for study, and in turn helping researchers to develop a stronger theoretical rationale between independent and dependent variables. Second, different research strategies may be appropriate depending on how meditation is conceptualized. For example, if seen, as suggested by Shapiro and Giber (1978), as a self-regulation strategy, it needs to be compared with other self-regulation strategies in controlled group designs to evaluate its clinical utility. If conceptualized as an altered state, at this stage of our knowledge, well-designed $N = 1$ studies may be more appropriate. Finally, as we will see in Chapters Eight and Nine, different components and mediating mechanisms may be operating, depending upon how meditation is being conceptualized as an independent variable (e.g., altered state or self-regulation strategy) and the nature of the dependent variable being investigated.

However, as with any distinction, there may also be limitations and areas of imprecision; for example, the Shapiro and

Giber (1978) article leaves several questions unanswered about this distinction. First, no real definition of a clinical self-regulation strategy is given. Rather effects of the strategy serve to define the strategy: i.e. meditation helps reduce stress, therefore, it is a self-regulation strategy. A similar problem occurs with meditation as an altered state of consciousness; i.e. viewing meditation as a vehicle for altered states of consciousness does not define meditation, but merely illustrates one of its results. A further compounding problem with this distinction is that its division between self-regulation and altered state may be at times arbitrary. For example, literature on meditation as altered state suggests that meditation may provide individuals with a new sense of meaning and purpose, a new perspective on personal reality. This would obviously have a pronounced influence on levels of stress and tension. Conversely, the relaxation effect of meditation may be important in calming an individual, helping him or her feel more peaceful and tranquil, thereby influencing attentional focusing, "clearing the mind," and having some resultant altered state effects. Accordingly, in Chapters Five and Seven, additional attempts at refining and clarifying this distinction will be made.

1.8 *The Individual: Initial Motivation and Expectations*

 IT IS QUITE likely that many individuals in our culture want to learn meditation for its self-regulation qualities: as a strategy for stress management, relaxation, reducing blood pressure, etc., based on the "demand characteristics" of the data in our scientific journals. Others may be attracted to it for "spiritual reasons," i.e. meditation as an altered state of consciousness, based on the "demand characteristics" of reports in meditation texts. For those who want self-regulation, perhaps the mystical garb (e.g., Katz, Note Two) and even the label itself (e.g., Barber & Calverley, 1964) may be a hindrance. For those looking for a "new meaning," perhaps the mysticism is important to successful outcome.

Although several studies have attempted to control for expectation effects (e.g., Smith, 1976; Malec & Sipprelle, 1977), to my knowledge no article has been published which assesses subjects'

expectations prior to meditation* (cf. Chapters Two and Three for examples). It may be critical to determine why people meditate: what they perceive this "technique" as being able to do for them. For example, if they meditate for "relaxation," do they ever have an altered state experience? If they meditate for "spiritual meaning," do they relax as well as those who are meditating just for relaxation?

An issue related to expectation effects is motivation. How much does a person want to "learn to relax" to find "new meaning"? For example, Maupin (1965) noted that those who entered his study had a strong "therapy-seeking motivation." Are individuals who begin to meditate looking for "personal growth," self-actualization, relief from painful stress and tension, or seeking a cognitive avoidance strategy with which to escape from problems? How much do they want to change or grow? How intensely committed do they perceive themselves as being to working for this change? Additional issues involve the relationship between motivation, tension, arousal, and outcome. These are as yet unanswered questions, but empirically testable ones.

Two studies offer some clues to the relationship between initial motivation and treatment outcome. Kubose's (1976) study gave indirect support for the importance of motivation and suggested the potential importance of attitudes toward expectations in determining a treatment's effectiveness. Studies prior to Kubose had noted that changes on the POI (Personal Orientation Inventory) occurred in those who practiced meditation for eight weeks (Seeman et al., 1972). This finding was later replicated by the same group of experimenters in 1973 (Nidich et al.). However, in Kubose (1976) these findings failed to replicate. Kubose (1976, p. 9) noted that "although subjects were curious about meditation, the major motivating factor was probably the fact that participation was one of the ways to satisfy their introductory psychology course experimental participation requirement." Therefore, they might not have been as highly motivated as those who had paid money or who were desirous of being initiated into TM training.

Goldman, Domitor, and Murray (1979) performed the first study which actually looked at the relationship between motiva-


*To facilitate further research in this area, a brief expectation, motivation, assessment questionnaire is provided in the appendix.

tion and treatment outcome. Half their subjects were fulfilling an introductory psychology research requirement (subject-pool subjects) and half were recruited through a college newspaper advertisement (volunteer subjects). The authors noted that volunteer subjects had significantly more altered states of consciousness, and improved their Zen meditation practice over time whereas the subject-pool individuals responded worse over time.

Thus, the subject's initial desire to learn the technique may be an important additional variable in determining treatment outcome. It would be useful to administer a brief subjective questionnaire to measure subject's expectations and motivation level prior to beginning meditation practice. It would then have to be determined, however, how well initial motivation translates into long-term commitment, as evidenced by adherence and compliance.

A final issue, before discussion of subject profile, is initial skills: e.g., the ability to sit for a certain period of time, the ability to focus attention. As Stroebel and Glueck (1977) noted, "quite seriously ill, hospitalized psychiatric patients can learn the meditation techniques *if* they are able to comprehend the instructions."

1.9 Subject Profile

 FOUR MAIN ISSUES need to be addressed regarding subject profile: 1) Are there differences between those interested in learning meditation versus those who are not? 2) For those interested, how do those subjects who drop out compare with those who continue? 3) What are the qualities of those who continue to a successful outcome? 4) Information on those who continue and experience adverse effects*.

*It should be noted that these studies on expectation and motivation as well as subject variables all pertain to Western meditators. Another interesting question, and one which has not yet received attention, is what is the psychological profile of "Eastern" people who meditate? Of those in the East who really commit themselves? Of those who drop out? And of those who have positive outcome? We are just beginning to investigate these cross-cultural issues (Shapiro, Note Four).

QUESTION ONE: DIFFERENCES BETWEEN THOSE INTERESTED IN LEARNING MEDITATION AND THOSE WHO ARE NOT

Stek and Bass (1973) looked at the differences between those interested in meditation and those less interested. They took four groups of students with different interest levels. Group One was self-selected and had attended two free introductory lectures and paid an enrollment fee in a four day course; Group Two was self-selected and had attended one of the two free introductory lectures; Group Three participated in the study for partial fulfillment of the requirements of a course—they were aware of meditation but not interested in attending; and Group Four was an unselected control group who participated in this study for course requirements. The lack of significant differences among the groups on either the Rotter Internal/External Locus of Control Scale or Shostrom's POI suggest that those interested in the practice of meditation and those who are not do not differ at least in terms of these dimensions. Though it intuitively seems that there would be differences in populations, this issue awaits further research.

QUESTION TWO: DROPOUT PROFILE; CONTINUATION PROFILE

In one of the first studies to look at meditation "dropouts," Otis (1974) noted that those subjects who dropped out stated that they had fewer problems before they began Transcendental Meditation and noted that they felt less change after learning the technique than a comparable group who continued. In addition, dropout subjects were more likely to describe themselves as "withdrawn, irritable and anxiety ridden" than a control group. In the second experiment conducted by Otis (1974), the dropouts at pretest felt "less positive about themselves" or "had serious problems." Otis suggested that individuals who stopped meditating are more disturbed and yet are less likely to admit their problems. Those who do continue may be less disturbed but are willing to admit their problems.

Smith (1978), in a systematic follow-up of personality correlates of continuation, noted that out of thirty possible pre-test

predictors, continuation (defined as having practiced TM at least once in the last month of the project), correlated most highly with low scores on the Tennessee Self Concept Scale (TSCS) Psychosis Scale and high scores on the TSCS Self-Criticism Scale. Further, those that did drop out scored lower on the TSCS Self-Criticism Scale and considerably higher on the TSCS Psychosis Scale. Smith noted that dropouts may defensively need to see or present themselves in unrealistically healthy or favorable terms. Conversely, those who continued are more likely to admit to a wide range of possibly unfavorable statements. Continuation with TM correlated significantly with a low degree of psychosis, a high degree of self-criticism, as well as with having considered psychotherapy prior to the onset of the project. These findings are interesting in light of Maupin's (1965) comment that those who entered his study had a "therapy-seeking motivation" and Bono's study (1980, in press) which suggested that meditators, prior to meditation, had a significantly lower self-concept than non-meditators.

QUESTION THREE: QUALITIES OF THOSE WHO CONTINUE AND HAVE SUCCESSFUL OUTCOME

Smith's study (1978) and a related study by Beiman et al., (1980, in press) also cast light on the nature of individuals who not only continue to meditate but seem to benefit from meditation. In both studies, outcome was assessed by anxiety measures. The two predictors Smith found to correlate most highly with outcome were Cattell's 16 PF factor M "autia" and Factor A, "schizothymia." Cattell (1957; Cattell et al., 1970) suggested that core features of autia can be variously described as a strong inner life, a preoccupation with inner ideas and emotions, good contact with the inner world. At the opposite pole from autia is praxernia. As might be expected, this trait is characterized by a tendency to be practical, conventional, guided by objective realities, and concerned with immediate interests and issues. As Smith noted, praxernic subjects were less likely to benefit from meditation. The second quality, schizothymia, reflects, according to Cattell, a low variability in behavioral and emotional expression, "steadiness of purpose," and a tendency of a habit not to disappear with a lack of reward. The schizothymic finds it easy

to turn inward. Behaviors correlated with schizothymia reflect behavioral and emotional invariability as well as withdrawal. Emotionally they are "cool," "flat," and display relatively few fluctuations in mood. The opposite of schizothymia is affectothymia. Smith (1978) noted that "individuals possessing this trait are outgoing, warm, emotional, likely to work with people, and as we found, less likely to benefit from meditation." In order of significance, successful outcome on anxiety measures correlated significantly with a) not having considered psychotherapy prior to the onset of the project; b) schizothymia; c) autia; d) high anxiety State Trait Anxiety Inventory (STAI-A trait).

Beiman et al., (1980, in press) noted that the more internal locus of control that participants reported prior to treatment (cf. Rotter, 1966), the more they benefited from TM, as measured by the Fear Survey Schedule and two electrodermal measures of autonomic arousal. The Internal-External Locus of Control Scale predicted thirty-four percent to sixty-two percent of the variance in three of the five dependent variables analyzed. Higher internal locus prior to training was consistently associated with more improvement in the dependent variables after training in meditation. Conversely, those with a higher external locus benefited less from meditation.

There are a few other studies which provide additional information about subject profile. Anand, Chinna and Singh (1961a) noted anecdotally that less experienced Rāja Yoga meditators whom they studied were found to a) be quite enthusiastic and b) have high alpha in the resting state. Some of the earlier studies tried to determine the relationship between personality factors (independent variable) and response to meditation (dependent variable). Maupin (1965) looked at "capacity for adaptive regression in the service of the ego and tolerance for unrealistic experiences" as personality characteristics which might predict responses to meditation. He found meditators who had "deeper levels" of experience also had a higher incidence of primary process responses to the Rorschach and a greater tolerance for "unrealistic experiences." Lesh (1970), using the Fitzgerald Experience Inquiry (a test of openness to and tolerance of regressive, altered state, and peak experiences) also found that the more openness and tolerance, the greater the correlation with depth of experience. And Akers et al., (1977) found these meditators with a higher score on the hypochondriasis scale of the

Minnesota Multiple Personality Inventory, MMPI, (i.e. individuals who endorse items which indicate more concern with their physical or psychological well-being) evidenced greater psychophysiological response to meditation (measured by increase in EEG alpha) than individuals who endorse items which indicate less concern.

Kanas and Horowitz (1977) in their study of individuals' reactions to a stress film, noted that pre-meditators emerged significantly different from the other three groups (control group, non-teaching meditators, and meditation teachers). The pre-meditating group was "significantly more stressed, angry, and disgusted in response to the stress films and they perceived themselves as more nervous, sad, and fearful both before and after seeing the films" (Kanas & Horowitz, 1977, p. 435). After viewing the films there was a meditation or sitting period. Then subjects were given an intrusive thoughts and film reference questionnaire. On the questionnaire the pre-meditators were more preoccupied with life issues and fantasies than with the films and experimental tasks. Kanas and Horowitz suggested that one cannot assume that these "stressed" pre-meditators become relatively less stressed after learning to meditate. They noted that this would only be true if all the meditators came from the same population as the pre-meditators. However, they noted that this may not be so because of the large dropout rate dependent upon motivation. After a four month telephone follow-up, three of the eight pre-meditators contacted (thirty-eight percent) had already stopped meditating. This then led them to the conclusion that, "with dropout rates this high, it is possible the successful meditators (those who continue meditating regularly) seem to come from a reasonably healthy sub-population of meditators, while those who drop out seem to represent more emotionally distressed persons" (Kanas & Horowitz, 1977, p. 435).

QUESTION FOUR: THOSE WHO CONTINUE AND REPORT ADVERSE EFFECTS

One final subject population, on which there has been almost no research, is comprised of those who *continue* meditation, but report *adverse* experiences (Otis, 1980, in press). Why do they continue? Are these "pain-dependent" people? Do they believe the "adverse" effects are a stage (necessary and sufficient; necessary but not sufficient) after which more learning will come;

Subject Profile

is it a stage necessary for learning, i.e. a higher sensitivity to formerly defended material? The only report to date on subject profile (Walsh & Rauche, 1979) reported case reports of psychotic breaks during intensive meditation in individuals with a prior history of schizophrenia. Clearly this seems an important area for further investigation.

SUMMARY OF THE INDIVIDUAL

The profiles that emerge from the above studies are based on small numbers with a wide range of variability between subjects. However, some interesting trends seem to emerge. First, there may be a certain type of individual who will be most successful at meditation. This person already has a high "internal locus of control" (Beiman et al., 1980, in press), is enthusiastic (Anand, Chinna & Singh, 1961a), has high baseline alpha to begin with (Anand, Chinna & Singh, 1961a), is more interested in internal, subjective experiences, has flatter, less labile affect (Smith, 1978), may already be a better attender (that is, has better ability to maintain attentional focus, Vahia et al., 1972), and is more able to be open to and tolerant of "unrealistic" altered state experiences (Maupin, 1965; Lesh, 1970). Another subject variable which is worth noting is what Pelletier and Peper (1977) describe as the "chutzpah factor"—the importance of believing in the possibility of one's success (cf. Bandura, 1977).

This discussion gives us a frame of reference from which to begin to understand subject variables involved in meditation. Even seemingly contradictory findings may be understandable within the context of the above profile. For example, Smith (1978) noted that high anxiety was correlated with positive outcome, and Bono (1980, in press) showed that prior to TM, subjects had a lower real-ideal correlation. However, high anxiety, willingness to be self-critical, *and* the belief in one's own internal locus of control may all be part of the profile of the successful meditator.*

*An interesting question raised by Robert Kantor involves the issue of whether socio-economic status has been controlled for in any of these studies. To my knowledge, it has not, and that would offer a profitable line of inquiry.

The profile of those who drop out of meditation is a rather negative one. Drop-outs were highly defensive (Otis, 1974; Smith, 1978), scored higher on the Psychosis Scale of TSCS (Smith, 1978), had serious problems (Otis, 1974), and were emotionally disturbed (Kanas & Horowitz, 1977).

Why might this "negative" profile be occurring? First, there is a slick meditation "hype," a Madison Avenue sales pitch given by some organizations. This sales pitch may attract individuals to meditation, as if it were "sugar-coated tofu"—i.e. a simple, fun, relaxing technique to solve all problems*. And it is not. Meditation involves work, often a willingness to sit quietly and "face oneself," which can be frightening. Unless one is truly motivated to change or work on oneself, it is easy to drop out. Meditation may be attracting a group of individuals who are not willing to make the effort.

On the other hand, there may be at least two other sub-sets of populations which drop out—a fact not accounted for by the above data. Some may wish to learn meditation to reduce anxiety. After several weeks of faithful practice, this occurs. Then, subsequent meditation may not seem to be having as pronounced an effect—they may feel they have reaped all the benefits they can from it (Glueck & Stroebel, 1975). Also, it is possible some of these subjects are achieving similar effects to those gained from meditation from other idiosyncratic sources: listening to music, running. Another group may be those who have "somatic anxiety" and who meditate. Somatic anxiety refers to feelings of anxiety which occur in the body, e.g., butterflies in the stomach, sweaty palms, tight jaw, etc. Cognitive anxiety involves what a person says: I feel out of control, helpless, tense, a "whirring" mind. If the views of Davidson and Schwartz (1976) are borne

*There is an interesting philosophical question regarding "sales pitch." On the one hand, some researchers have said that we need subjects who are not long-term meditators enmeshed in belief systems (e.g., Woolfolk, 1975). In this way, we can determine the variance in successfulness of treatment due to the technique itself. Therefore, what are needed, Woolfolk concluded, are naive subjects, people without belief systems. Yet, from a clinical standpoint, we are aware of the power of belief systems (e.g., Frank, 1963; Pelletier & Peper, 1977). Therefore, from a clinical perspective, we would want to maximize expectations and beliefs, but only within the limitations of honesty and integrity.

out (Schwartz, Davidson & Goleman, 1978), then meditation, a cognitive focusing strategy, may not be as beneficial for those with somatic (as opposed to cognitive) anxiety. These individuals may realize this, and if their reasons for beginning to meditate were anxiety reduction, and instead somatic anxiety intensifies, they may drop out. Therefore, a further refinement of the subject "drop-out population," seems necessary.

My own clinical experience disinclines me to believe that all meditators who drop out have such a negative profile. As in any self-regulation procedure, continued practice requires enormous discipline. I should think there would be healthy students who drop out of meditation just as in any other self-regulation strategy (including medical adherence, dental floss adherence! etc.). The profile up until now does not seem specific enough, and will require further research and refinement.

Finally, it should be noted that most of the "predictors" of meditation success have involved "trait" personality descriptions. Given the rather convincing review of the situational specificity of behavior (Mischel, 1968), it might be important to try to define non-trait skills (attentional skills, ability to sit quietly) and/or cognitive beliefs, and their abilities to predict successful outcome (Shapiro, Note Five). Further, successful outcome has most often been measured by variables relating to anxiety. However, it is quite possible that some introverted, "shy" individuals may turn to meditation because it fits their temperament. They may show a reduction of anxiety, and therefore be "successful meditators." However, from a therapeutic standpoint, meditation may not be a sufficient intervention for them. They may need, for example, assertiveness training, social skills, training in risk-taking behavior (See Chapter Two; & Shapiro, Note Five).

1.10 Practice.

THE PRIMARY ISSUES in this section involve the length of practice, and subject's willingness to continue the practice. Adherence to treatment is an important variable in any self-regulation strategy. In meditation research, it presents a particular dilemma in evaluating meditation's effectiveness against reported claims. Specifically, much of the research which

has been done in the West has been done with relatively short-term meditators as subjects, whereas claims from the Orient are based on experiences of subjects who were skilled masters and have spent decades perfecting the discipline through intense practice. Past studies have shown that a large percentage of meditators, ranging from twenty-five to fifty percent and sometimes higher, do not continue to practice the technique. For example, Kanas and Horowitz (1977) note that within four months of beginning, three out of eight subjects had already dropped out of the meditation group. Similarly, Stroebel and Glueck (1975) noted that the greatest difficulty was in getting patients with significant depression or younger teenage patients to meditate regularly.

Since many of the effects of meditation may be cumulative and a result of practice (e.g., Kasamatsu & Hirai, 1966), adherence seems an important variable. For example, Davidson, Goleman and Schwartz (1976) suggest that the longer the practice, the greater the increase in concentration. Further, Ikegami (1973) showed that the more experienced the meditator, the more physically stable the posture.*

There are three critical issues here: a) whether subjects *say* they practiced, b) whether they in fact practiced, and c) how to maintain adherence. Goldman, Domitor and Murray (1979), to ensure practice, had subjects meditate in a laboratory setting, and debriefed them after each session to determine the nature of their experience to see if they were meditating "correctly." This certainly ensures practice during the intervention phase, a point about which experimenters cannot always be sure. However, it is cumbersome and expensive, and thereby usually results in a short experiment, e.g., Goldman, Domitor and Murray's (1979) lasted only five days. Further, the issue of adherence also involves the question of what happens once the intervention is

*Physiologically, however, there are some contradictory findings about the effects of long-term practice. For example, in the Morse et al. study (1977) and in the study by Cauthen and Prymak (1977) the length of experience of the meditator did not seem to have any effect on the physiological outcome variables. As Morse noted, subjects trained in hypnosis (one month to four years) or TM (two months to five years) did not have significantly better results than subjects untrained in either modality.

completed. Marlatt et al. (in press, 1980) monitored adherence to different relaxation strategies and noted that after the invention phase, when given a choice, individuals, almost without exception chose to discontinue all types of treatment, ranging from pleasurable reading, to meditation (Benson's method) and Progressive Relaxation. Glueck and Stroebel (1975), noted that all subjects in their biofeedback and Autogenic Training groups dropped out, as well as, at a later time, a sizable number of their meditation group.

What steps might be taken to increase adherence? First, we need a common definition of adherence. For example, Smith (1976) defined adherence as having practiced meditation once within the last month of the intervention. This seems a rather broad definition. In another study (Note One) Smith defined adherence as practicing one time per day for twenty minutes. Whatever the definition, researchers should specify it clearly, and monitor adherence closely as an important outcome variable.


One study has looked primarily at the role of adherence and its relationship to preparation (Note One). Smith took two groups of students and taught one Benson's relaxation procedure and the second group a series of five graded, successive approximations to meditation with each one more difficult and "meditation-like," i.e. more passive, effortless, internal, and subtle.* The results show that there was no difference in anxiety scores on the Spielberger STAI trait scale, but that the comprehensive meditation program subjects displayed a significantly greater decrease in physiological symptoms as measured by a personalized stress and anxiety questionnaire that Smith devised. In addition, those in the comprehensive meditation training program practiced ninety percent of the total possible seventy practice sessions whereas the treatment group subjects practiced fifty-two percent. Counting full participation as regular meditation at least once a day during the last four weeks of the project, sixteen out of the twenty-two in the comprehensive meditation program continued to meditate while five of the seventeen in the Benson treatment continued. The major problem with this study, however, is that we are comparing Benson's relaxation treatment to a treatment

*It is not clear whether those in the comprehensive meditation training actually received meditation instructions.

which actually changed every week or ten days, thereby providing novel stimuli and a new additional component. This may not be a justifiable comparison for adherence qualities because the novelty effect may account for continued adherence (Berlyne, 1960). Although not a convincing study, it is cited here to encourage others to share their experiences and ideas about ways to improve adherence.

In addition to preparation, Smith (Note One) and Glueck and Stroebel (1975) stressed the importance of follow-up checking to ensure adherence. Other ideas include developing self-contracting at least in the initial stages with the client, deciding on time and place in advance, building in initial reinforcements, providing for successive approximations to the desired time limit, carefully understanding the client's initial motivation and desire to learn meditation, and using positive images of desired consequences as ways of facilitating and of increasing motivation to continue the practice.

1.11 *The Role of the Teacher: The Therapist's (Clinician's/Teacher's) Orientation*

 CLINICIANS, psychotherapists and/or health-care professionals need to know certain things about meditation to help determine whether it will be the treatment of choice. For which clients/patients, with what types of problems will meditation be effective? To answer this question, they must be as aware as possible of personal preconceptions, values, and biases toward therapeutic treatment. For at least one part of the question of whether meditation is effective will depend upon the therapist's (or researcher's) theoretical orientation and what s/he decides to measure as criteria for "successful outcome."

In Chapter One (1.2) brief mention was made of how therapists from several different orientations were utilizing meditation in their practice. As a way of elaborating on this issue, four viewpoints will be briefly presented, including a discussion of how meditation, when viewed as a positive therapeutic tool, is utilized within the context of each: classical (id) Freudian psychoanalysis; ego (humanistic) psychology—

holistic medicine; behavioral therapy—behavioral medicine; and transpersonal psychology.

PSYCHOANALYTIC THEORY AND MEDITATION

For psychoanalytically oriented therapists, the task of therapy is to uncover and understand the initial traumatic event, "to make the unconscious conscious, recover warded off memories, and overcome infantile amnesia" (Greenson, 1968, p. 4). As Freud noted in a preliminary communication to Breuer (1893, cited in Greenson, 1968, p. 11), "each individual hysterical symptom immediately and permanently disappeared when we had succeeded in bringing clearly to light the memory of the event by which it was provoked and in arousing its accompanying affect, and when the patient had described that event in the greatest possible detail and had put the affect into words." This statement illustrates two important aspects of classical psychoanalytic theory which remained unchanged throughout Freud's writing: 1) hysteria is merely a symptom that has its etiology at some point in the past (normally in the child's psychosexual stages of development) and 2) insight into the etiology is necessary and sufficient for curing the symptom.

The analytically oriented have attempted to use meditation as one means of evoking or uncovering repressed material; of breaking down defenses, the "protection of the ego against instinctual demands" (Freud, 1936, p. 146). Those individuals when utilizing meditation with their patients see it as a positive vehicle for inducing primary-process thinking, for avoiding or bypassing rational defense mechanisms and for recollecting memories of traumatic events. They feel however, that in-depth discussion, "i.e. putting the affect into words," is also necessary. The use of meditation is considered "successful," therefore, if it helps "uncover" repressed material. However, it is considered only as an adjunct to psychotherapy. Further, in-depth discussion of the issue is necessary to "describe the event in the greatest possible detail and to put the affect into words."

EGO (HUMANISTIC) PSYCHOLOGY— HOLISTIC MEDICINE

Freud stated in *Civilization and Its Discontents* (Freud, 1961, pp.

57-58) that "men are not gentle creatures who want to be loved; they are, on the contrary, creatures among whose instinctual endowments is to be reckoned a powerful share of aggression."

Rogers, on the other hand, a representative of ego (humanistic) psychology, noted, "The organism has one basic tendency and striving—to actualize, maintain, and enhance the experiencing organism" (Rogers, 1951, p. 491). Therefore, the goal of therapy, according to Rogers, was to get the client to move away from facades, oughts, meeting expectations, pleasing others, and to move towards self-direction—being more autonomous, increasingly trusting and valuing the process which is him/herself (Rogers, 1961, Chapter 8). Ego psychologists believe there is a basic innate self-actualizing quality within each individual. Therefore, the task of the therapist is to provide a warm, supportive trusting environment, to allow this self to be seen and accepted, so that the client can see that s/he "is a person who is competent to direct himself and who can experience all of himself without guilt" (Rogers, 1957, p. 41).

Humanistically oriented psychologists who use meditation in their practice view it as a technique for helping a person become sensitive to his/her innate, self-actualizing nature, for turning from an external to an internal orientation. From the perspective of holistic medicine, meditation is viewed as a way of enhancing individual client responsibility and a way of teaching the client to develop non-pharmacological approaches to taking care of oneself. Meditation is considered to be a successful strategy if the client is able to become more in touch with his/her "true" self; more inner-directed; to take more self-responsibility; and to be more psychologically and physically "centered."

BEHAVIORAL APPROACH

Behavior modification uses principles derived from the experimental analysis of behavior (cf. Skinner, 1953) and Social Learning Theory (Bandura, 1969, 1977) to modify maladaptive behaviors and/or to inculcate more adaptive habits. Behavior therapy consists of activities implying a contractual agreement between therapist and patient (or client) to modify a designated problem behavior—with particular application to neurosis and affective disorders (Wolpe, 1969, Lazarus, 1971).

Behavioral medicine is the application of these principles to

physical disease. As Schwartz and Weiss (1977, p. 379) note, "Behavioral medicine is the field concerned with the development of behavioral science knowledge and techniques relevant to the understanding of physical health and illness and applications of this knowledge and these techniques to diagnosis, prevention, treatment and rehabilitation." Pomerleau (1979, p. 655) defines behavioral medicine as "a) the clinical use of techniques derived from the experimental analysis of behavior—behavior therapy and behavior modification—for the evaluation, prevention, management or treatment of physical disease or physiological dysfunction; and b) the conduct of research contributing to the functional analysis and understanding of behavior associated with medical disorders and problems in health care."

Behaviorally oriented individuals who use meditation in their practice view it primarily as a self-regulation strategy for dealing with clinical, health-related, and stress-related concerns. Meditation is considered to be a successful treatment if it proves effective in significantly reducing the target behavior concerns.

TRANSPERSONAL

The transpersonal approach is probably most clearly aligned with the original spiritual intent of meditation practices of the East. It includes many of the qualities associated with the humanistic tradition (i.e. developing inner directedness, a strong sense of oneself) but also goes beyond them. Maslow (1969) referred to the goal of therapy as learning how not only to build a strong sense of ego, but learning how to surrender the ego. The individual is taught how not to identify with his/her thoughts. As Goleman noted (1971, p. 19), "the phenomena contemplated are distinct from the mind contemplating them." The goal of therapy is to develop a high degree of perceptual clarity about one's thought patterns, habits, behaviors, but without the accompanying affect; a mindfulness of each moment.

According to this viewpoint, the definition of successful meditation becomes quite elusive, and rather all-encompassing. Pleasant and unpleasant experiences, even wandering mind all occur in "correct" meditation. The goal is to keep as sensitively mindful as possible to these experiences; to cultivate an attitude of compassionate acceptance; to utilize each experience as "grist for the mill," new learning to be observed, new objects of awareness.

Effective, or successful meditation becomes, therefore, a misnomer. It is not an end state, but a path, a vehicle for "transcending" the personal ego boundaries of the self, and for feeling a sense of spiritual harmony.


THE ORIENTATION AS "DEMAND"

The therapist's orientation (or the religious training organization's belief system,) creates a certain "demand" on the client/patient/student. This "demand" postulates implicitly or explicitly the following: a) I (we) believe in this technique, b) if you believe as we do and practice as we do, this technique will help you achieve a desired effect. The demand characteristics of the therapeutic orientations as noted above are readily apparent.

Further, most religious traditions set forth a certain vision for the student, stating that if these meditation disciplines are correctly practiced, certain positive consequences will follow (Orne, 1962). This demand, as we see in Chapter Eight, has an effect on treatment outcome, moving it, as we would suspect, toward the effect postulated by the therapist/teacher (cf. Smith, 1976).

These demand characteristics have both positive and negative aspects. On the one hand, belief in the efficacy of one's treatment strategy or orientation appears to be an important factor in therapeutic success (e.g., McReynold et al., 1973). Further, the transmission of this belief to the client, and the client's belief in its credibility are also important factors. The only possible adverse effect of these "demands" is when the therapist or organization holds them so strongly as to be unwilling to question them, and/or have them altered by invalidating evidence. Then the orientation, rather than being a useful method for organizing information and hypotheses about the world, becomes a blinder to new information and may cause a type of evangelical fervor to convince others of the rightness of one's view.

1.12 Relationship.

 DEPENDING UPON the orientation, the relative emphasis on relationship ranges from unimportant (e.g., taped instructions of meditation) to the critical variable (e.g., Rogers,

client-centered therapy). As Rogers noted (1957), the necessary and sufficient variables for therapeutic personality change to occur must be two people in close interpersonal contact, the therapist's empathetic understanding of the client's frame of reference and unconditional positive regard for the client (both of which the client perceives). Truax and Carkhuff developed scales for measuring congruence and genuineness; non-possessive warmth; and non-judgmental accurate empathy; and concluded from their research that these three variables are characteristics of human encounters that change people for the better (Truax & Carkhuff, 1967, p. 41).

The analytic perspective also views the relationship as an important variable particularly around the issues of transference and counter-transference. Technically, transference is defined as the experiencing of feelings, drives, attitudes, fantasies and defenses toward a person in the present which do not benefit that person but are a repetition of reactions originating in regard to significant persons of early childhood, unconsciously displaced onto figures in the present (cf. Freud, 1912). The problem with transference, as Greenson (1968, p. 155) noted, is that it is repetitious and inappropriate. As I use the terms here, they refer (non-technically) to the relationship between the client and therapist: how the client perceives the therapist (transference), e.g., does the client want an authority figure, male or female therapist, warm individual, etc.? And how the therapist perceives the client (counter-transference) e.g., can s/he work with this client? Does s/he dislike the client? These are variables which might effect the therapist's ability to work with the client, or to teach the client a self-regulation technique.

The transpersonal, or spiritual perspective, has two different views with regard to the role of the teacher/therapist, and relationship. Initially it is seen as critical to have someone as a guide. Much as in classical psychoanalysis, this person should be someone who has gone through the practice, the spiritual discipline. The idea behind this is that one can only teach (guide) another as far as the teacher him/herself has gone: i.e. you can only teach what you know. However, ultimately, in many traditions, although the role of the teacher is acknowledged, eventually the individual must leave the teacher and experience for him/herself. As Watts noted (1961), the basic position of the Zen master is that s/he has nothing to teach. Or, in Hesse's *Sidd-*

hartha, Siddhartha met Buddha but left him, "for Siddhartha had . . . become distrustful of teachings and learning . . . I have little faith in words that come to us from teachers" (Hesse, 1951, p. 28).

The role of the therapist and therapeutic relationship is emphasized much less in the behavioral tradition. The emphasis is on the utility of the strategy, and therefore tape-recorded or other semi-automated methods of disseminating techniques to individuals are considered appropriate and useful.

Implicit in the above discussion of relationships is the issue of trust. Is the client willing to trust the therapist? How important is this as a variable in positive therapeutic actions?

RESISTANCE

Resistance is a technical term first used by Freud and refers to the two aspects of the person warring between life (eros) and death (thanatos). Freud saw this as a battle the person under treatment must fight every step of the way, between that part striving toward recovery and the opposing forces, urging destruction and chaos. Therefore, Freud, as therapist, felt he had to fight against the patient's resistance. He did this by representing himself as infallible, as in the case of Frau Elizabeth Von R. in which he said, (e.g., "Tell me what's happening, I know there is more,") and with Lucy R. in which he pitted his will and efforts against her contrary insistence and desires (Freud, 1959).

In teaching an individual meditation, the therapist needs to be sensitive to several potential resistances, as well as how s/he will deal with resistance to the chosen therapeutic orientation.

Why do some people resist meditating? Carrington and Ephron (1975) made useful comments on why there is refusal to learn or continue to meditate: 1) incompatibility with the individual's lifestyle or belief system, 2) a fear of loss of control, 3) difficulty in giving up the parent/child roles of transference, 4) misconceived "shoulds" about how they should meditate, 5) reluctance to give up of symptoms useful to the patient. In addition, a person may feel "pressured" to learn the technique by a spouse or intimate who recently learned meditation. Often, there can be an evangelic fervor with which a person who practices meditation encourages a spouse to "seek the higher truth." One client told me, "My wife now feels I must begin to meditate. She

says if I don't I'll never get out of my rut. I do feel I want to learn it, to try it, but I don't like being forced. In fact, I feel she is beginning to live in a more and more sterile world, afraid to relate to me. My wife is a meticulous person who has always tried to control everything in her life; and when she can't she now retreats into her meditation." So, we need to look at the general family (significant-other) system of a person who wishes to begin, or thinks s/he might want to begin learning meditation. Also, learning an essentially non-analytical technique may be frightening to individuals who have been brought up in a culture which places such a high value on the analytical skills.

How the therapist responds to therapeutic "resistance" in general, and to meditation in particular depends upon the particular orientation. Some specific suggestions from my own orientations are discussed in the case study in Chapter Two.

QUALITIES OF THE THERAPIST:

CAN MEDITATION HELP THE THERAPIST?

Implicit in the above discussion is the issue of what therapist qualities facilitate positive therapeutic outcome. The transpersonal approach emphasizes that the therapist be someone who "practices" what s/he preaches; i.e. be on the same path. The humanistic approach as noted emphasizes therapeutic qualities of congruence, empathy, warmth. Freud (1912a), in his recommendations to physicians practicing psychoanalysis, insisted that to be successful, the therapist must shift from participant to observer, from problem-solving to intuition, from a more involved to a more detached position; to have empathy, s/he must "renounce for a time part of his own identity, and for this he must have a loose or flexible self-image" (Greenson, 1968, p. 382).

WOULD MEDITATION BE USEFUL FOR THE THERAPIST?

Complementing discussion of the use of meditation for the client, there has been some writing about the use of meditation for the therapist (Carrington & Ephron, 1975; Schuster, 1979; Keefe, 1975). On a theoretical and anecdotal case-report level, the following have been suggested as benefits for the therapist: greater

stamina when patient hours follow in continuous succession, ability to maintain a focus of attention and awareness on present events (Keefe, 1975), increased empathy (Schuster, 1979), enhanced awareness of one's feelings, less tendency toward drowsiness resulting from work stress, and less discomfort from patients' negative transference reactions (Carrington & Ephron, 1975).

Two studies have looked at the potential effects of meditation on the therapist. Lesh (1970) found that counselors in training who meditated were more empathic—as measured by response to an affective sensitivity videotape—than those who did not. Leung (1973) did a similar study comparing both internal and external concentration and used as his dependent variable two counseling behaviors—empathic understanding of the client, as measured by an analytical empathy measurement, and ability to perceive specific “notice-authority statements” from the client. Leung found that with fourteen hours of training (seven hours internal concentration, seven hours external concentration) the undergraduate subjects significantly increased their ability in the two counseling behaviors described above.

These findings with undergraduates or with counselor trainees in addition to the anecdotal reports of clinicians who meditate, though tentative, suggest a potential utility of meditation for the therapist. They also raise an interesting question for the therapist—*should the nonmeditating therapist offer a meditation technique to a client?*

In the absence of empirical literature directed to this question let me make some suggestions. On the one hand, I think we can carry the argument of matching therapist to client to treatment to an absurd conclusion: i.e. women must counsel only women; black men with stress must counsel only black men with stress; etc. On the other hand, it seems that in teaching a self-regulation skill, the therapist can serve as a useful model. Further, the literature suggests the importance of the therapist's believing in the rationale of the technique (McReynolds et al., 1973). Seemingly, in addition to knowledge of the research literature, one must at least have some first-hand experience to have “faith” in the efficacy of a particular treatment as well as competency and skill in transmitting the technique. The skill at teaching involves being able to be sensitive to problems in learning adherence, as well as the ability to be sensitive to client concerns about certain kinds of experiences that

may be quite novel, i.e. altered state experiences. How these experiences are viewed by the therapist—e.g., dismissed, seen as delusional, hallucinatory, viewed as positive, transcendent—would depend in part on the therapist's own personal knowledge of such experiences.

ADVERSE EFFECTS AND CONTRAINDICATIONS:
WHAT SOME MIGHT BE,
HOW A THERAPIST DEALS WITH THEM.

Carrington and Ephron as well as Stroebel and Glueck point out the importance, with psychiatric patients, of having the therapist available to aid with any material that comes into the patient's awareness. Therefore, Carrington (1978) noted that borderline psychotics or psychotic patients should not be prescribed meditation unless their practice of it can be supervised by a psychotherapist familiar with meditation. In this regard almost all meditation researchers and those who use it in their clinical practice are cautious in stating that there should be careful instruction, training, and follow-up observation by the therapist. This is especially true as we become more sensitive to unpleasant and sometimes negative experiences that patients sometimes have during meditation (cf. VanNuys, 1973; Kohr, 1977; Otis et al., 1973; Otis, 1980, in press). For example, Stroebel and Glueck and also Carrington and Ephron note that some of the unpleasant feelings which may occur with meditators include occasional feelings of dizziness, feelings of disassociation, and other adverse feelings produced by the release of images, thoughts, and other material that they had not been sensitive to. In addition to anecdotal reports, there have been three case reports in the literature suggesting the negative effects of meditation (Lazarus, 1976; French, Schmid & Ingalls, 1975; and Walsh & Rauche, 1979). There is also one study (Otis, 1980, in press) with a large N which discusses potential adverse effects of meditation.

Otis reanalyzed data which he had collected previously and examined in particular subjects who had reported a considerable increase (fifty-one percent or over) of feelings in a negative or adverse direction. He found that the longer an individual meditated, the more likely it was that adverse effects would occur. These adverse effects included increased anxiety, boredom, confusion, depression, restlessness, and withdrawal. He also noted that teacher trainees who were long-term meditators

reported more adverse effects than long-term meditators who had not made a commitment to become teachers. Although there are many ways to analyze the data, it seems that there is a percentage of people for whom meditation will have negative effects.

For example, certain individuals are attracted to meditation for inappropriate reasons, seeing it as a powerful cognitive avoidance strategy, or attracted to the technique of concentrative meditation as a way of blocking out unpleasant areas of their lives. Similarly, many individuals lacking basic social skills (i.e. those shy or withdrawn) may be attracted to meditation. For these individuals meditation may not be a useful therapeutic intervention (certainly not as a sole intervention strategy). Rather, it may be more appropriate for them to have some kind of social skill or assertiveness training, either in place of or in addition to the meditation treatment (Shapiro, 1980). Further, meditation may not be a useful therapeutic intervention for chronically depressed individuals, who may need to have their arousal level activated (cf. also hypotensives, hyperactive children). Also, many therapists consider arousal one of the prime conditions facilitating therapeutic change (cf. Yalom et al., 1977) and therefore meditation would not be considered a treatment of choice if used as a strategy to calm or relax a person. In addition, it may not be a useful strategy for individuals with somatic but low cognitive anxiety (Davidson & Schwartz, 1976). Meditation may not be the treatment of choice for individuals with high external locus of control, or with clinical problems such as migraine headaches or Raynaud's Disease, which, as Stroebel and Glueck (1977) note, are not as amenable to amelioration by meditation as to temperature and EMG biofeedback for eliciting vasodilation and muscle relaxation.

Additional issues to be considered regarding negative effects are the following: Is the individual meditating for too long a time, thereby impairing reality testing (cf. French et al., 1975; Lazarus, 1976). Is the person spending too much time letting go of thoughts (not analyzing them) and therefore not gaining pinpointed cause and effect awareness. Thus, even though affect may be lessened, has the person learned the antecedent conditions which cause reflex inappropriate, maladaptive behaviors? Have they learned, in addition to skills of letting go of thoughts and goals, the skill of setting goals: existentially choosing who they want to be and how they want to act.

There is also the important issue of preparation. Negative effects may occur if the individual has not been given sufficient preparation. For example, a self-critical, perfectionistic, Western goal-oriented individual who learns meditation will probably bring that same cognitive orientation to the task of meditation. S/he may, therefore, be highly critical: e.g., I am not doing it right, each thought may be seen as a defeat, an internal fight may ensue to "stop" thoughts. As James S. noted in the case to follow, "I became distracted by thoughts, then worried about being distracted; but I couldn't stop the flood of thoughts; I started crying; it was almost impossible for me to then return to breathing."

HOW MAY THESE ADVERSE EFFECTS BE DEALT WITH?

A distinction needs to be made between negative (harmful) effects and unpleasant experiences. As Roger Walsh notes, "Equating unpleasant with negative comes out of an unacknowledged pleasure = good, pain = bad world view, which is the very content which all meditation disciplines say must be transcended" (Personal communication). Therefore it is important to hold the context in mind when we discuss these experiences. Difficulties along the road do not necessarily mean we are on the wrong path. On the other hand, we need to be careful not to dismiss "harmful" experiences too readily. Eastern philosophy, with a world view espousing acceptance, says all things, good and bad, should be accepted with equanimity. Philosophically and theoretically, once a person can do that, life becomes free from suffering, as Buddha noted in his Fourfold Truth.

The transpersonal, or spiritual perspective therefore gives an answer elegant in its simplicity for dealing with adverse effects. Namely: watch that process; don't get caught up in it; let it be a learning experience for yourself, a new awareness of your resistance and defenses; keep the context. The answer to every dilemma becomes: adverse effects are only part of the path. Stay centered. It takes years of practice. On the one hand, I subscribe to this advice. On the other, I find it too absolute; it strikes me as similar to the classical psychoanalytic diction: insight causes cure. If you are not cured, by definition more insight is needed. Similarly, if you are not keeping the context, practice keeping it

more. This is similar to the behavioral approach of cognitive restructuring: change your thoughts and you'll feel better. But what about the *process* of how this occurs? Here the therapeutic relationship is critical, as well as non-attachment to verifying the effectiveness of any particular technique.

Further, in the personal growth movement, there is a danger of equating "if it hurts, it must be good for me," or "if it isn't working, try the same thing, only harder: i.e. meditate more." As I note in the epilogue and in the case study, (Chapter Two), if used inappropriately, meditation can become just another vehicle for self-criticism.

Also, even though each "negative" effect may be the fault of incorrect training or attitude, it is important to take these negative effects seriously, become precise about why they are occurring, and see if there are ways to correct them.

Personally, I have learned over the past few years that my preferred attentional style is an overview wide-angle lens approach. I like to take in the field, to get an overview. On Rorschach blots, I see a complete picture, encompassing all the parts in one whole. I do not like concentrative meditation. I fear "tuning out." Therefore, in order for me to concentrate on a task, I need a relatively stimulus-free environment, so that there are no other distractions in the field, and the field becomes the task.

Thus, it is difficult for me to begin concentrating in a noisy stimulus-demanding environment. When I meditate, I like a quiet, peaceful environment so that *my* thoughts can come up. The positive side of this "opening-up style" is that I can allow whatever is going on within me to come to the surface fairly non-defensively, and can also quickly become in tune with the peaceful environment around me. The negative side of this is that I am easily distracted when I try to meditate. Further, there is also a negative effect in the attentional style I use, because after meditation I am highly sensitive. Sometimes after meditation I find myself more easily bothered and annoyed than at other times. Also, an on-rush of inputs often seems quite overwhelming.

In a sense, this is a negative effect occurring from my meditation training. I have had to learn to counter it by a) recognizing my attentional style and situations which make me vulnerable to it, b) building in transition times between formal meditation and external commitments and c) being careful to select appropriate,

stimulus-free environments for meditating.

I use the above example as one to illustrate that meditation does condition us in certain ways. There may be unpleasant effects to this conditioning which, if ignored, can be harmful. The case study in Chapter Two gives additional specifics of how to deal with adverse effects in clients.

SUMMARY, CHAPTER ONE

This chapter provides an overview of the structure of the book as embodied in the sentence:

"What effects does the teaching of meditation have on an individual who practices, and why?"

In terms of our microscope analogy, we looked only briefly (and at low power) at effects; somewhat more fully at the issue of what is meditation; and in still greater depth at the individual who might or might not benefit from meditation; the importance of the therapist's orientation; relationship variables; and finally at the issue of practice/adherence. This chapter intended to provide an overview of issues covered in greater detail throughout the rest of the book. In addition to looking at each of these issues separately, as in this chapter, we also need, in subsequent chapters, to look at their interaction with each other. As one way of "grounding" some of the issues discussed in Chapter One, we turn in Chapters Two and Three to two case studies.

Chapter One: Further Reading

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General

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- Tart, C. States of consciousness and state specific sciences. *Science*, 1972, 186, 1203-10.

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ON THE TYPES OF MEDITATION

Books

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- Goleman, D. *Varieties of the meditative experience*. New York: E.P. Dutton, 1977.
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For components: See Chapter Eight.

ON EFFECTS:

See Chapters Five and Seven.

ON TEACHING:

Orientations:

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2. Behavioral Approach

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3. Humanistic/Holistic Medicine

- Lesh, T. Zen meditation and the development of empathy in counselors. *Journal of Humanistic Psychology*, 1970, 10, (1), 39-74.
- Pelletier, K. *Mind as healer, mind as slayer*. New York: Delacourte, 1977.

4. Transpersonal

- Goleman, D. Meditation as metatherapy. *Journal of Transpersonal Psychology*, 1971, 3 (1), 1-25.
- Akishige, Y. The principles of the psychology of Zen in Y. Akishige (Ed.). *The principles of the psychology of Zen*.

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See also Chapters Two and Three for case studies.

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SUBJECT VARIABLES

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ON MEDIATING MECHANISMS:

See Chapter Nine.