MULTI STATE EDUCATION:
METACOGNITIVE IMPLICATIONS OF
THE MINDBODY PSYCHOTECHNOLOGIES

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Humans produce and use a large number of psychophysiological
states. Education which neglects any of these is incomplete.

This article points to several major databases which have been
neglected by current cognitive theory and educational thought.
This evidence and the associated theories expand our view of
human nature: as a result, our ideas of what can be known, of
what can be learned, and of how it can be taught undergo a
paradigmatic shift. It means something different to be an
educated person.

A MULTISTATE PERSPECTIVE

Researchers in diverse fields are concluding that there is much
more to human capacity than is ordinarily imagined, even more
than some people in the "human potential movement" have
accepted. Scanning such databases as Psychological Abstracts,
Dissertation Abstracts, Index Medicus, and ERIC, one realizes
that topics which used to be on the fringes of orthodox
psychology are now appearing regularly in mainstream jour­
nals and dissertations. These apparently diverse topics include
such things as imagery, relaxation, meditation, prayer and
spiritual disciplines, the martial arts, psychoactive drugs, yoga
and body disciplines, breathing techniques, biofeedback, sug­
gestion and hypnosis, near-death experiences, psychoneuro­
immunology, and others.

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These items may appear to be an unrelated, miscellaneous collection; however, underlying this diversity is the central assumption of a new (or renewed) approach to human nature; the human mind and body (considered as one) produces and uses a large number of psychophysiological states. This fact has profound metacognitive implications for the cognitive sciences and for education at all levels.

The multistate paradigm is metacognitive in both senses of the word. In the sense of "beliefs about cognition," it points out that current assumptions, knowledge, and theories about cognition are for the most part derived only from evidence gathered about our ordinary state's cognitive processes. That is, we selectively omit data about other states. In the sense of "monitoring one's own cognitive processes," the multistate paradigm is metacognitive because it would have us use the cognitive processes of several states to systematically explore cognition (or anything else for that matter). Using a broad range of mindbody psychotechnologies, we can achieve a correspondingly broad range of psychophysiological states, and each state provides a unique vantage point for monitoring itself and other states.

The first section of this paper presents the three core ideas of the multistate paradigm: mindbody state, mindbody psychotechnology, and residency. The next section discusses selected aspects of a multistate science: types of databases, explanatory power, research implications, and preparation of professionals. The third section compares the multistate and single-state paradigms on thirty-five topics in four tables: general intellectual assumptions, major psychologies, cognition and learning, and mental health. The last section proposes that the appearance of a multistate approach, across the scientific and scholarly landscape, announces a broad, new intellectual direction, Mindbody Studies.

**Three Multistate Concepts**

Three ideas form the base of multistate studies. Mindbody state draws our attention to the fact that the human mind and body (considered as one unit) functions in many different psychophysiological patterns. Mindbody psychotechnologies points out that there are many new and ancient ways of producing these states. Residency assumes that these mindbody states express themselves in various capacities and incapacities. This section discusses these central ideas.
Mindbody States. In Altered States of Consciousness, Tart (1969) points out that psychology is incomplete because it neglects data having to do with different states of consciousness. Tart (1975, p. 13) defines "... a state of consciousness [is] a pattern, an organizational style of one's overall mental functioning at any given time."

A problem with this definition is that the word consciousness is used in many ways in several academic disciplines and in common usage. In popular psychology consciousness means a range of things such as whatever happens to be on one's mind, a set of political beliefs, or levels of spiritual development. While Tart clearly stipulates his meaning, other people confuse the many other uses of consciousness. I propose that mindbody state be substituted for state of consciousness and that we adapt Tart's definition. A "mind body state" is a system or pattern of overall psychological and physiological functioning at anyone time.

In addition to circumventing ambiguity over the word consciousness, mindbody emphasizes that we are considering the psychological aspects of mind and the physiological aspects of body as a unit, not merely mental or biological aspects alone. The word mindbody also places the topic within current usage; the journal Advances (1981+), for example, uses mindbody in its studies of the interaction between mind and body in health. Traditionally, "The Mind-Body Problem" has occupied the thoughts of philosophers and psychologists, thus, their writings on this topic and cognitive studies become more clearly allied. Finally, mindbody states also draws attention to the fact that much current intellectual life has underemphasized the importance of multiple states. As a new intellectual direction, Mindbody Studies perceives the multistate paradigm as having major advantages over the single-state paradigm.

From an information-processing perspective, mindbody states are high level executive systems which integrate and control lower level information processing subsystems.

Mindbody Psychotechnologies. A mindbody psychotechnology is a method of producing a mindbody state or states. Current psychotechnologies include contemporary approaches to meditation, biofeedback, psychoactive drugs, yoga, prayer and other spiritual disciplines, so called "martial" arts, hypnosis, dream-work, and others. These psychotechnologies allow new kinds of research to be done with mindbody state as a variable. As a result, explorers of the further reaches of
cognition are making discoveries that are changing ideas about what a mind is. Tables 1 through 4 below list some of these empirical and conceptual discoveries.

Residency. In their view of human nature, current mindbody investigators tacitly make several assumptions as guides for theory and observation:

1. Human abilities and inabilities "reside" in mindbody states.
2. The strength of abilities, inabilities and disabilities differs from one mindbody state to another.
3. Analogs of abilities which reside in our usual, wakeful mindbody state may reside in other states.

As working assumptions of the multistate paradigm, these statements reformulate most current educational topics and introduce discipline-expanding new ones. For example, as we shift from one state to another, which abilities and inabilities become weaker? Which strengthen? Which capacities disappear, and which appear anew? Are rare and exceptional abilities attainable by using mindbody psychotechnologies to produce the states in which those abilities reside?

Do we want to add to our personal skills and cultural abilities? Can we do this by gaining access to the appropriate resident states? Might each state have possible uses of its own? A given mindbody state might be less efficient for some tasks, but more efficient for others. Questions derived from these assumptions can keep generations of researchers investigating topics which offer humanity major benefits from a fuller view of the human mind.

The concepts mindbody state, psychotechnologies, and residency can be instrumental in shifting ways of thinking about human nature. The following section illustrates some ways these ideas change our thinking about science, education, cognition, learning, and mental health.

A Mindbody Science

Mindbody state is the central idea of an extended cognitive paradigm for traditional scientific reasons: theoretical scope, broadened empirical base, explanatory power, fruitfulness for research, and practical applications. The field of mindbody studies contains extensive empirical databases. It offers new questions, techniques, and variables for further exploration. It helps explain some anomalies, particularly reports of rare and
unusual human abilities. It critiques our current methods of professional preparation and suggests ways to overcome those shortcomings. These topics are discussed in this section.

As a new intellectual direction, the mind-body paradigm also reorients our views of most major educational and psychological topics; it presents numerous opportunities for educational organizations; it combines ideas and observations from widely dispersed disciplines into novel patterns, and it may lead us to develop new and neglected human capacities. These are discussed in later sections of this paper.

Databases. Using the mind-body psychotechnologies mentioned above, researchers have opened new ranges of human behavior and experience for systematic scientific and scholarly study. Some of the resulting databases are compiled according to the psychotechnology used, biofeedback and meditation, for example. Others concentrate on a mind-body state, e.g., dreams. Still others focus on particular experiences which are often associated with mind-body shifts such as out-of-the-body or parapsychological experiences.

In the last two decades (and sometimes for longer) major empirical databases of more than 1000 items each have been established in meditation (Murphy & Donovan, 1988), hypnosis (Fromm & Shor, 1979), biofeedback (Biofeedback and Seif: Regulation, 1976+), psychedelic drugs (Grinspoon & Bakalar, 1979), dreams (Wolman, 1979), imagery (Journal of Mental Imagery, 1976+), behavioral medicine (Society of Behavioral Medicine, J979+, J980+), and psychoneuroimmunology (Ader, 1983).

As this list indicates, medicine and psychotherapy are the fields which have applied a mind-body approach first, but it would be incorrect to suppose that the importance of these findings is restricted to health. Aside from obvious applications in health education, the major mind-body databases contain information on cognitive processes, memory, learning, behavior, perception, and related educational phenomena. Medicine’s success in using mind-body psychotechnologies may suggest education’s future.

Databases containing competent, well-researched studies, but not as numerous as those above, exist in yoga (Arpita, 1983), near-death experience (Ring, 1984), perinatal psychology (Riedlinger & Riedlinger, 1986), MDMA (Shulgin, 1988), t’ai chi chuan (Zhou, 1984), and acupuncture (Requena, 1986). Of special importance for transpersonal psychology are the
growing databases on flow, peak, mystical and transcendent experiences; these are now recognized as having practical value, being psychotherapeutic, and promoting personal and social well-being (Csikszentmihalyi & Csikszentmihalyi, 1988; Grinspoon & Bakalar, 1979; Grof, 1987; Lukoff & Lu, 1988; Noble, 1987).

A third group of databases is primarily concerned with reports of experiences and abilities which are associated with mind-body alteration rather than with specific psychotechnologies or states. Some of these contain well-designed studies, but are not yet replicated sufficiently to qualify for either of the above groups. Intriguing leads come from research on out-of-the-body experiences (Gabbard & Twemlow, 1985), psychokinesis (Jahn & Dunne, 1987), and reincarnation (Stevenson, 1981).

The latter databases are predominantly anecdotal and descriptive and/or case, clinical, or uncontrolled studies. It is helpful to remember that as science advances into a new field of study, it typically starts with anecdotal observations, then goes to descriptive, correlational pilot studies, and finally well-designed experimental studies.

It is hard to know how to interpret some of the anomalies which are associated with various mindbody states. Certainly, the generalizations we now make about mind and behavior are almost totally restricted to observations from our ordinary awake state. Should we expect them to apply to other states? We are likely to find other information in other states because anomalies, after all, are the best indicators of our current paradigms’ limitations. At the least, these issues do not deserve to be dismissed out of hand without looking at the best evidence, multistate evidence.

The intent of this article is not to examine each mindbody psychotechnology separately to judge its results and applications. Instead, the question here is, "If we combine all of these psychotechnologies together, including our ordinary-state databases, what do they indicate about human cognition and learning?"

The Mindbody Research Question. A mindbody approach legitimates a new series of research topics and questions. Investigators examining every human behavior or experience can ask: How does vary from mindbody state to mindbody state? For example: How does cognition, identity, perception, development, learning, valuing, thinking, movement, mental health, behavior, etc., vary from one mindbody state to another?
Related questions ask: What capacities are associated with which mindbody states? How can we access those states and develop their resident capacities? What does it mean to have the metacapacity to enter and use different states? Combining several psychotechnologies or their constituent skills, is it possible to compose states which have never been produced before? Will these synthetic states contain unknown resident abilities and novel cognitive processes?

Mindbody state as variable. The storehouse of experimental variables can also expand to include mindbody psychotechnologies as acceptable research treatments, and mindbody states become new independent and dependent variables. In effect, every topic which is now researched needs to be reexamined with mindbody state as a variable. Do current research designs and methods also have analogs in other states?

We have not evaluated our existing observations and theories from a multistate perspective. A multistate criterion for judging the relative strength of findings arises; observations and generalizations which hold in more states are stronger than those which apply in fewer.

Psychomagnifier. In the judgment of some multistate scholars, the most intellectually exciting research psychotechnology is LSD. Most mindbody psychotechnologies produce a more-or-less specific effect. Psychedelics, on the other hand, do not produce a specific effect, but magnify on-going cognitive processes. Perceptions, thoughts, internal processing routines, memories, and emotions which are beyond the observational powers of our normal mind body state can sometimes be experienced with psychedelics. Just as the magnifying power of the microscope made modern biology and medicine possible, psychedelic psychomagnifiers provide the cognitive sciences and education with powerful mindbody research instruments. Their major importance is what they teach us about the human mind, its processes, and capabilities (Orof, 1976; Grinspoon & Bakalar, 1979, 1983).

The above items on the multistate research agenda illustrate the rich opportunities this approach offers. As with any field newly opened for systematic research, mindbody topics offer young researchers the opportunity to make significant, original contributions by getting in on the ground floor of an emerging field. A whole new science, Mindbody Science, may be nascent (Roberts, 1983).

Explanatory Power. It is well known that we can remember things in some mindbody states that we can't remember in our
ordinary state. Most people have had the experience of trying unsuccessfully to remember something only to have the needed information pop into their minds later as they are relaxing, say, or just as they are about to drop off to sleep. Ways of bringing lost information to awareness include hypnosis, meditation, dreams, certain mind drugs, biofeedback, electrical brain stimulation, and various kinds of therapy.

Why should each of these apparently different processes alter memory? These methods all have something in common: they are all methods of altering mindbody state. Thus, consistent with the residency principles, memory is a function of mindbody state. (All education includes memory, yet current classroom instruction and educational research, almost completely neglect mindbody state.)

The residency assumptions that abilities vary in strength and kind from one state to another provide a partial explanation for the observation that memory (and presumably other abilities) varies from state to state. While these assumptions give a general direction to explaining and investigating these observations, they do not specify the amount or kind of variation or the reasons they occur. An example of a more specific explanation comes from the work of Rossi (1987) who says that memory, learning and behavior are by nature state-dependent. These issues remain to be investigated more fully.

Extraordinary abilities. Human capacities which we regard as rare or unusual may be so because we hadn't understood that access to them was via the mindbody states where they reside. For example, in their recent review of parapsychological research Eysenck and Sargent (1982) point out that those techniques that alter consciousness are also those associated with ESP. The mindbody psychotechnologies they cite include relaxation, dreaming, sensory deprivation and overload, meditation, hypnosis, isolation tanks, etc.

Special cases are parapsychological databases (e.g., American Society for Psychical Research), anthropological reports of unusual abilities, particularly healing (Association for the Anthropological Study of Consciousness), and studies of East-West psychologies (e.g., Allen & Howe, 1984). The research on most of these topics is extensive and professionally competent.

Whether or not these events actually occur in reality, the subjective experiences are data on these states, and it is antiscientific to intentionally omit data. In any case, claims of unusual abilities such as those reported by yoga adepts, saints,
masters of the martial arts, or indigenous healers from different cultures should not be dismissed casually simply because these skills do not reside in our ordinary, awake mindbody state. Here again, the residency principles provide a general theoretical orientation.

**Professional education.** A field of scholarship becomes mature and a researcher in that field becomes sophisticated when they take account of the strengths and weaknesses of their research tools and methods. The human mind is a research tool in all sciences, humanities, arts and applied fields, yet few researchers take account of the fact that this instrument can be used in a large number of mindbody states. It is as if the human mind-body were a very powerful computer and we insisted on running only one program (our ordinary awake state). The histories of the arts, sciences, humanities and practical fields are rife with examples of insights which occurred during nonordinary mindbody states (Koestler, 1967; Krippner, 1972). If we are to advance the maturity and sophistication of cognitive studies and their applications, we need to recognize that the mindbody does productive work in many states, and teach future colleagues to use a fuller spectrum of their cognitive capacities.

Some of the things a new paradigm should be able to do are: 1. expand the field to include phenomena that had been ignored previously, 2. provide a more sophisticated view of that field, 3. add useful concepts, 4. explain phenomena that had previously been inexplicable, 5. stimulate new research questions, 6. provide new research treatments and methodologies, and 7. point out some weaknesses in current training and suggest ways of overcoming them. The multistate paradigm does these.

**Multistate Science, Psychology Education and Therapy**

The concepts mindbody state, psycho technologies, and residency intersect with existing concepts to produce new ways of thinking about a large number of topics. This section outlines some of those implications for 1. the nature of science, 2. psychology, 3. cognition and learning, and 4. mental health. While any specific single-state psychology or multistate psychology may differ from the in-a-nutshell characterizations in the four tables below, the tables outline general differences and emphases. The single-state column in each table characterizes mid-twentieth century academic, educational, and experimental psychologies more than their clinical or psychotherapeutic applications.
**Expanding Science.** As science has a growth spurt, it expands to include part of the natural world that had previously been outside its arena. Mindbody psychotechnologies, both new and old, are opening up these states for systematic investigation. Table I contrasts five assumptions of single-state and multi-state science.

### TABLE I

**A COMPARISON OF SINGLE-STATE PSYCHOLOGIES AND MINDBODY MULTISTATE PSYCHOLOGIES GENERAL INTELLECTUAL PARADIGM**

<table>
<thead>
<tr>
<th>ASUMPTIONS OF SINGLE-STATE PSYCHOLOGIES</th>
<th>ASSUMPTIONS OF MULTISTATE PSYCHOLOGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Nature</td>
<td>A major human characteristic is the ability to produce a variety of mindbody states.</td>
</tr>
<tr>
<td>Mindbody states other than our ordinary state are interesting curiosities, but of little professional interest.</td>
<td></td>
</tr>
<tr>
<td>Reality</td>
<td>The experience of time, space, and matter depend on the MBS in which they are experienced.</td>
</tr>
<tr>
<td>Time, space, and matter are real. Only experiences in our usual MBS are real.</td>
<td></td>
</tr>
<tr>
<td>Intellectual Climate</td>
<td>The major intellectual error of our times is the failure to recognize the fundamental primacy of mindbody states.</td>
</tr>
<tr>
<td>Altered MBSs are not worthy of serious intellectual attention.</td>
<td></td>
</tr>
<tr>
<td>Personal Existence</td>
<td>Personal existence goes beyond the usual limits of the body-based identity, time, and space.</td>
</tr>
<tr>
<td>A person exists within a material body, in a specific place and at particular times.</td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>Reason and perception differ from one MBS to another.</td>
</tr>
<tr>
<td>All knowledge comes through sense perception and reason.</td>
<td></td>
</tr>
</tbody>
</table>

*For purposes of these tables, the abbreviation MBS stands for "mindbody state" and MOSs for "mindbody states."

The topic of causation might have been included in Table I, but is in Table 3 instead. The multistate paradigm sees causation and explanation operating in both a reductive form, that is from the smaller parts up to the whole, and in a downward form, from the whole down to its parts. Downward causation recognizes the fact that different properties occur, "emerge," as systems become more complex. These "higher level" or "holistic" characteristics may then supercede or overpower the forces of the parts. For example, molecular forces determine some actions of an atom more than atomic forces, and thoughts, values, and beliefs (cognitions) may supervene over lower level psychological and biological processes (Sperry, 1983). Thus reduction/emergence is placed in Table 3 with similar cognitive topics.
Cognitive mindbody psychotechnologies such as contemplative prayer, hypnosis, meditation, imagery, and cultural beliefs exert their influences downward onto physiological and biological levels just as these lower levels exert an upward influence. Thus, a variable at one level may influence that same level as well as levels above and below, and any effect may be caused by variables at several levels operating separately or together.

PSYCHOLOGY

The mindbody paradigm shows how some psychologies have neglected mind body states. Table 2 critiques them and suggests ways these psychologies can become more representative of the full range of human behavior.

TABLE 2
A COMPARISON OF SINGLE-STATE PSYCHOLOGIES AND MINDBODY MULTISTATE PSYCHOLOGIES: MAJOR PSYCHOLOGIES

<table>
<thead>
<tr>
<th>Psychology</th>
<th>State of Consciousness</th>
<th>Freudian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology is the study of experience and behavior (primarily in our usual MRS).</td>
<td>MBS is a function of the physical, biological, chemical, and electrical state of the human body and brain.</td>
<td>The unconscious is the repository of repressed experiences and fantasies. Psychotherapy occurs when these contents are made conscious, i.e., put under control of the ego.</td>
</tr>
<tr>
<td>A complete psychology must include all MBSs, not just our usual MBS. Which principles apply only to our ordinary MBS, and which apply across several states?</td>
<td>The physical, biological, chemical and electrical states of the body and brain can be voluntarily controlled to an unknown extent; therefore, MBS is a controllable variable.</td>
<td>Freud did not recognize development beyond the ego. Mental and physical healing are associated with access to selected MBSs.</td>
</tr>
<tr>
<td>State of Consciousness</td>
<td>Freudian</td>
<td>Behaviorism</td>
</tr>
<tr>
<td>Freudian</td>
<td>The unconscious is the repository of repressed experiences and fantasies. Psychotherapy occurs when these contents are made conscious, i.e., put under control of the ego.</td>
<td>In the S-O-R-C model (Stimulus-Organism-Response-Consequence) the 0 can be omitted because it is a constant for all practical purposes.</td>
</tr>
<tr>
<td>Freud did not recognize development beyond the ego. Mental and physical healing are associated with access to selected MBSs.</td>
<td>The biological state of an organism (the 0) is a significant variable from MBS to MBS. Stimuli, responses, and contingencies also vary from MBS to MBS.</td>
<td>Humanistic Psychology and Self-Actualization is the top of Maslow's need hierarchy.</td>
</tr>
<tr>
<td>Humanistic Psychology and Self-Actualization is the top of Maslow's need hierarchy.</td>
<td>Self-transcendence is a stage beyond self-actualization in Maslow's needs hierarchy (Maslow, 1968).</td>
<td>Transpersonal</td>
</tr>
<tr>
<td>Transpersonal</td>
<td>MBSs may be divided into those that give a sense of separate, individual being (personal MBSs) and those which give a sense of unified, wholeness (transpersonal MBSs).</td>
<td></td>
</tr>
</tbody>
</table>
Social/ Interpersonal

Social psychology studies the interactions between individual persons and/or the actions of collection of individuals. The perception of personal separateness is a function of our ordinary MBS. Social relationships vary from MBS to MBS.

Cognitive psychology is included in Table 3.

MULTISTATE EDUCATION

Following a half century during which mind/body states were trivialized, denied, denigrated, neglected, and/or pathologized, some cognitive scientists and educators are recognizing:
1. these states are an important part of human psychology; 2. any cognitive science that omits them is incomplete; 3. a full human education would include the ability to select appropriate states and develop their resident potentials.

From an educational perspective, our ordinary, awake mind/body state is just one of many possible states; its education is one of many possible educations. Table 3 illustrates some of the possible changes that occur when one considers thirteen topics in cognition and learning from a multistate perspective.

<table>
<thead>
<tr>
<th>TABLE 3</th>
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</thead>
<tbody>
<tr>
<td>A COMPARISON OF SINGLE-STATE PSYCHOLOGIES AND MINDBODY MULTISTATE COGNITION AND LEARNING</td>
</tr>
</tbody>
</table>

| Capacities |
| All valuable and learnable capacities reside in our ordinary MBS. As one changes MBS, some capacities weaken or disappear entirely. Others strengthen or appear anew. |

| Cognition |
| Cognition during MBSs other than our usual MBS is inferior. Different MBSs are major shifts of cognitive processing. They contain potentially useful styles of information processing. A complete cognitive psychology would include them. |

| Cognitive Development |
| Abstract, formal, adult reasoning is the highest level of cognitive development. Selecting and using one's MBSs is a higher level of cognitive development. |

| Conditioning |
| It is impossible to control the autonomic nervous system voluntarily except by physical or chemical intervention. Classical conditioning is clearly different from operant conditioning. It is possible to control the autonomic system voluntarily by meditation yogas, imagery, biofeedback, and other learnable, noninvasive practices. The operant/classical distinction is weakening. |

| Reduction/Emergence |
| Thoughts, values, beliefs, and other conscious or mental phenomena exert emergent or downward causation on human behavior (Sperry, 1983). |

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Advanced Cognition

Secondary process thinking is adult, rational thinking and is done in an awake state. All other forms of thinking are irrational, childlike thinking.

Advanced cognition (tertiary process thinking) includes the selection of the appropriate MBS or sequence of MBSs for the task at hand. The primary/secondary distinction confuses preoperational, primary process with tertiary process thinking.

Intelligence

Intelligence is the ability to use our awake state optimally.

Intelligence is the optimal use of each mind-body state and the meta-intelligence to select the appropriate MBS for the desired goal. What other intelligences exist in other states?

Memory

Memory is most reliably developed, accessed, and studied in our usual MBS.

Certain aspects of dreams, hypnosis, drugs, meditation, and biofeedback provide access to memories not readily available in our usual MBS. Memory is a function of MBS.

Learning

The best ways of teaching and learning are in the usual MBS.

Many people learn best in different MBSs, such as relaxed imagery, etc.

Creativity and Problem Solving

Linear, rational, sequential thought is the way to solve scientific and personal problems.

The most insightful and valuable ideas can occur during nonordinary states.

Performance

Peak performance is learned by repetitive practice of component skills.

Peak performance is correlated with MBS alteration (Csikszentmihalyi, 1988).

Special Education

Special education students are best understood as physically or behaviorally impaired and best improved by chemical intervention or behavioral conditioning.

Some special education populations may be best understood as being in different MBSs. Consciousness teaching techniques may be the most appropriate way of instruction with these populations.

Moral Development

A 6-step path of moral development goes from narrow self-interest to universal moral principles. One learns this path from life experiences, especially significant others.

A second path: during self-transcendent MBSs, one immediately apprehends moral principles and universal values. These often become guides to moral action, social concerns, and global or cosmic views (Roberts, 1983).

MENTAL HEALTH

Our views of full mental health are expanding too. Being a fully developed person includes the natural, healthy motivation to explore and develop all mind-body states. A new role for mental health professionals is helping clients do this.

From a therapeutic perspective, the failure to develop one's full range of mind-body states stunts human growth. Walsh (1980, p. 665) summarizes this view:
Within the Western model we recognize and define psychosis as a suboptimal state of consciousness [read "mind body state"] that views reality in a distorted way and does not recognize that distortion. It is therefore important to note that from the mystical perspective our usual state fits all the criteria of psychosis, being suboptimal, having a distorted view of reality, yet not recognizing that distortion. Indeed from the ultimate mystical perspective, psychosis can be defined as being trapped in, or attached to, any one state of consciousness [read "mindbody state"] each of which by itself is necessarily limited and only relatively real.

According to current theories, a more complete view of reality improves mental health. It is a fact of reality that the human mind produces and uses a wide range of mindbody states; the refusal to recognize this is a neurotic denial of reality. Table 4 illustrates some ways the multistate paradigm contributes to mental health topics.

### Table 4

<table>
<thead>
<tr>
<th>Multistate Psychology</th>
<th>Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anomalous Experiences</strong></td>
<td>Anomalous experiences are associated with different MBSs and may be rare because we do not provide reliable access to MBSs where they reside.</td>
</tr>
<tr>
<td><strong>Abnormal Psychology</strong></td>
<td>It is a natural, healthy human trait to achieve, explore, and develop MBSs.</td>
</tr>
<tr>
<td><strong>Personality Development</strong></td>
<td>Personality also has roots in prenatal and perinatal development, possibly in sources beyond our usual MBS's time and space.</td>
</tr>
<tr>
<td><strong>Mystical, Oceanic, or Cosmic Experiences</strong></td>
<td>When properly integrated into the personality, they can be the most important therapeutic events in a person's life.</td>
</tr>
<tr>
<td><strong>Psychotherapy and Counseling</strong></td>
<td>An additional goal is to help the patient/client develop his/her MBSs and transpersonal nature. This is likely to include spiritual or religious development.</td>
</tr>
<tr>
<td><strong>Unconscious</strong></td>
<td>The ego and egoic thinking are functions of our ordinary awake MBS. Freud relegates all other MBSs and their mental functions to the unconscious. His methods of reaching the unconscious (dream, hypnosis, relaxation and imagery, etc.) are MRS psychotechnologies.</td>
</tr>
</tbody>
</table>
Person/Self
The primary unit of psychological analysis is the separate, individual person, or subject.

Separate individuality is a perception of our ordinary awake MBS, and useful for some purposes. In some other MBSs, separateness is seen as a state-specific illusion.

Trauma/Therapy
One traumatic event can shape a life.

One intense therapeutic event can reshape it (Grinspoon & Bakalar, 1983, p. 132).

Alcoholism and Addiction
These afflictions result from physiological and/or personality problems and are learned ways of coping with ego problems.

Addictions to substances, wealth, power, ideas, relationships, and so forth are ego attachments. In some cases these express unsuccessful attempts at ego transcendence (Revision, 1988, /0, 2).

Ego
The ego has problems.

The ego is also a problem.

The four tables in this section illustrate how a multistate paradigm recasts some topics and assumptions of education, science, psychology, cognition, learning, personality, psychotherapy, and mental health. Many more topics might have been chosen as well, but the major intent of this section is to show how a multistate view can reorient the way we approach a multitude of topics, providing valuable insights, questions, new research directions, and applications.

In keeping with the intent of this article to sketch a wide-angle view of a multistate mindbody paradigm and some of its educational implications, these topics were not treated in detail. How can a multistate paradigm enrich our culture and our education now and in the immediate future?

Mindbody Education

As the tables above indicate, a mindbody approach enriches our orientation to many, probably most, educational topics, What can educators do?

A first step is to become familiar with these ideas. ERIC Education Index, Dissertation Abstracts, and Psychological Abstracts contain many references to theoretical and applied articles. Handy descriptors are: cognitive restructuring, holistic approach, transcendental meditation, stress management, relaxation training, metacognition, transpersonal psychology, suggestopedia, consciousness and the names of specific psycho-technologies.
Useful publications which contain articles on a variety of mindbody states are *Advances* (1981+), *Brain-Mind Bulletin* (1974+), *Imagination, Cognition, and Personality* (1981+), as well as information from such organizations as the Association for Transpersonal Psychology and the Institute for Noetic Sciences. Most psychotechnologies have at least one journal devoted to them.

A second opportunity is teaching about mindbody topics as content. Students at all levels have a natural interest in understanding and exploring their own mindbody potentials. They enjoy reading about various mindbody psychotechnologies, and this subject is a way of connecting a wide variety of different topics to each other.

In addition to considering these as topics of study, mindbody psychotechnologies are new instructional technologies and methods (Hanson & Gueulette, 1989; Roberts, 1985). Just like our current methods, some mindbody methods are clearly not appropriate for all levels of education or in all educational institutions. Teachers can use, however, such techniques as relaxation for stress reduction and cognitive guided imagery for instruction now (Hendricks, 1975, 1977; Murdock, 1987).

A fourth opportunity is the challenge of reformulating our ideas of what it means to be a well-educated person. Unlike some psychological discoveries which add one or two new skills to the human repertoire, recognizing mindbody states as capable of development adds whole new domains to the educational map.

Just as we are now educating our ordinary, awake state and its resident capacities, mindbody theory opens up the possibility of developing all our states and all their resident capacities (Roberts, 1983).

As additional investigations explore mindbody topics, we will discover additional relationships between states and capacities. Here is a fifth class of educational implications. For example, Rossi (1987) says that such central educational issues as learning, memory, and behavior are state-dependent. Mindbody psychotherapies work, he says, because they reconstruct the cognitive states which occurred earlier, providing access to past events. As other mindbody databases are systematically explored, additional content, methods, and goals will emerge.

A sixth opportunity exists on the institutional level. There are standard strategies which colleges and universities use to establish regional, national, and international reputation.
Launching and developing a new field, especially at the graduate level, is an institutional leadership opportunity. Mindbody Studies is such a new field.

A seventh opportunity exists for funding agencies and foundations, particularly those interested in innovation and the cognitive sciences. With their specialization on cognition in the ordinary mindbody state, the current cognitive sciences can be seen as the vanguard of a major new intellectual direction—the study of all psychological processes in all mindbody states.

Mindbody Studies: A New Intellectual Direction

Consciousness Studies. The growing interest in mindbody studies raises a fascinating question: Are we witnessing the birth of a new intellectual direction? Walsh writes of the "consciousness disciplines" (1980). Roberts (1983) sees a "science of consciousness studies" composed of people from many academic disciplines and different universities who already feel more akin to each other than to their departmental colleagues. Engler describes this as an "invisible college" (1983, p. 235):

An invisible college is a group of researchers who live in different geographical locations, but who often attend the same conferences, publish in the same journals, invite each other to give presentations at their home institutions, and who share drafts and reprints of their work. The emergence of these small, informal collegial groups marks a definite state in the development of a field, and it is through the power of such "colleges" that many of the changes in science are made....

However we see the study of mind body states—as an extension of the cognitive sciences, as an interdisciplinary paradigm shift, as a new specialty within different disciplines, as a nascent discipline of its own, or as an invisible college—a new intellectual direction is manifesting.

Well-respected scholars from a number of disciplines in the liberal arts and sciences are contributing to this intellectual direction. Earlier sections of this paper mentioned contributions from psychology, education, medicine, anthropology, and psychotherapy. The disciplines of sociology, political science, history, music, dance, art, physical education, law, business, nursing, communications, botany, chemistry, physics, and engineering are all making their contributions to mind body studies as well.
**Summary: A Metacognitive Critique**

Compared to the single-state approach, a multistate paradigm offers observations, theories and practices which better represent the full range of human functioning. The multistate approach:

1. includes extensive new and established databases;
2. forms a stronger empirical base for generalizations and theory building;
3. introduces new research topics, questions, methods, variables and standards;
4. extends current psychological and educational topics into new directions;
5. recommends improvements in the preparation of researchers and practitioners;
6. redefines the idea of a well-educated person to include the skills of selecting and using appropriate mindbody states;
7. integrates the contributions from several scientific and scholarly disciplines into a new intellectual direction, Mindbody Studies.

"The most important obligation of any science is that its descriptive and theoretical language embrace all the phenomena of its subject matter; the data from [altered states of consciousness] cannot be ignored if we are to develop a comprehensive psychology" (Tart, 1969, p. 5). If we are to develop a comprehensive cognitive science and a complete education, then the fact that humans use a variety of mindbody states cannot be ignored.

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