Toward an Integral Methodology for Transpersonal Studies

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Abstract

This paper indicates the limitations of older, more conventional approaches to research (grounded in an exclusively positivistic paradigm) and suggests ways in which research and disciplined inquiry can be extended and expanded to more appropriately honor and address exceptional human experiences and transpersonal topics and experiences. An integral research approach is proposed—one that acknowledges pluralistic ways of knowing, being, and doing. The integral research approach is informed by the radical empiricism of William James and by recent developments in natural science, psychology, human sciences, philosophy, philosophy of science, parapsychology, spirituality, and transpersonal studies. This early paper was the seed of what later became the author's chapter on integral inquiry in the book, *Transpersonal Research Methods for the Social Sciences: Honoring Human Experience*, by William Braud and Rosemarie Anderson (Sage, 1998).

Article

> The one consciousness which is whole and integral
> thus divides into two streams in order to provide
> this subjective-objective play of manifestation –
> this *Lila* of *Bhagavan*.
>
> - I. K. Taimni

How can we research the transpersonal without violating or distorting our subject matter? There seems to be a tension between living, appreciating, and honoring our transpersonal and spiritual aspects and conducting systematic research into these facets of our being. The degree of this tension is related to how one conceives of "research." In its narrowest form--scientific, quantitative, experimental--research can indeed lead us astray from a proper understanding and appreciation of the transpersonal, for the former's emphasis on isolation, analysis, measurement, explanation, prediction, and control is incompatible with much of the value and meaning of the latter. However, we also can view research, less constrictively, as *a disciplined inquiry and earnest attempt to increase*

our understanding using any and all available and appropriate means. This broader conceptualization is not at all antagonistic to the transpersonal. It welcomes inputs from all sources: from the natural sciences, the human sciences, the humanities, the arts, the spiritual traditions. It recognizes the legitimacy of many ways of knowing: experiences of the outer world and of the inner world, rational thought, feeling, intuition, gnosis. It values both knowledge that can be expressed and knowing that must remain tacit. It is interested in general principles (the nomothetic) and in the individual and unique (the idiographic). Its aims are understanding as well as explanation; synthesis, integration, and contextualization as well as analysis; participation as well as control; practice as well as theory; values as well as facts; wisdom as well as knowledge. Let us examine the characteristics of such an *integral methodology* and consider how we might apply it in transpersonal studies.

THE UBIQUITY OF RESEARCH

In the sense of making attentive observations and drawing thoughtful conclusions about consistencies, inconsistencies, and patterns, we constantly engage in research. The explicitness and care that go into this endeavor differ from occasion to occasion. If, in our professional lives, we serve as therapists, counselors, or health providers, we continually make observations and notice patterns in our clients. Which of our methods is working well? Which is working poorly? We keep track of things. We try to understand what is going on. We form provisional models, perhaps quite informally and "unconsciously," and check out these models to learn how well they account for what we are observing and accomplishing in our practice. We test what we have learned by applying it to new clients and noting what happens. We communicate our knowledge and share our findings publicly with others--with our clients, with our colleagues. In all of this, we are conducting research, although we rarely label it as such.

We also constantly engage in research in our personal lives. In considering ourselves and our development, we (hopefully) make discerning self-observations and draw thoughtful conclusions about our states and stations of being and becoming, about our strengths and weaknesses, about which practices seem to work or not work for us. All of this, again, is research.

Regardless of the particular context in which it occurs, research involves making observations, ascertaining which factors are critical and which are less relevant, noting consistencies, reaching tentative conclusions, checking these conclusions against additional observations, and making frequent reality checks to counter possible errors or

delusions. Properly done, research is a self-correcting process. It is systematized common sense.

When we consider research more formally, we usually associate research with the scientific laboratory. However, it is possible to do research in many other locations and in many other ways. We can do statistical, field, and library research; historical, philosophical, and spiritual research. We can research our own dreams and experiences and states of consciousness. Perhaps the terms "investigations" or "studies" would be even more appropriate than "research" because their meanings are more general and because they do not have the scientific and laboratory associations of the latter.

Whether we call them researches or studies or investigations, we wish our explorations to be accurate, valid, and reliable, and to be as free as possible of errors, artifacts, biases, illusions, and delusions. Ken Wilber (1990, p. 44) has called our attention to the fact that the general or abstract principles for data accumulation and verification are essentially identical across many realms or arenas of experience, although the specific types of data and methodologies may differ from realm to realm. According to Wilber, these verification procedures include: (a) an *instrumental injunction* (in the form, "If you want to *know* this, *do* this."), (b) an *intuitive apprehension* (an immediate *experience* in the domain in which the injunction is addressed), and (c) a *communal confirmation* (checking of results with *others* who have adequately completed steps *a* and *b*). These procedures apply not only to the sensory realm that is accessible to the "eye of the flesh," but also to the mental and spiritual realms accessible, respectively, to the "eye of the mind" and the "eye of the spirit."

E. F. Schumacher (1977, pp. 339-60) adds that to know, apprehend, or experience within any realm, the knower and his or her organs, faculties, and capabilities must be appropriate to and appropriately prepared for the knowledge, apprehension, or experience; that is, the knower must have *"adaequatio"* (adequateness) with respect to that which is to be known. At a mundane level, the microscopist or X-ray technician must possess an eye that is sufficiently "practiced" before being able to discern fully what the lenses or the photographic plates reveal. Schumacher (1978, p. 47) cites a less mundane illustration from the *Majjhima Nikaya, LXX* Buddhist text:

> One can not, I say, attain supreme knowledge all at once; only by a gradual training, a gradual action, a gradual unfolding, does one attain perfect knowledge. In what manner? A man comes, moved by confidence; having come, he joins; having joined, he listens; listening, he receives the doctrine; having received the doctrine, he remembers it; he examines the sense of the things remembered; from examining the sense, the things are approved of; having approved, desire is born; he ponders; pondering, he eagerly trains himself; and eagerly training himself, he mentally realises the highest truth itself and, penetrating it by means of wisdom, *he sees.*

The cited text indicates the progressive nature of gaining *adaequatio* in the realm of the "eye of the heart" or "eye of the soul" in which transformations tend, more often than not, to be slow and gradual.

CONVENTIONAL SCIENCE OF THE MIDDLE REALM

The tension mentioned in the first paragraph of this article is greatest when we limit the meaning of "research" into the transpersonal to what research meant in the context of the physical science of the seventeenth through nineteenth centuries or to what research means in the context of the scientism of today. This conventional science of the middle realm or science of everyday reality is the science we associate with Francis Bacon (1561-1626), René Descartes (1596-1650), and Isaac Newton (1642-1727). It is the world of "Single vision and Newton's sleep" from which William Blake (1757-1827) prayed "God us keep." In his art, Blake portrayed this science as Urizen, the supreme personification of the power of reason and one of the four Zoas--titanic, mythic Eternals, Giant Forms, living archetypes. The most recognizable portrayal of Urizen (perhaps from the Greek οριζειν: to limit, bound, restrict; perhaps also a play on "Your Reason") is in the oft-reproduced frontispiece of Blake's work, *Europe, A Prophesy,* in which Urizen is pictured as The Ancient of Days--a Jehovah-like figure, with flowing grey hair and beard; bent, compact, kneeling; left arm outstretched downward; measuring the heavens with a giant metal compass. For Urizen, the universe is a gigantic clockwork, the human body, a sophisticated machine. Like the numbers in mathematics that can be expressed as perfect *ratio*s, with nothing left over, the Cosmos (including humanity) is viewed *ration*ally as an orderly, controllable realm of "nothing but" in which there is nothing left over that needs explanation. Urizen's offspring--in science, philosophy, psychology, and medicine--are materialism, reductionism, mechanism, determinism, positivism, behaviorism, and what Larry Dossey (1989, p. 263; 1992, p. 128-130) has called "Era I medicine," with its reliance upon technology and mechanical fixes for mechanically induced diseases.

For the conventional science of the middle realm, reality is single, tangible, and fragmentable; it is exclusively the "objective" world as seen through the "eye of the flesh," the eye of the senses. The knower and the known are separable. There are causes and there are effects, which are also separate or separable. Causes always precede or are simultaneous with their effects. Causes are always present in the locality of their effects. Nothing exists which is not material or which does not have material components. The clockwork universe, including humanity, is causally driven by more fundamental and more primitive physical entities and processes, and this causality is always "upward." The "more" comes after and out of the "less." There is a search for and emphasis upon

general (nomothetic) laws or principles that apply to all instances, in all contexts, and at all times; the individual and unique (the idiographic) is deemed unworthy of scientific attention. The primary aims of this science are explanation, prediction, and control. The premier method is the controlled and manipulative experiment. The primary measures are quantitative.

Some of the most telling utterances regarding the "masculine" concerns of control, power, and dominance may be found in the writings of Francis Bacon. Here we find statements such as: "knowledge and human power are synonymous," "nature is only subdued by submission" (Bacon, 1620/1971, p. 107), and "nature, like a witness, reveals her secrets when put to torture" (McKenzie, 1960, p. 82-83). Bacon was one of the earliest and staunchest advocates of the inductive and experimental method. He also was Attorney-General, and later Lord Chancellor, under King James I, and his close familiarity with the prosecution of witches may have influenced some of his favored metaphors.

Ironically, whereas physics itself has left behind many of the views mentioned in this section (see below), science popularizers and prominent scientists *in fields other than physics* continue to echo such views and assumptions today. These views characterize the paradigm that continues to dominate our institutions of higher learning, the publication practices of our mainstream scientific journals, and many of our own thoughts and practices. The following brief selection of quotations from leading contemporary thinkers and scientists (none of them physicists) should assure the reader that I have not been setting up straw men nor providing a burlesque of an influential modern worldview.

> No useful purpose has yet been established for the sense of awareness that illumines a small fraction of the mental activities of a few species of higher animals. It is not clear that the behavior of any individual or the course of world history would have been affected in any way if awareness were nonexistent. (Wooldridge, 1963, p. 240)

> . . . all aspects of behavior, including those which we call "intelligent," will ultimately be found reducible to the operation of a combination of physical principles not fundamentally different from that which underlies the design of advanced versions of man-made computing and logic machines. (Wooldridge, 1966, p. 203)

> The ultimate aim of the modern movement in biology is to explain all biology in terms of physics and chemistry. (Crick, 1966, p. xx)

> . . . the content of consciousness, as well as its presence or absence, is determined in detail by the physical structure and electrochemical state of the material of the brain. (Wooldridge, 1968, p. 156)

> . . . man is essentially no more than a complex machine. (Wooldridge, 1968, p. 167)

> My fundamental premise about the brain is that its workings--what we sometimes call "mind"--are a consequence of its anatomy and physiology and nothing more. (Sagan, 1978, p. 7)
>
> . . . materialism in one form or another is the reigning orthodoxy among philosophers of mind. (Dennett, 1979, p. 97)
>
> Sensations are nothing over and above brain processes. (Smart, 1979, p. 63)
>
> . . . mental states are in fact nothing but physical states of the central nervous system. (Armstrong, 1979, p. 75)
>
> . . . the study of life at all levels, from social to molecular behavior, has in modern times relied on reductionism as the chief explanatory concept. (Morowitz, 1980, p. 12)
>
> Biologists have been moving relentlessly toward . . . hard-core materialism. (Morowitz, 1980, p. 14)
>
> How can a science of the spirit exist, given that science is by its very nature materialistic? (Alcock, 1985, p. 562)
>
> Minds are simply what brains do. (Minsky, 1986, p. 287)
>
> The most plausible hypothesis is that the mind is the brain, a Darwin machine that is a massively well-connected system of parallel processors interacting with each other from above and below and every which way besides. (Flanagan, 1992, p. 220)
>
> The Astonishing Hypothesis is that "you," your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules . . . You're nothing but a pack of neurons. (Crick, 1994, p. 3)

It is certainly reasonable, and probably correct, to hold that physical processes play important roles in our psychological and spiritual lives. However, to assert that the psychological and the spiritual are *nothing but* the physical, or that the latter can influence the former but not *vice versa*, is to subscribe to a nineteenth century view of science that is increasingly being called into question. One commits a category error and lapses into an unwarranted scientism when one allows the "eye of the senses" to usurp the domains of the "eye of the mind" and the "eye of the soul."

SCIENCES OF THE MACRO-, MICRO-, AND ANIMATE REALMS

It is tempting to accept wholeheartedly and to overgeneralize the power of nineteenth century science because the latter works so well in the everyday realm of inanimate matter--the world of common physical objects and forces. When one enters the realms of biology and psychology, however, new principles emerge which can modulate and even take precedence over familiar physical principles. For example, whereas

inanimate matter tends to progress toward increasing disorder (follows entropic principles), living matter tends to progress toward increasing order (has a negentropic character). This occurs not only in living systems, but also in complex, non-equilibrium, "dissipative" inanimate physical systems (see Jantsch, 1979; Nicolis & Prigogine, 1989; Prigogine, 1980, Prigogine & Stengers, 1984).

Other examples may be found in psychology wherein expected behavioral and physiological reactions to physical stimuli can be eliminated *or completely reversed* in contexts of hypnosis, placebo responding, or even in common Pavlovian conditioning. I will cite three examples, selected from countless similar studies that are available, as illustrations.

The first study indicates the power of classical or respondent conditioning. It is a Soviet study conducted in 1952 by E. Sh. Ayrapetyants and colleagues (cited in Razran, 1961, p. 91-92). Respiration, electrodermal activity, intrabladder pressure, and the subjective report of an urge to urinate were monitored in three patients with bladder fistulas into which calibrated inflows of air or of physiological solutions could be introduced. Normally, of course, all of the response indicators would respond, in graded fashion, to introduced physical pressure, but never to a "neutral" stimulus such as the reading of a manometer (pressure meter). After of number of pairings of a high meter reading (conditional stimulus) with high physical pressure (unconditional stimulus), strong interoceptive conditioning occurred. Now, when the manometer and the air pressure were dissociated (without the patients' knowledge) so that "sham" readings could be presented, the patients' objective and subjective reactions followed the meter reading (the previously established signal) rather than the physical pressure itself. Thus, the patients began reporting intense urinary urges, accompanied by all or most of the aforementioned objective response indicators, when the manometer readings were high (equaling or exceeding the reactions displayed during the conditioning sessions) even though the physical pressure inflows were minimal or totally omitted. On the other hand, *low or zero readings failed to produce the urge to urinate and its physiological reaction accompaniments, even if the physical inflow was actually present and was double the value used in the training trials.*

The second study indicates the power of placebo reactions; it is a classic study reported by Stewart Wolf in 1950. Wolf worked with two patients who were experiencing severe nausea and vomiting. Ipecac and epicac are powerful emetic drugs; they are used clinically in order to *induce* nausea and vomiting; they also inhibit stomach contractions. When the patients were administered these drugs (by mouth or by intubation), *but were told that the medication would inhibit nausea*, both patients reported relief of nausea and

also the resumption of normal stomach contractions. Here, the patients' expectancies not only overrode, but *reversed* the typical effects of strong chemical agents.

The third example is another classic case--the dramatic alteration of a serious skin disease, congenital ichthyosiform erythrodermia or "fish-skin disease," through hypnotic suggestions. The case was reported by A.A. Mason in 1952. Conventional medical treatments had not helped Mason's 16-year-old patient, who had suffered with this disease from birth. His skin was thick, black, covered with hard papillae, and numb to a depth of several millimeters.. The skin was cracked and oozed blood serum; there was bacterial growth and a putrid odor. The cause of the disease is unknown, and it is believed to be incurable. However, within five days following hypnotic suggestions for relaxation, drowsiness, focusing of attention, and feeling the skin becoming normal, the patient's abnormal skin softened, fell off, and was replaced by new skin that was normal in color and texture. Systematic attention by the hypnotist and the patient to different parts of the body was accompanied by improvements of the corresponding areas of skin. A four-year follow-up revealed that the original improvements had been maintained and that there had been some additional gains. Mason's startling results were replicated successfully in three subsequent studies by Wink (1961), Kidd (1966), and Schneck (1966).

In all of these cases, organisms' reactions follow their *expectations* of reality rather than physical reality itself. These expectations, in turn, follow histories of experience, or verbal instructions or suggestions, or imagery. The organisms follow *historical psychological laws* that supersede currently acting ahistorical physiological and physical principles: They do not to respond to things that are present and do respond to things that are absent. These phenomena are really quite strange, curious, and magical, when one pauses to consider them carefully. Organisms respond to the *meanings* of events in addition to or instead of the events themselves, and *these meanings depend upon the organism's history and the action of emergent psychological principles that we could not have predicted on the basis of ahistorical physical and physiological principles alone.*

Even stranger occurrences abound in the realm of parapsychology. Here, living organisms can exhibit *direct knowing*--they can respond accurately to and have valid and reliable knowledge of events beyond the range of their conventional senses. Such instances are variously termed "lucidity," "psychic awareness," "extrasensory perception," "telepathy," "clairvoyance," "remote viewing," or "anomalous cognition." Living organisms also can exhibit *direct mental influences* upon their environments, beyond the range of their conventional effector systems. These psychophysical

interactions are variously termed "mind over matter," "telekinesis," "psychokinesis," "remote action," or "anomalous perturbation" effects. Further, living organisms apparently are able to exhibit direct knowledge of events in the future ("precognition," "premonition," "paranormal foreknowledge") or in the past ("retrocognition"), and may also be able to exert direct mental influences upon past events ("time-displaced psychokinesis," "retro-psychokinesis"). All of these so-called "paranormal" phenomena indicate alternative modes of knowing and doing that seem relatively independent of spatial, temporal, material, and energetic constraints (as these are conventionally understood) and point to the existence of a-causal and non-local interactions between living organisms and between living organisms and their environments. There is no obvious way in which conventional Newtonian physics (the "conventional science of the middle, inanimate realm") can account adequately for these parapsychological phenomena. (For reviews of the findings, theories, implications, and applications of parapsychological phenomena, the interested reader can consult Broughton, 1991; Edge, Morris, Palmer, & Rush, 1986; Krippner, 1977-1990; Kurtz, 1985; and Wolman, 1977.)

But one need not venture into parapsychology, or even into the animate realm, to find phenomena which conventional, nineteenth century science cannot adequately explain. These phenomena occur at the micro- and macro- levels of inanimate physical systems--the realms of the very small and the very large. Whereas Newtonian physics deals very well with physical phenomena of the intermediate range (with objects and forces encountered under everyday life conditions), it cannot account for certain anomalies that are observed in connection with extremely large masses, extremely high velocities, and extremely small and energetic particles. It was to account for these macro- and micro- events that relativity theory and quantum mechanics were developed in the early years of the twentieth century by Niels Bohr (1885-1962), Albert Einstein (1879-1955), Werner Heisenberg (1901-1976), Max Planck (1858-1947), and Erwin Schrödinger (1887-1961). The "new physics" contains many counter-intuitive conceptualizations that are difficult or impossible to capture adequately with logic, language or imagery, and which must be handled by means of mathematical formalisms. The following three quotations capture the flavor of the many challenges that the "new physics" poses to those whose explanatory schemes continue to be based upon the materialistic, mechanistic, and deterministic views of the older, Newtonian framework.

> The challenge to previous scientific assumptions was deep and multiple: The solid Newtonian atoms were now discovered to be largely empty. Hard matter no longer constituted the fundamental substance of nature. Matter and energy were interchangeable. Three-dimensional space and unidimensional time had become relative aspects of a four-dimensional space-time continuum. Time flowed at different rates for observers moving

> at different speeds. Time slowed down near heavy objects, and under certain circumstances could stop altogether. The laws of Euclidean geometry no longer provided the universally necessary structure of nature. The planets moved in their orbits not because they were pulled toward the Sun by an attractive force acting at a distance, but because the very space in which they moved was curved. Subatomic phenomena displayed a fundamentally ambiguous nature, observable both as particles and as waves. The position and momentum of a particle could not be precisely measured simultaneously. The uncertainty principle radically undermined and replaced strict Newtonian determinism. Scientific observation and explanation could not proceed without affecting the nature of the object observed. The notion of substance dissolved into probabilities and "tendencies to exist." Nonlocal connections between particles contradicted mechanistic causality. Formal relations and dynamic processes replaced hard discrete objects. The physical world of twentieth-century physics resembled, in Sir James Jeans's words, not so much a great machine as a great thought. (Tarnas, 1991, p. 356)

> If there is a something underlying wave and particle which light really is, it is a something for which our senses provide no analogue and which we can therefore never hope to image concretely. So with virtually everything in nature's recesses. In those never-never, through-the-looking-glass abodes, parallel lines meet, curves get you from star to star more quickly than do Euclid's straight lines, a particle will pass through alternative apertures simultaneously without dividing, time shrinks and expands, electrons (taking their cue from St. Thomas's angels who simply will themselves into different locations and find themselves there) jump orbit without traversing the intervening distance, and particles fired in opposite directions, each at a speed approximating that of light, separate from each other no faster than the speed of light. (Smith, 1976, p. 105-106)

> Relativity and quantum physics agree in suggesting unbroken wholeness, although they disagree on everything else. That is, relativity requires strict continuity, strict determinism, and strict locality, while quantum mechanics requires just the opposite--discontinuity, indeterminism, and nonlocality. (Bohm, 1988, p. 65)

Three variations on a theme; three koans disguised as scientific descriptions.

RECENT THEORETICAL FORMULATIONS

Two recently proposed theoretical formulations promise to advance modern physics still further, and in directions that could make modern science more hospitable to transpersonal ideas. The first of these is David Bohm's (1917-1992) theory of the implicate order. The second is a new conceptualization of the "zero-point field" proposed by Bernhard Haisch, Alfonso Rueda, and Harold Puthoff.

The Holomovement

David Bohm suggested that relativity and quantum physics agreed in pointing to an unbroken wholeness in reality. In his own theoretical work (Bohm, 1980, 1986, 1988; Bohm & Hiley, 1993) , Bohm made this wholeness the centerpiece of his thinking. He proposed a causal interpretation of quantum theory in which an electron is regarded as an inseparable union of a particle and a field. The field is regarded as containing objective

and active *information,* and the activity of this information corresponds closely to what is signified by *meaning* in our subjective experience. Further, the information (or forms) to which the particle reacts can reflect extremely distant features of the environment. Bohm used a holographic analogy in developing his notion of an *enfolded* or *implicate* order.

> The essential feature of this idea was that the whole of the universe is in some way enfolded in everything and that each thing is enfolded in the whole. From this it follows that in some ways, and to a certain degree, everything enfolds or implicates everything. The basic proposal is that this enfoldment relationship is not merely passive or superficial. Rather, it is active and essential to what each *is.* It follows that each thing is internally related to the whole and, therefore, to everything else. The external relationships are then displayed in the unfolded or *explicate* order in which each thing is seen as separate and extended and related only externally to other things. The explicate order, which dominates ordinary experience as well as classical physics, is secondary, however, in the sense that ultimately it flows out of the primary reality of the implicate order.
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> Because the implicate order is basically dynamic in nature, I called it the *holomovement.* All things found in the unfolded explicate order emerge from the holomovement in which they are enfolded as potentialities, and ultimately they fall back into it. They endure only for some time, and while they last, their existence is sustained in a constant process of unfoldment and reenfoldment, which gives rise to the relatively stable and independent forms in which they appear in the explicate order. (Bohm, 1986, p. 114-115)

Implicate features are even more obvious in the realm of mind, with its "constant flow of evanescent thoughts, feelings, desires, and impulses, which flow into and out of each other, and which . . . enfold each other" (Bohm, 1986, p. 115) or are implicit in one another. Bohm (1986) argues that the implicate order is common to both mind and matter and that, therefore, the implicate order may serve to unite mind and matter.

> Everything is internally related to everything through mutual enfoldment. And evidently the whole world, both society and nature, is internally related to our thinking processes through enfoldment in our consciousness. For the content of our thought is just the world as we perceive it and know it (which includes ourselves). This content is not just a superficial part of us. Rather, in its totality, it provides us with the ground of all meaning in our lives.
>
> . . . Because we are enfolded inseparably in the world, with no ultimate division between matter and consciousness, *meaning and value are as much integral aspects of the world as they are of us.* (Bohm, 1988, p 67)

> [Just as there is a] wavefunction [that] constitutes information whose meaning is to give form to the dance of the particles, so [too there may be] a super-wavefunction whose meaning is to give form to the dance of the ordinary or first order wavefunction . . . . The current quantum theory would then be an approximation, holding only when the action of the super-wavefunction can be neglected . . . . One could go on to suppose a series of wavefunctions of indefinitely many orders, with the wavefunction of each order constituting information that gives form to the activity of the next lower order wavefunction. (Bohm, 1986, p. 130)

> It is implied that, in some sense, a rudimentary consciousness is present even at the level of particle physics. It would also be reasonable to suppose an indefinitely greater kind of consciousness that is universal and that pervades the entire process. But it is clear that each kind and level of consciousness may have a relative autonomy and stability, in spite of its being immersed in an immensely greater context of process that is simultaneously mental and physical. (Bohm, 1986, p. 131)

One is reminded of comments by another renowned physicist, Erwin Schrödinger:

> Inconceivable as it seems to ordinary reason, you--and all other conscious beings as such--are all in all. Hence this life of yours which you are living is not merely a piece of the entire existence, but is in a certain sense the *whole.* (Schrödinger, 1964, p. 21)

> All consciousness is essentially one . . . . The external world and consciousness are one and the same thing. (Schrödinger, 1964, p. 37)

It is impressive to note the mystical characteristics in the writings of many great physicists.

The Zero Point Field

Physicists Bernhard Haisch, Alfonso Rueda, and Harold Puthoff recently have published papers in *Physical Review A* in which they argue that many quantum phenomena might be derived from classical physical principles aided by an important adjunct--the zero point field (ZPF). Thus, quantum theory may not be necessary. The zero point field (also known as the electromagnetic quantum vacuum) is a uniform, "ambient, all-pervasive" background sea of electromagnetic radiation "whose traveling waves connect to the most distant parts of the Universe, and whose energy is much larger than that in the form of matter" (Haisch, Rueda, & Puthoff, 1994b, p. 13). Typically, the ZPF is not detectable because it is everywhere, including the vacuum of space--inside and outside of everything. The ZPF has been known since the early decades of the twentieth century, when it was postulated by physicists Planck, Nernst, Einstein, and Stern; the notion remained dormant, however, or was itself explained via quantum mechanical principles until recently.

Assuming that the ZPF is "real" (i.e., not a virtual, discardable feature of certain quantum formalisms), that it is a "given" in the physical universe, and using classical physical principles alone, Puthoff (1987) derived the stability of the orbiting electron for the ground state of hydrogen (showing that the electron's energy emission would be exactly balanced by energy absorbed from the ZPF). In 1989, based on an initial suggestion made by Soviet physicist and dissident Andrei Sakharov in 1968, Puthoff derived gravitation from the random electromagnetic fluctuations of the ZPF, and showed

that the induced fluctuating charges of the subcomponents of matter would feed back into the ZPF. More recently, Haisch, Rueda, & Puthoff (1994a), using stochastic electrodynamics, derived inertial mass from ZPF fluctuations. These physicists suggest that the stability, inertia, and gravitational characteristics of matter are not fundamental, but rather, they are derivable from fluctuating electromagnetic radiations from the all-pervasive and highly energetic ZPF. David Bohm gives an indication of the awesome power potentially available from the "nothingness" of the ZPF:

> If one computes the amount of energy that would be in one cubic centimetre of space, with . . . the shortest wavelength that should be considered as contributing to the "zero point" energy of space . . . it turns out to be very far beyond the total energy of all matter in the known universe. (Bohm, 1980, p. 190-191)

Because of its all-pervasive nature, its potential to interact with all matter to provide important processes of stability, inertia, and gravitation, and its enormous potential energy, Haisch (1994, p. 3) suggests the ZPF as a possible physical mediator of "esoteric beliefs that the physical universe is somehow sustained from moment to moment through the ongoing action of some higher agent and would cease to exist without such continuously sustaining activity." He also suggests that this ZPF "reinterpretation of the nature of matter opens the door to the possibility of reconciling other spiritual or metaphysical concepts of reality as illusory and transitory (e.g., Maya) with heretofore apparently contradictory notions of real and stable matter," and suggests that it "may be fruitful to investigate the possibility that consciousness uses the ZPF as an agent or acts in some way in that reference frame to create and sustain reality" (Haisch, 1994, p. 8).

WHAT IS MISSING?

With each move in our progression from the "midi-scopic" level of classical physics, through the macro- and micro-scopic levels of relativity and quantum mechanics, to the levels of biology, psychology, and parapsychology, new capabilities have become evident, along with increasing freedom from certain physical constraints. But much remains absent from this expanding framework. Just as Robert Musil (1985) gave us a story of *A Man Without Qualities*, so too does modern science (with the exception of Bohm's views quoted above) continue to give us an account of a *world without quality*.

Huston Smith argues that the very nature of science, as it now exists, allows it to present only a very limited picture of nature, and that picture has nothing to say about *quality.* Because science deals with only part of reality (the "disqualified" part), it is not really proper to speak of a "scientific worldview." To Smith, a "scientific worldview" is

impossible in principle and is even a contradiction in terms, since "world" implies whole, but science deals with only a part of the whole of reality. "To hope for a worldview from science, " he writes, "is like hoping that increasingly detailed maps of Illinois will eventually produce the ultimate map of the United States" (Smith, 1992, p. 144). For "scientific worldview," he substitutes "modern Western mindset," and then goes on to indicate what this mindset excludes.

Smith points out that, to the extent that it is motivated by issues of control, the modern Western mindset automatically excludes transcendent possibilities and realities. This is because we can only control what is equal to or inferior to ourselves, and any discipline that studies only what is subject to our control and limitation cannot show us anything that is superior to us in intelligence, awareness, compassion, or any other standard of worth or value (Smith, 1992, pp. 119, 151, 200). Excluded by modern science, and by the modern Western mindset that developed out of it and is based upon it, are intrinsic and normative values, purposes, global and existential meanings, and other qualitative aspects of human experience (Smith, 1992, p. 84-86).

As we allowed ourselves to be seduced by this excluding mindset, we increasingly deprived ourselves of meaning and value, and with that deprivation came feelings of emptiness, isolation, and alienation. It was, in part, our need to partake once again of excluded meaning and value--to *reenchant* our world--that motivated the development of humanistic and transpersonal psychologies.

To return briefly to William Blake's poetic mythology, Urizen is not alone. There are three other Zoas that complete Blake's "fourfold vision." In this, he anticipates the four psychological functions later elaborated by Carl Jung (1875-1961). Besides Urizen (intellect, reason), there are Tharmas (sensation, body), Luvah (love, passion, feeling, heart), and Urthona-Los (imagination, intuition, poetic genius). The offspring of these last three Zoas had been excluded from the science and mindset spawned by Urizen. Psychology's Fourth Force seeks to return them to the fold, through its holistic emphasis upon body, feeling, creative expression, and community, as well as upon intellect; and through encouraging us to reawaken to the possibilities of transcendence contained in humanity's spiritual traditions.

TOWARD AN EXTENDED SCIENCE

Transpersonal psychology has not been alone in urging for the re-incorporation of these ostracized human qualities into the research enterprise. Similar calls have been issuing from those with interests in the human sciences, the human services, feminine

science, and the natural sciences, as well as those who have been exploring the philosophical foundations of science itself.

The Human Sciences

Until recently, psychology was typically considered to be a *behavioral* science or a *social* science. This is a legacy of the positivist and behaviorist traditions, and it assumes that the methods of natural science are the only appropriate means of psychological inquiry. More recently, however, psychology has been viewed as part of a more general system of inquiry known as *human science* (see Polkinghorne, 1983). According to Polkinghorne:

> At the broadest level, the human sciences investigate all of the experiences, activities, constructs, and artifacts that would not now exist, or would not ever have existed, if human beings had not existed. Human phenomena constitute a milieu that consists of individual experience in an environment, and this environment is made up of social structures, values, language, physical objects, and such human constructions as buildings, highways, and automobiles. The object of human science is the elucidation and understanding of this world. Thus the object of inquiry is broad, and it includes the study of personal consciousness and experience, as well as social, political, and economic systems. But the context in which these activities and experiences are viewed is that of human achievement and construction. There is an essential link between the appearance of human beings and these expressions, and consequently the expressions--including personal consciousness--are viewed as human-related entities rather than as things in themselves. The human sciences explore the realm of the human. (p. 289)

To the behaviorists and positivists, it was possible to achieve certain knowledge, and the means of achieving this certainty was the following of the methods of natural science. The advocates of a human science, on the other hand, take a post-positivist position that absolute certainty is not possible. "'Knowledge' is fallible. It merely represents the best explanations available, and these are the explanations in which we trust enough to act." (Polkinghorne, 1983, p. 242) Knowledge claims that make convincing cases are provisionally accepted. Judgments of knowledge adequacy are based upon many considerations other than deductive logic and include, for Polkinghorne, "innate and universal reasonableness . . . trial and error learning . . . and the use of pluralistic epistemologies." (1993, p. 244). Methods that usefully contribute to acceptable knowledge claims include the traditional research methods, but include additional methods such as phenomenological inquiry, hermeneutic inquiry, and studies of intentional human action as well. No one method is more "correct" than any other. Methods are chosen which most adequately and satisfactorily address the needs and particular questions of the researcher.

> Human science should use those methods which provide the fullest answer possible to the questions asked about topics concerning the human realm and which produce knowledge claims whose defense before the community is convincing enough to bring about assent. This answer assumes that the community is committed to engagement in the argument without the restrictions imposed by a closed position. Members of the community are willing to be convinced if the argument for the knowledge claim is cogent. The argument is forceful if the methods and procedures used in the research have uncovered sufficient reliable indications that the knowledge claim is the best of the available alternatives. The argument is not called upon to produce an irrefutable claim to knowledge; it needs only to convince sufficiently to bring about belief in its understanding and a willingness to act on the basis of that belief. (Polkinghorne, 1983, p. 259)

One of the most important features of the "human realm" is *meaning*, and meaning is accessed through studies of human *expressions*, chiefly linguistic (but others as well). Thus, *narrative study* plays an important role in human science.

An Historical Excursion

It is interesting to note that the two aspects of psychology we have been discussing--the conventional "scientific" psychology and psychology as a human science--are current positions on two inquiry paths that have sources in the work of Wilhelm Wundt (1832-1920). You may recall learning, as I did, that Wundt is considered the "father" of psychology as a separate, unique discipline. This fatherhood dates from the establishment of Wundt's laboratory in his Psychological Institute in Leipzig, Germany, in 1879. According to the received story, Wundt firmly established psychology as an experimental discipline, based upon the methods of the natural sciences of his time, particularly physiology. This is the story taught to Introductory Psychology students and promulgated in the canonical *History of Experimental Psychology* authored by Harvard's Edwin G. Boring. What Boring does not say, and what psychology students seldom learn, is that, for Wundt, this type of psychology (which he himself called "physiological psychology") was only one of two equally important types of psychology. The other, which Wundt called "folk psychology" was as important or even more important than physiological psychology, and it complemented the latter through the study of the products of mental life including language, gestures, meaning, myth, and customs--in short, human culture. Folk psychology had its own distinctive subject matter and required its own methods; the natural science methods of physiological psychology simply would not do (see Danziger, 1979a; Leary, 1979; Polkinghorne, 1983). It appears that Boring and his followers re-wrote history to de-emphasize Wundt's intense interest in and support of the non-positivist parts of his psychology--parts that mirrored the *Geisteswissenschaften* of Wilhelm Dilthey (1883), with its emphasis upon understanding

(*verstehen*) as opposed to the complementary *Naturwissenschaften*, with its emphasis upon explanation (*erklären*).

It was the physiological/experimental/natural science stream that caught on and developed so strongly in *fin de siècle* and early 20th century America, unlike what happened on the Continent, which was much more hospitable, as it continues to be today, to the *understanding* stream of psychology (as evidenced in the flowering, in France, of such movements as phenomenology, existentialism, and hermeneutics). Kurt Danziger (1979b) gives an interesting interpretation of what happened in the United States: The natural science brand of psychology was simply more *pragmatic*.

> In the United States . . . psychologists had to justify themselves before a very different tribunal [than did the psychologists of Europe]. Control of university appointments, research funds, and professional opportunities was vested in the hands of either businessmen or their appointees, or politicians who represented their interests. If psychology was to emerge as a viable independent discipline, it would have to be in a form acceptable to these social forces. (pp. 35, 42)

Polkinghorne (1983) elaborates:

> What the sponsors of a research program wanted was the kind of information that might be useful in situations "where a group of people had the power to control the conditions under which others would have to act." The social environment of the United States was conducive to the development of research programs based on a methodology on which a promise could be given to answer the questions of the educational, industrial, marketing, and political enterprises. (p. 52)

The Human Services

Those involved in providing human services and who are interested in evaluating the effectiveness of these services have been questioning the assumptions underlying their assessment methodologies and the appropriateness of solely quantitative methods for assessing and evaluating.. There is a growing emphasis upon more naturalistic and qualitative methods within education, nursing, and the social services. For help in following these developments, the reader can consult the recent *Handbook of Qualitative Research* (Denzin & Lincoln, 1994), Monette, Sullivan & DeJong (1990), Morse (1991, 1992), and the vast number of books and journals (many of them published by Sage Publications) that are appearing almost daily to meet these new needs and interests.

The Feminist Critique

A growing literature has been addressing the manner in which feminine ways of being, knowing, and relating to the world have been systematically ignored, devalued, or excluded from the masculine, patriarchical science that developed in the seventeenth

century and continues to this day. Carolyn Merchant (1980), with exquisite scholarship, has traced the history of these trends; Lynn Nelson (1990) and Val Plumwood (1993) have supplemented this account. These authors, and others, reveal how the pro-masculine and contra-feminine features of classical science were, and are, encouraged by a mindset that privileges the control, domination, and mastery of nature through isolation, analysis, and rational thought over a complementary approach that would also value participation in and submission to nature, appreciation of nature's mystery, and letting nature speak to one's heart and body as well as to one's mind. Linda Shepherd (1993) indicates how a masculine science can be completed, improved, and enlivened by feminine qualities of feeling, receptivity, subjectivity, multiplicity, nurturing, cooperation, intuition, and relatedness. Many treatments of feminist research methods, findings, and theory now are available (e.g., Belenky, Clinchy, Goldberger, & Tarule, 1986; Bleier, 1986; Crawford & Gentry, 1989; Gergen, 1988; Gilligan, 1986; Harding, 1991; Hooks, 1984; Nielsen, 1990; Reinharz, 1992; Riger, 1992; White, 1991).

A masculine bias sometimes appears in unexpected places. Not long ago, a physicist, who is very much involved in parapsychological research, remarked to me that he was interested in and studied psychokinesis (mind-over-matter effects) because "psychokinesis is a masculine thing"; the complementary process, extrasensory perception (which includes telepathy, clairvoyance, and precognition), did not appeal to him because "that is something women do."

Questioning Science's Ontological and Epistemological Assumptions

A number of contemporary thinkers have been carefully examining, and challenging, the implicit philosophical assumptions underlying modern Western science; among these are Willis Harman (1991), Yvonna Lincoln & Egon Guba (1985), David Lorimer (1988), Huston Smith (1976, 1992) and the participants in two International Symposia (1990, 1992) held in Athens, Greece. The general conclusion of these thinkers is that the ontological and epistemological assumptions underlying conventional Western science (variously termed "orthodox," "separateness," "prevailing," or "positivist" science) are increasingly being called into question by new discoveries, and that there is a need to develop a new or extended science (variously termed "complementary," "wholeness," "alternative," or "naturalist" science) based upon complementary assumptions and axioms. In the interest of conciseness and brevity, I present tabular summaries of six views of the differences between the existing and proposed paradigms, based on slightly modified tables and information presented by the respective sources. Note the substantial overlap among the six views.

TABLE 1 Comparison of the Modern Western Mindset with its Logical Alternative

	Modern Western Mindset	*Logical Alternative*
Motivation:	Control	Participation
Epistemology:	Empiricism	Intuitive discernment
Ontology:	Naturalism	Transcendence
Resultant:	Alienation	Fulfillment

SOURCE: Smith (1992)

TABLE 2 Characteristics of Orthodox Science and the Proposed Complementary Science

ORTHODOX	*COMPLEMENTARY*
Reductionist/analytical	Integrative/synthetic
Objective	Participatory
Outer-oriented	Inner-oriented
Sensory/separative	Mystical/intuitive
Quantitative	Qualitative
Efficient causality	Final causality
Monocausal/monolevel	Multicausal/multilevel
Replicable/nomothetic	Unique/idiographic
Skeptical doubt	Open-minded clarity
Knowledge	Wisdom
Coercive law	Self-organizing order

SOURCE: Lorimer (1988)

TABLE 3 Contrasting Positivist and Naturalist Axioms

Axioms About	*Positivist Paradigm*	*Naturalist Paradigm*
The nature of reality:	Reality is single, tangible, and fragmentable.	Realities are multiple, constructed, and holistic.
The relationship of knower to the known:	Knower and known are independent, a dualism.	Knower and known are interactive, inseparable.
The possibility of generalization:	Time- and context-free generalizations (nomothetic statements) are possible.	Only time- and context-bound working hypotheses (idiographic statements) are possible.
The possibility of causal linkages:	There are real causes, temporally precedent to or simultaneous with their effects.	All entities are in a state of mutual simultaneous shaping, so that it is impossible to distinguish causes from effects.
The role of values:	Inquiry is value-free.	Inquiry is value-bound.

SOURCE: Lincoln & Guba (1985)

Whereas Lorimer (Table 2) views the two sciences as existing in a complementarity relationship, Harman (Table 4) includes "separateness science" as a special, limited case within an extended "wholeness" science--much as classical Newtonian physics could be considered a special, limited case within a more general relativity physics.

TABLE 4 Characteristics of Separateness Science and the Proposed Wholeness Science

Separateness Science	*Wholeness Science*
The universe is composed, ultimately, of fundamental particles and quanta which are separate from each other except insofar as there are specifiable connections such as fields.	The universe is a single whole within which every part is connected to every other part; this wholeness includes the physical world as well as all contents of consciousness.
A scientific explanation of a phenomenon (specifying its causes) consists in relating the phenomenon to more general and fundamental relationships or scientific laws; the ultimate explanation would be in terms of motions and interactions of the fundamental	Pragmatically useful scientific explanations enhance understandings of phenomena by relating them to other phenomena and relationships. Since things are so interconnected that a change in any one can affect all, any

particles and quanta involved.	accounting for cause is within a specific context for a specific purpose. The search for ultimate reductionistic cause is futile; there are not cause and effect but rather the evolution of a whole system. Order is observed in the physical world, but is never free from the possibility of "downward causation" from consciousness "down" to the physical.
All scientific knowledge is ultimately based on data (quantifiable information) which is obtained through the physical senses.	Reality is contacted through physical sense data, but also through being ourselves part of the oneness--through a deep intuitive inner knowing. Awareness includes (objective) sensation as well as (subjective) intuitive, aesthetic, spiritual, noetic, and mystical aspects.
The truest information about the objective reality is obtained through the observer being as detached as possible; the "observer effect" in any observation places an upper limit on such objectivity.	Understanding comes not from being detached, objective, analytical, coldly clinical, but rather from identifying with the observed, becoming one with it; objective knowledge leads to only partial understanding.
The universe is scientifically understood to be ultimately deterministic.	The concept of a completely deterministic universe (even in a quantum mechanical statistical sense) stems from the "separateness" assumption; there is no reason to expect it to be borne out in experience.
The material universe evolved to its present state from the "Big Bang" by random physical processes and, after the advent of life, mutation and natural selection; consciousness is a product of material evolution.	There is no a priori reason to assume that scientific laws are invariant; they too may be evolving. Hence, extrapolation to the "Big Bang" may be suspect. Consciousness may have evolved with or may have been prior to the material world.
There is no scientific evidence for anything in the universe resembling "purpose" "design" or teleology. What exists has survived through natural selection.	Since we humans are part of the whole, and experience "drives" or "urges" such as survival, belongingness, achievement and self-actualization, as well as "purpose" and "values", there is no a priori justification for assuming these are not characteristics of the whole. The universe may be genuinely telic.
The wide range of commonly experienced phenomena known as "meaningful coincidences" and "anomalous or paranormal phenomena", wherein two are more events appear meaningfully connected, but there is no discernible physical connection, must ultimately be shown either to have a physical connection or to be, in fact, merely coincidence.	"Meaningful coincidences" are not to be explained, but rather apparent separateness. The question is not "How can we explain apparent telepathic communication?" but rather "Why are our minds not cluttered by all that information in other minds?"; not "How can we explain apparent psychokinetic phenomena?" but rather "Why do our minds have such limited effects in the physical world?"
Non-normal states of consciousness, dissociation, etc. are phenomena that are to	The entire spectra of states of consciousness are of interest, including

be studied largely in the context of the pathological, and in terms of their effects on behavior.	religious and mystical experiences and experiences of "other dimensions of reality". Such experiences have been at the heart of all cultures, including our own. They have been among the main sources of the deepest value commitments; they may be an important investigative tool, a "window" to other dimensions of reality.
The explanations of ontogenesis, morphogenesis, regeneration and related biological phenomena are to be sought in terms of coded instructions in the genes and similar mechanisms.	The ultimate explanations of ontogenesis, morphogenesis, regeneration and related biological phenomena probably will turn out to include something in consciousness analogous to "image" or idea.

SOURCE: Harman (1991)

The following tabular summary (Table 5) represents the characteristics of the prevailing scientific paradigm and of a proposed alternative scientific paradigm, as viewed by the participants in an International Symposium on Science, Technology, and the Environment, held in Athens, Greece in 1990.

TABLE 5 Symposium Summary of the Prevailing and Alternative Scientific Paradigms

Prevailing Paradigm	*Alternative Paradigm*
Monolithic; "truth" viewed as universal and singular (i.e., "one truth"); denies the validity and value of alternative world views, value systems, methodologies	Pluralistic; "truth" is acknowledged to reflect the vantage point of the observer; open to alternative ways of knowing
Mechanistic, reductionistic, rationalistic; analytical atomism regarded as the only fully creditable approach	Balances mechanistic/reductionistic, rational approaches with organismic, holistic, intuitive, experimental ones
Fragmented/fragmenting	Interconnected/unifying
Objective; observer regarded as "detached"; subject/object dichotomized; dualistic	Interactive; scientist is both an observer and a participant
Cognitive; excludes and disparages emotions, feelings, passions; claims to be neutral and value-free; "hard" is superior to "soft"	Harmonizes and integrates feminine and masculine qualities; recognizes humanity as part of the natural world; "hard" and "soft" are equally acceptable
Aristotelian; categorical; dualistic; opposites imply right/wrong; conflict; antagonistic	Multiplex; complementary; both/and dialectical thinking; dynamic; "the opposite of a deep truth is another deep truth"
Argument; certainty; clarity	Co-operative dialogue; accepts uncertainty; tolerates ambiguity, fuzziness; process-oriented

Discontinuous; linear	Continuous; cyclical; helical
Closed, authoritarian, competitive	Open, dilectical, co-operative
Absolute ("right answer")	Perspectival; relative; multipartiality
Elitist; individualistic	Egalitarian; consensual
Secretive	Open
Arcane	Participatory
Hierarchical	Democratic (entails co-operative dialogue both across disciplines and between science and society)
Arrogant	Humble
Alienated/alienating	Liberating
Morally/ethically "neutral"; socio-culturally separate; "uninvolved"	Morally/ethically committed; involved
Jargon isolates "experts" from rest of society	Language and concepts generally accessible/comprehensible

SOURCE: 1990 Athens Report

Two years later, in early 1992, a Second International Symposium on Science and Consciousness was held in Athens to develop further the ideas that had arisen at the first Symposium. Some of the conclusions of this conference were later summarized and published by Nobel laureate Brian Josephson and biophysicist Beverly Rubik, both of whom had participated in the Symposium deliberations (see Table 6).

TABLE 6 Summary of Symposium Views on Consciousness and an Extended Science

- The study of consciousness should be concerned not just with definitions of consciousness but with descriptions of its mode of operation. The phenomena of consciousness should be studied in the aspect of subjectively lived experience rather than exclusively in terms of objective data (as is most often the case with cognitive psychology). As a result, an extension is needed in the concept of what constitutes science, defined as knowledge or the quest for knowledge.
- The extended science is envisioned as in principle a continuum of activity ranging from science as it is currently practised to the humanities and the arts, and possibly including insights that may be gained from spiritual or religious practices. It will explicitly include consciousness in its many dimensions, including creativity; the use of symbol, myth, and metaphor; the role of the feminine; the historical perspective; and cross-cultural aspects.
- There are many artificial dualities to be overcome by the extended science. These dualities or splits owe their origins both to contemporary science and to the dominant paradigm, and include those between ourselves and nature, mind and body, mind and matter, the feminine and the masculine, the observer and the observed, science and values, inductive vs. deductive logic, and philosophy and science. In particular, science cannot be divorced from philosophy, because one always brings some philosophy to bear in one's thinking.
- We need to move from the fragmentation that reductionism produces to principles of complementarity and integration, from 'either/or' to 'both/and' thinking. The conventional notion of causality as local and physical needs

to be broadened to take account of networks of causation, non-local interconnectedness, and correlations. The world has suffered from the conventional fragmentary approach, its integrity violated by considering only the parts and thus losing sight of the whole. Again, it must be recognised that no single language or approach can grasp the richness or elusiveness of nature; thus the new science should be open to new and multiple approaches.

- While science has conventionally been regarded as an objective endeavour leading to the truth about the nature of reality, we need to shift our thinking towards regarding its insights as being context dependent, and to recognising that all approaches to reality are relative. We need actively to address the limitations of scientific approaches, verification, and theories, and to find a place in our world view for personal knowledge gained through introspection. The importance of intuition as a contributing factor in the process by which knowledge advances needs to be fully acknowledged. Language can itself provide an effective means of exploring quasi-objectively what has previously been characterised as being purely subjective.

- The extended science will develop in its scope beyond the conventional framework to the qualitative attributes of being and feeling, and will stress the importance of both quality and quantity. The range of scientific information will expand to include the anecdotal and the more tenuous. Codification and other ways of utilising such information need to be developed. There is the recognition and the acceptance that insights of the extended science occupy a domain that falls in between ignorance and precise knowledge.

- A radically different attitude needs to be cultivated in the new science. The old humility (*humus* = the earth; hence humility = close to the earth), awe, wonder, and delight in the cosmos must be restored. These are critical to regaining a reverence for nature. It is felt that the attitude that predominates in science at present is arrogance, which has fostered dogmatism and scientism. In doing science, the prerequisite attitude involves letting the phenomena speak for themselves, rather than forcibly imposing one's hypotheses on the phenomena. The importance of the scientist's attitude towards his or her work, preconceptions, and deeper motivations must be stressed. Effects, however subtle, of the experimenter on the experiment are to be anticipated and must be examined; thus self-examination on the part of the experimenter must be included as part of the scientific process so as to make the processes of description more complete.

- There is a novel role for the scientific collective in the new science. A newly emergent group creativity, seemingly involving a 'group mind' that exhibits camaraderie and cooperativeness in regard to solving problems in addition to the creativity of the individual should be nurtured, recognising that the power of the harmonious group has been lost in contemporary Western society.

- Any studies on consciousness must acknowledge the inherent wholeness and unity of the body/mind, and equally avoid losing sight of the total person. The holistic point of view, contrasting with the admittedly highly successful alternative of assuming a Cartesian split and operating under largely reductionistic principles, seems essential in order to study consciousness in its full subtlety, and to explore its deep interrelationship with the realm of the physical.

- The foundations of contemporary science, and its limitations, should be taught to and understood by all scientific practitioners. While the uniqueness of both individuals and groups presents difficulties for formalising a science of consciousness, consciousness studies are to be regarded nonetheless as having equal status to the physical sciences.

- The new science, as science with both consciousness and conscience, will concern itself with the consequences of science to the individual, society, and the whole world: it is a science for the integrity of both people and planet that should be translatable into action. The potential value to life of the discipline as a whole should not be compromised by the pursuit of more limited goals. At a personal level, the new science should help people be able to comprehend themselves and their place in nature, facilitate the development of empathic processes which aid mutual understanding, and enhance the meaning of life for individuals and for society.

SOURCE: Josephson & Rubik (1992)

Other Realities, Other Ways of Knowing

Advocates of the six views just presented have alluded to "transcendence," "other dimensions of reality," and other ways of knowing. Let us look more carefully at these alternative ontologies and epistemologies. The modern Western mindset (to use Huston

Smith's term) recognizes but a single reality--the physical, material world. Knowledge about this world is obtained through the physical senses and through rational thought. There is an alternative view, however, prevalent in the folk psychologies of many lands, in the worldviews of many indigenous peoples, and in Eastern philosophies. This view also has a venerable history within Western thought, dating at least to the classical Greeks, greatly elaborated by Medieval and Renaissance thinkers, and re-discovered by more contemporary writers. The view is that reality is *multiple,* not single, and that there are multiple ways of accessing its different realms. Typically, the realms are considered to be graded or hierarchical in nature, possessing different degrees of ultimate reality and worth. Various metaphors are used by modern writers to describe these multiple realities: Arthur Lovejoy"s (1936) "great chain of being," E.F. Schumacher's (1977) "levels of being," Huston Smith's (1976) "levels or planes of reality," Ken Wilber's (1977) "spectrum of consciousness" with its various "levels" and "bands". Associated with each level, plane, or realm of being is a corresponding aspect of selfhood and means of experiencing that realm. The most common expressions of the latter are the modes of being and experiencing known as "body," "mind," "soul," and "spirit," and also identified as the "eye of the senses (eye of the flesh)," the "eye of the mind," and the "eye of the soul (eye of the heart)" (see Schumacher, 1977; Wilber, 1990).

The force of tradition would have us array the (typically) four ways of being and knowing as successive steps of a vertical stairway, ladder, or hierarchy. An alternative suggestion is that the four aspects are not "greater" or "less" than one another, but *different* from one another. A useful image here would be a horizontal wheel with four equal spokes radiating from a common central point--all necessary components or aspects of the whole wheel. Regardless of which image one prefers, there are important differences (and similarities) among the four steps, rungs, or spokes, and there are more or less "fitting" approaches to the four aspects of being. Within each of these, it can be supposed that there are some apprehensions and means of apprehending that are innately given, as well as others that acquire increasing refinement, acuity, and depth through development, spontaneous experiences, and deliberate training. Developing sufficient adequateness (*"adaequatio"*) of the means of apprehension, within any of the four domains, may depend upon the cultivation of an appropriate form of *attention.* Jacob Needleman (1975, 1990) has offered intriguing suggestions about the role of a special form of "attention of the heart" in opening one's spiritual eye or "growing one's soul."

Table 7 summarizes E.F. Schumacher's (1977) view of "the four great Levels of Being" (the four "kingdoms"), the qualities associated with each level, and the different scientific approaches appropriate to their investigation.

TABLE 7 Levels of Being and Approaches to their Investigation

Kingdoms	*Qualities*	*Scientific Approaches*
human	matter + life + consciousness + self-awareness	mind sciences, human sciences
animal	matter + life + consciousness	behavioral sciences
plant	matter + life	biological sciences
mineral	matter	physical sciences

After Schumacher (1977)

It is recognized that this is a relatively crude classification, that the category boundaries are sometimes fuzzy, and that there are hybrid disciplines that combine techniques from different categories (biophysics, biochemistry, psychophysiology, behavioral genetics, etc.). The point of Table 7 is simply to indicate that different qualities and phenomena emerge at the various levels, that each "higher" level includes but transcends the level(s) "below" it, and that the various approaches may be more or less appropriate to the objects of study at the different levels. For example, physical models would serve very well in describing the trajectory and acceleration of a person who has fallen from a flagpole; physical sciences are appropriate for descriptions of humans *qua* matter. On the other hand, physical models would not be very useful for learning how and why the person climbed the flagpole in the first place; here, psychological information and principles would be much more appropriate and informative.

Conventionally, higher levels are viewed not only as being composed of "elements" from lower levels (albeit arranged in more complex organizations), but also as being explainable only by events at lower levels (upward or reductionistic explanation). In the proposed extended science, however, a higher level is viewed as greater than the sum of the parts of its lower levels and cannot be completely "reduced" (either in composition/being or in explanation) to events at lower levels--there is an *emergence* of novel processes and principles. Further, causation is posited to operate in a *downward* as well as an upward direction (see Sperry, 1981, 1987, 1992). Under certain conditions, higher processes and principles may modulate or even supersede lower "laws"--as when expectancies based upon historical psychological experiences override present physical or physiological stimulation, or when paranormal knowing or influence functions independently of conventional space/time constraints.

The limitations of a strictly behavioristic form of psychology are now well recognized. It is to behaviorist B.F. Skinner's credit, however, that he showed how an effective science of functional relationships could be established at a behavioral level, without recourse to either higher psychological concepts or to lower physiological constructs. Skinner (1972) and his followers showed that it was possible to explain, predict, and control (hallmarks of "good science") behavioral reactions in terms of histories and schedules of reinforcement, all the while considering the organism as a "black box"--i.e., neither examining nor positing any physiological variables, nor needing to rely on any reductive assistance from "lower" physiological, chemical, or physical realms. Similar remarks can be made about the Pavlovian conditioning tradition, even though Pavlov (1927) and his fellow reflexologists believed they were doing "physiological" research. The reflexologists were really forging an early *behavioral* science: They worked with environmental stimuli and behavioral reactions and used physiological language and concepts only on an inferential basis to describe what they thought they were doing. Today, we can recognize the behavioristic framework as a limited one that does not do justice to the full range of human (or even animal) capabilities. At the same time, we can retain behaviorism's findings, its principles, its methodological advancements, and its demonstration that one can build a science at one level without resorting to the concepts or constructs of other levels. We can extend this lesson and suggest that it is possible to build an effective psychology without resorting to physiological constructs or explanations, and that it is possible to build an effective transpersonal psychology or spiritual science without resorting to conventional psychological constructs or explanations.

In the company of Plato, Plotinus, Hugh of St. Victor, Bonaventura, Frithjof Schuon, and Ken Wilber, we can conceive of the world as having three realms and of humanity as having three ways of apprehending these realms. Besides the mundane, material realm, which is apprehended through the physical senses (and which conventional science and the modern Western mindset take to be the whole of reality), there are also transcendent realms, accessed in other ways. Table 8 summarizes this tripartite view of reality.

TABLE 8 Ways of Being and Knowing

Hugh of St. Victor	*Bonaventura*	*Adaequatio / Access*		*Data / Domains*	
contemplatio	eye of contemplation	eye of the heart spirit, soul	gnosis	spiritual	knowledge of trans-cendental realities
meditatio	eye of reason	eye of the mind	reason	mental	philosophy, logic

					mind itself
cogitatio	eye of the flesh	eye of the body	sensation	sensory	external world of space, time, objects

After Schumacher (1977) and Wilber (1990)

Similar ternary views of reality are held by Lawrence Leshan (1974)--in his "sensory," "clairvoyant," and "transpsychic" realities--and by Elmer and Alyce Green (1977)--in their "personal," "extrapersonal," and "transpersonal" substances and experiences. Huston Smith (1976) adds an undifferentiated and essentially unknowable fourth realm ("the infinite") in his fourfold view of the world, with "terrestrial," "intermediate," "celestial," and "infinite" realms, corresponding to the quaternary aspects of selfhood--body, mind, soul, and spirit. Stanislav Grof (1975, 1985, 1988) has extended the number of realities and experiences even further--with his "biographical," "perinatal," and "transpersonal realms," each containing several sublevels. Pluralistic accounts of reality are found in many Eastern traditions and in the esoteric traditions of Western thought (e.g., the teachings of Gnosticism, Hermeticism, and the Kaballah).

The principles of emergence and of downward causation were mentioned above, in the context of familiar functions and scientific disciplines, so that the applicability of the principles would be readily seen. It is more interesting, and more relevant to our present aims, however, to apply these two principles to *transcendent and transpersonal realms*, in order to indicate that these can have reality, power, importance, laws of functioning, and explanatory usefulness of their own, without necessary reference to "lower" levels and principles. In fact, attempts to understand the nature of a given level of reality, or to understand what is possible or impossible at that level, by means of epistemological tools developed at, and appropriate to, another level can result only in incomplete understanding.

Serious misunderstandings, errors, and confusions can occur when one of the "eyes" attempts to usurp completely the domain of another "eye." The attempt will succeed only to the extent that there is substantial overlap between the two domains. Even then, the areas of non-overlap will remain unexplored. An example from the psychology of sensation and perception will be useful. One could attempt to understand vision using methods and concepts based exclusively upon audition. There are some overlaps between the two sensory and perceptual systems in terms of their underlying physiological "hardware" and "software." However, *one cannot truly know about vision until and unless one sees*. One's knowledge and experiences of hearing, however complete and rich those might be, are simply inadequate to the task.

The good news is that there *are* overlaps and isomorphisms among the various levels. What happens in one domain has concomitants and "reflections" in the other domains. In Figure 1, a Venn diagram is used to describe the sensory, mental, and spiritual realms, and the terms "natural science," "psychological science," and "spiritual science" are used to describe disciplined approaches to these three respective realms. Overlaps allow each approach to catch glimpses, shadows, reflections, and projections of other realms.

The methods of one approach may not reveal all, or even the most important, aspects of another realm; but, if they are properly used, they may give accurate accounts of the overlapping portion of the other realm. If we recognize and honor the limitations of an approach suitable to one realm, it may be used, incompletely yet validly, to help illuminate another realm. It is when we forget these limitations and attempt to over-extend any given approach that we introduce human distortions, incompletenesses, and improper interpretations and generalizations that can lead us astray. The thoughtful and mindful uses of all approaches can allow us to explore the various realms with minimal distortions and without destroying the soul of what we are seeking to study.

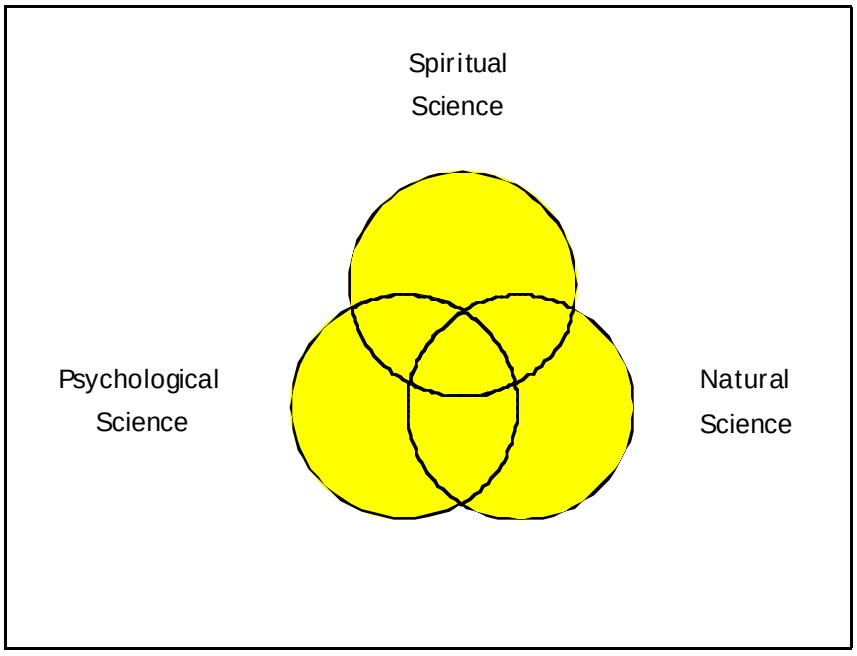

Figure 1 *Venn diagram showing possible areas of overlap and*

nonoverlap among three investigative domains.

Imagine a three-dimensional cube constructed of twelve sticks, and imagine a light source projecting the shadow of this cube frame onto a two-dimensional sheet of paper. Viewed only as a two-dimensional projection, the cube has lost its third dimension, and its reality has been "stepped down." Imagine, further, that the light source begins to move and that the cube begins to move and to rotate. The cube's two-dimensional projection will change dramatically. If one is limited to a study of the two-dimensional surface, what one can say about the cube itself will be limited and necessarily incomplete. The constantly changing, and sometimes apparently contradictory, patterns of the projections may lead to confusion and seeming paradoxes about the source of these shadows. To attempt to draw final conclusions about the nature of the cube from any one shadow-pattern would be unwise. To build up a conception of the cube gradually, and by considering all of the projections and their possible interrelationships, would provide a truer picture of the cube's nature. Although each projection is incomplete, it is nonetheless true to a particular aspect of the cube. Invariant relationships of aspects of the cube in three-space will be reflected in similarly invariant relationships within the two-space shadow projections. *The projections never tell us anything false about the cube.* Their lessons are merely incomplete and relative.

To return to Figure 1, at the intersection of psychological science and spiritual science, the mystics' attempts to communicate the nature of the Ineffable will necessarily be limited and incomplete, but never false. Similarly, the psychological and even the natural sciences may detect "fruits" of the spiritual realm--as when one finds cardiovascular correlates of spirituality and meaning and love (see Green & Shellenberger, 1994), or when one notes physical and psychological concomitants of intercessory prayer (see Braud, 1994; Byrd, 1988; Dossey, 1993; ÓLaoire, 1993).

There is a crucial factor that bears on the utility of using the methods of one realm to learn about another realm: How great is the degree of overlap between the two realms? If there is much overlap, one can learn much. If there is slight overlap, little will be learned. If there is minimal or no overlap, to paraphrase John Beloff (1990, p. 128), "one would be barking up the wrong tree and will never find what one is looking for, regardless of how long a ladder one uses."

AN INTEGRAL METHODOLOGY: ITS CHARACTERISTICS

Building upon what has gone before, it is now possible to describe a more complete and extensive methodology for transpersonal studies--one that would appear more worthy of its subject matter than have been its more limited predecessors. This *integral methodology* has five important features: (a) it recognizes and investigates *multiple realities*, (b) it acknowledges and incorporates *multiple ways of knowing*, (c) it emphasizes *wholeness* rather than separateness, (d) it values *balance* at many levels, and (e) it concerns itself with *values, meanings, and purposes.*

Pluralistic Ontology

The integral methodology recognizes multiple realities or realms of being and becoming--the ordinary and the extraordinary, the mundane and the transcendent. It accepts William James' definition of reality: "Anything is real of which we find ourselves obliged to take into account in any way" (James, 1911, p. 101). It acknowledges the truths discovered or constructed by the sciences, the humanities, the arts, and the spiritual traditions.

Pluralistic Epistemology

The integral methodology acknowledges and honors all ways of knowing. It includes and values what can be known through empirical observations, rational thought, inner experience, intuition, gnosis, mystical experience, and the entire range of what Rhea White (1993) has called "exceptional human experiences." The "empiricism" that the integral methodology embraces is an empiricism of the broadest possible form. "Empirical" is derived from the Greek *εμπειρικοσ,* which originally meant *deriving from experience.* Within the integral methodology, empirical means *experiential,* and it should never be confused with *experimental*. Its meaning is similar to that of the "radical empiricism," espoused by William James--one that excluded anything that was not directly experienced, but included *everything* that was directly experienced; it is a view of the world as pluralistic and of our knowledge as always approximate and tentative (see James 1956/1897, 1976/1912, 1977/1909).

The integral methodology recognizes methods for the expression of knowledge as these are found in the sciences, but also values artistic/aesthetic, literary/narrative, and symbolic/metaphorical expressions. It recognizes multiple perspectives: those of indigenous peoples, of other cultures, of the feminine as well as of the masculine.

Finally, it recognizes the importance of tacit knowledge, of unexpressed knowing, and of what can be known and gained through silence, imagination, and nondiscursive thought.

Holism/Interconnectedness

The integral methodology recognizes the holistic nature of the universe, the interconnectedness of all things. It recognizes the important interrelationships among the different facets of human beinghood--among body, mind, emotion, and spirit--as well as those among people and among all aspects of nature. Because of these interrelationships, causality is multifaceted and occurs in both "upward" and "downward" directions; within this causal nexus, consciousness is seen to play an active, influential role (see Braud, 1994a, 1994b). Indeed, if, as Lincoln and Guba (1985, p. 37) maintain, "All entities are in a state of mutual simultaneous shaping, so that it is impossible to distinguish causes from effect," it may not be inaccurate to affirm that cause and effect are one. Additionally, the investigator herself or himself is an integral part of any research enterprise, both influencing and being influenced by whatever is being studied.

Balance-seeking

Since both reality and the ways of knowing are pluralistic, with none privileged over any other, practioners of the integral methodology seek balances along as many dimensions as possible. They balance quantitative with qualitative approaches; they balance an interest in generic laws with an equal interest in the unique individual. They acknowledge both causal laws and acausal connectedness (the mutual arising of meaningfully connected events without any obvious, conventional causal linkages). They recognize the limits of knowing and thus maintain a balance of mastery and mystery, of familiarity and awe, of understanding and wonder, of the spontaneous and the deliberately planned, of effort and grace. There is an ability to live with the tension of these complements, as well as an ability to tolerate ambiguity. There is a balance of the old and the new. In many arenas of life and thought there is a privileging of the newest, latest happenings, discoveries, and thinking over older, "traditional" or "classical" views. This is, no doubt, related to a belief in and valuing of "progress"--a view that humankind and its knowings and productions are ever "evolving," ever growing bigger and better, with all that has come before as simply a preparation and foundational stepping stone for later improvements. Old truths are ignored and forgotten--so much so that if old tomes are retrieved, dusted off, and their contents repackaged with new names by new generations, the old, yet still valid, truths, in their new clothing, are again vigorously welcomed and received with a new (and short-lived) enthusiasm. The integral methodology attempts to avoid both a rigid traditionalism and a fickle faddishness by recognizing the value of both old and new views, findings, and approaches.

Concern with Values

The integral methodology does not disavow values, meanings, and purposes. It is concerned with goals and outcomes, and with possible applications and implications of its findings. It is recognized and expected that investigations have important impacts upon the research participants, the investigator, and society. Investigations may be accompanied by learning, insights, and experiences that may contribute to physical, psychological, and spiritual changes in the co-investigators. Practitioners of the integral methodology are prepared to experience possible *transformation* in the course of their investigations. Transformations may be required in order to participate fully in certain investigations, make certain types of observations, or acquire certain kinds of knowledge or experiences--i.e., *adaequatio* must be attained. It is expected that integral research can result not only in increments in knowledge, but in changes in *being* as well. More "local" changes of this sort may have additional clinical and spiritual impacts on the participants; more extensive changes could promote societal changes. Thus, a thoughtfully designed and mindfully executed integral research project can be, at once, a vehicle for increasing knowledge and expanding one's discipline, a series of therapeutic interactions, an agent for social action, and a step on one's spiritual path.

A FOUR-FOLD CLASSIFICATION OF TRADITIONAL METHODOLOGIES

Traditional research methodologies can be arrayed along a qualitative/ quantitative continuum. We recognize that there are no "pure" cases of the two extremes. This is because certain aspects of "number" (i.e., simple counting; judgments as to amount, degree, magnitude, extent) will enter into even the most "qualitative" methodology, and qualitative considerations (selections, rationales for choices, classifications, etc.) will be present in all "quantitative" endeavors. Nonetheless, the various traditional methods differ in the degree to which they emphasize the importance of quality and quantity, and in the ways in which they collect, treat, and make use of collected information.

The aims of the more quantitative methodologies are *explanation, prediction, and control.* Their approach is *nomothetic*--i.e., there is an interest in establishing general principles, relationships, and lawfulness. The more "universal" and abstract these laws, the better. The aim of the more qualitative methodologies is *understanding*, in the sense of completeness of description, fullness of personal experience and appreciation of what

is being described, a concern with meaning, and a real influence in the life of the investigator of what is being studied. The emphasis of qualitative methods is *idiographic*--there is great interest in the individual case, in the concrete, in the specific context of what is being observed or studied.

At an International Symposium on Science and Consciousness in Athens, Greece in January of 1992, I was one of approximately 80 delegates who were asked to ponder the question: "What is consciousness?" A "small voice" within me told me: "Consciousness is an experience; consciousness is a conceptualization; consciousness is a process; consciousness has 'fruits'." Since then, I have been applying this four-fold classification to many concepts in addition to consciousness. I have found these four aspects to be especially useful in understanding traditional methodologies and in organizing the kinds of questions and issues with which one is concerned in research endeavors.

Experience

In studying consciousness or any other phenomenon (e.g., the unitive experience, meditation, the out-of-body or near-death experience, recovering from childhood abuse, being an only child, biofeedback, challenges encountered in following a spiritual path), one might be interested *in the experience itself.* The aim would be to describe the experience as fully and as deeply as possible, to provide a "snapshot" of the experience that includes as many levels and aspects as possible--to provide a description that is so complete, “thick," rich, and meaningful that someone reading the description can come as close as possible to vicariously experiencing the phenomenon in question. The investigator has succeeded when a naive reader of his or her report can say, "Yes, now I know fully what it is like to have that experience." The methodologies that are best suited to addressing experiences *qua* experiences are the phenomenological method, the heuristic method, narrative and case history methods (when focused upon the narrator's experiences), and feminist approaches. These qualitative methods typically would employ depth interviews, but they could be augmented by questionnaires and even by surveys, if suitably designed. Each of these major methods will be treated in more detail below. Novels, poetry, the visual arts, music, and excerpts from journals, diaries, and accounts of spiritual experiences provide further illuminations of experiences.

Conceptualization

In addition to describing and fully appreciating and understanding an experience, one may wish to "explain" an experience. This would involve conceptualizing the

experience or phenomenon--placing it in a larger context and relating it to other factors. One could examine the phenomenon or experience historically, to learn how it came to emerge at a particular time and in a particular context of events. One could examine the phenomenon or experience theoretically, to find how it relates to other factors, how it participates in a more general nexus of influencing and influenced factors. Historical, theoretical, and textual reading methods (e.g., hermeneutics) would be appropriate here. Evelyn Underhill's (1911) classic study of the mystical experience is an excellent example of how historical and theoretical approaches can increase our understanding of an experience--in this case, the powerful unitive experience.

Process

In considering "process," we would be interested in how an experience or other phenomenon emerges, changes, or develops over time, how other factors set the stage for its occurrence, which other factors facilitate or inhibit its occurrence and influence its nature, and which other factors accompany or are correlated with the experience. Such approaches can help us understand, for example, the creative experience. What are the factors that facilitate or hinder creative expression? What other qualities accompany creativity? Are there stages of the creative process and, if so, what are they? Correlational, causal/comparative, and field study approaches are among the methods that are well-suited to the exploration of processes and their concomitants.

Outcome

What are the outcomes, consequences, side effects, and other "fruits" of an experience? Do particular outcomes follow from particular experiences? Are certain types of counseling or therapy really effective? For which sorts of persons are they most or least effective? What are the outcomes of particular forms of spiritual practice? For those seeking the least ambiguous answers to questions of this type, experimental, quasi-experimental, and single-subject approaches are useful. Action research appeals to those who wish their research to have immediate impacts, to yield outcomes that make a difference to individuals and society.

Table 9 summarizes the important features of the four-fold approach to research questions and the matching of methods to particular types of inquiry. The methods have been arrayed according to their fittingness or appropriateness for certain types of issues. Of course, many of the methods can be used in multiple ways and can be tailored to suit more than one type of question or concern. Thus, Table 9 is subject to flexible re-

arrangements and modifications; by no means is it intended to represent a rigid classification of approaches.

TABLE 9 Complementary Methodologies for Disciplined Inquiry

CONTINUUM			
qualitative -quantitative			
understand			explain predict control
Qualitative Methods		**Quantitative Methods**	
(understand)	(explain)	(predict)	(control)
experience	*conceptualization*	*process* *concomitants* *facilitators/* *inhibitors*	*outcome* *consequences* *"fruits"*
phenomenology **heuristic** **narrative** **case studies** **feminist approaches** **interviews** **questionnaires** **surveys**	**theoretical** **historical** **textual readings**	**correlational** **causal/comparative** **field studies**	**experimental** **quasi-experimental** **single-subject** **action research**

The four-fold classification of research questions and methods simply reflects a convenient division of the labor of research which accommodates investigators with different interests, temperaments, and skills. One may emphasize a given approach based upon the aspects of an issue that are of paramount concern, and also based upon one's strengths and weaknesses in working with the approaches. The methods may be used alone or in various combinations. Emphasizing a single method can concentrate an investigator's energies and facilitate depth of understanding. On the other hand, the use of several methods can yield a more extensive and more inclusive picture of the issue being explored and of reality. In the tale of the blind men and the elephant, each person reaches a different conclusion about the nature of the beast as a result of touching that is limited to only a part of the whole. [The Blind Men and the Elephant legend first appears in the Pali *Udana* section of the Buddhist *Tripitaka* (the *Three Baskets*), believed to have been compiled in the second century B.C.E. (see Davids, 1911; Meier, 1982).] So too, combinations of methods can result in less limited perspectives and a greater grasp of the whole picture. This is true, however, only if in using multiple approaches, one is actually

feeling the same elephant with the different methods. It is possible that certain aspects of a phenomenon do not yield readily to a given approach without appreciable distortion. In such cases, one might mistakenly think that findings from different methods are converging upon a single reality when, in fact, one is investigating different things or things that are only superficially related. Discernment, good judgment, and thoughtfulness are required. Additionally, use of multiple approaches can spread an investigator's energies more thinly and result in a diluted realization of what is accomplished through each of the individual methods.

The methods and the issues addressed are not as cleanly separable as Table 9 implies. For example, it was stated that the methods addressing *experience* are concerned with *meaning.* However, the meaning of *x* is also given by how *x* influences one's life, by what *x* leads one to do, and thus we are also in the realm of outcomes, consequences, and fruits (i.e., in column 4 of Table 9). Some of the entries could easily have been placed in other categories. For example, naturalistic observation is found in the third column, since it can capture the process and context aspects of events; however, it readily yields qualitative data and therefore could have been listed in the qualitative part of the Table. Similarly, questionnaires and surveys readily yield quantitative data, and could have been listed in the quantitative part of the Table. So the categories of Table 9 can be fluid--arbitrary, yet useful.

SOMETHING OLDE: CHOOSING AND USING TRADITIONAL METHODOLOGIES

The proposed integral methodology for transpersonal studies is pluralistic and inclusive. It encourages a balance, integration, and synergy of quantitative and qualitative methods, of old and new approaches to research. For certain purposes and for certain topics of study, the familiar traditional methodologies remain appropriate. For this reason, the traditional methods are summarized briefly in this section. It is not my aim to describe each method in detail. For more intensive treatments, the reader is referred elsewhere. Walter Borg and Meredith Gall's textbook, *Educational research: An introduction* (1989) provides thorough treatments of the quantitative methods and of many of the qualitative methods. For additional information on qualitative methods, the reader can consult Yvonna Lincoln and Egon Guba's *Naturalistic inquiry* (1985), Norman Denzin and Yvonna Lincoln's *Handbook of qualitative research* (1994), Donald Polkinghorne's *Methodology for the human sciences: Systems of inquiry* (1983) and *Narrative knowing and the human sciences* (1988), and Renata Tesch's *Qualitative research: Analysis types and software tools* (1990). For ease of presentation, the basic

features, strengths, and weaknesses of each method are presented in Table 10, along with examples of the possible use of each method in a transpersonal context.

TABLE 10 Eighteen Major Qualitative and Quantitative Traditional Research Methodologies for Possible Use in Transpersonal Studies

RESEARCH METHODOLOGIES

Field studies/naturalistic inquiry/naturalistic observation/participant observation

Essence:	unstructured observations under natural conditions
Strengths:	observe the "real thing" less distortion, less artificiality greater understanding of events, processes, contexts flexible sensitive to nuances can study more variables and over long time periods good for discovering something new, for surprises
Weaknesses:	less control may miss unobserved but possibly important factors inner world not visible (but accessible via interviews, etc.) subjectivity, observer bias being fooled going native
Illustration:	What can a method of participant observation reveal about the practices, changes, and transformations that occur in a graduate transpersonal psychology program devoted to whole-person learning and development and transformation?

Interview/questionnaire/survey methods

Essence:	participants give unstructured, semistructured, or structured self-reports of the absence, presence, or degree of various experiences, behaviors, attitudes, cognitions, emotions, feelings, etc.
Strengths:	can collect large amounts of data quickly and efficiently standardization interviewer can explain, probe, facilitate
Weaknesses:	measures are more superficial measures are more artificial can miss the (social) process interviewer may inhibit or bias
Illustration:	Can a valid and reliable assessment instrument be developed for the study of spiritual bondedness and exceptional love relationships (Young, 1992)

Phenomenological methods

Essence:	developing a complete, accurate, clear, and articulate description/understanding of a human experience (or experiential moment) by means of a special investigator approach, participant selection, solicitation of information, and assembling of interview components
Strengths:	describes human experiences and meanings

findings emerge, structure not imposed by an investigator
investigator "brackets" biases in order to minimize their influence

Weaknesses: can ignore process if orientated only toward the "moment"
conclusions dependent upon particular sample chosen
difficult to do well

Illustration: What is the decisional process of a woman trusting herself in making a spiritual commitment that is contrary to the wishes of a significant person in her life? (Andras, 1993)

Heuristic research (Moustakas)

Essence: developing a comprehensive, vivid, accurate, and essential depiction of an experience derived from one's own rigorous, exhaustive self-searching and from the explications of others; the topic is familiar and meaningful to the investigator, who totally and lengthily immerses self in the understanding process

Strengths: recognizes personal knowledge
a direct, intimate, inclusive awareness of the many aspects of an experience
total involvement of the researcher

Weaknesses: difficult, consuming, lengthy

Illustration: What can a heuristic research program teach us about the challenges and obstacles faced by one who has chosen a path toward spiritual enlightenment?

Case study/life history

Essence: a detailed examination of a single participant, group, or phenomenon

Strengths: studies the real thing
in-depth information from a small number of cases
ideal for study of unique events, persons or groups

Weaknesses: subjectivity
possible biased recall, observation, reporting
may or may not be generalizable

Illustration: How do exemplary aged women experience self-transcendence, spirituality, and meaning in their lives? (Gross, 1994)

Single subject designs

Essence: observing consequences of systematic introductions and withdrawals of interventions in a single participant or single group

Strengths: allows direct study of an individual case
experimental, rather than statistical, control
valuable for studies of behavior modification
useful when few participants are available
results are immediately obvious and compelling

Weaknesses: may or may not be generalizable
lengthy work with each participant or with sufficient participants

Illustration: Is it possible to apply behavioral principles of schedules of reinforcement as aids in one's spiritual work?

Feminist approaches

Essence: attempt to correct androcentric findings, methods, and scientific philosophy through the use of more feminine methods which stress relatedness, connectedness, nonseparation, participation

Strengths: a corrective for androcentrically biased methods, approaches, findings
emphasizes interdependence of investigator and participant
keeps present the historical and social backgrounds of researcher and participants
recognizes values within the research context
promotes egalitarian relationship between researcher and participants
reminds that many assumptions and methods of science are masculinely biased and ignore the equally important feminine qualities and approaches to knowing and understanding

Weaknesses: in an extreme form, can be as biased, incomplete, and unwise as an extreme androcentric approach
there are many confusions about and forms of the method/approach

Illustration: What are the challenges to and qualities of the individuation process in African American women? (Morrill, 1994)

Theoretical approach

Essence: development of higher level explanatory schemes

Strengths: allows explanation and prediction
allows development of testable hypotheses and encourages new research
inter-relates and integrates previously unrelated findings
highly valued by the scientific community
may identify underlying mechanisms
encourages feelings of understanding, closure, satisfaction, security

Weaknesses: may be self-consistent yet incorrect
may leave out important factors
difficult to do well
requires a vast store of information, creativity, critical thinking
may blind one to other, equally important alternative understandings

Illustration: Is there a psychospiritual moratorium in adulthood (a liminal period between adult egoic identity and a transpersonal, spiritual identity) analogous to the psychosexual moratorium of childhood and the psychosocial moratorium of adolescence? (Lehrman, 1992)

Historical approach

Essence: attempt to understand past events

Strengths: only way of studying what is no longer available
helps understand factors that contributed to past events
may illuminate present and future
may use knowledge of past mistakes to avoid them in future

Weaknesses: many conflicting interpretations are possible
not all important factors may be known or understood
historical data may be incomplete or conflicting
understanding of unique, unrepeating event may not be helpful in predicting or understanding subsequent events
difficult to do well; very time-consuming

Illustration: How has the metaphor of *light* been used in various spiritual traditions, and how might the concept be useful to those seeking spiritual growth and development?

Textual readings/conversational analysis/discourse analysis/sociolinguistics content analysis/hermeneutics/narrative approach

Essence: the study of the interpretation of texts; participant reports and recorded actions and social events and processes are viewed as texts in need of explication; telling, listening to, and interpreting "stories"

Strengths: meanings, power relations, etc. can emerge from careful analyses

Weaknesses: nonverbal factors may be missed
text is not pregiven, but emerges with investigator influence
text actors may not agree with derived interpretations

Illustration: What can the narrative approach teach us about the unitive or mystical experience?

Experimental designs

Essence: independent variables carefully manipulated in well-controlled situations; dependent variables carefully measured; extraneous factors eliminated; statistical analysis of outcomes

Strengths: great status in the scientific community
great knowledge of and control of variables
allows "causal" statements
good replicability (?)
good for demonstrating the existence of an effect or phenomenon in cases in which most artifacts/confounds are eliminated

Weaknesses: studied events are removed from natural, meaningful context
increased artificiality, superficiality
treating things in isolation loses context, complex interactions
important human processes cannot be readily reduced to experiments
problem in generalization to the real thing
limited when it comes to understanding how things really are or understanding real life processes

Illustration: Can reliable changes in anxiety, depression, and self-esteem levels be observed in practitioners and recipients of intercessory prayer? (ÓLaoire, 1992)

Quasi-experimental designs

Essence: same as above, but used when participants cannot be assigned randomly to conditions

Strengths: same as above

Weaknesses: must be much more careful in drawing conclusions about effects of variables since extraneous factors associated with non-randomized participants may exert great, but unknown, influences

Illustration: How are the self-esteem levels of adolescents influenced by film and literary modeling of values in a transpersonally-oriented high school curriculum? (Opitz, 1994)

Causal comparative studies

Essence: searching for other ("causal") differences among groups already known to differ in terms of some characteristic of interest

Strengths: statistical analysis possible
may uncover important factors that "cause" differences of interest
may be used for naturally occurring, already existing groups
may be used when actual manipulation of variables is not feasible

Weaknesses: not wise to conclude causality, since real "cause" may be among

unmeasured factors
lack of control; lack of knowledge of all important variables
rival hypotheses, extraneous factors more difficult to eliminate
can't deal well with complications caused by events being caused by more than one variable or through complex interactions of variables

Illustration: Do persons who now evidence either exceptional survival or only limited survival of childhood abuse differ in terms of the density of transpersonal practices (imagery, symbols, nonordinary consciousness) they have experienced, spontaneously or deliberately, in working with abuse issues? (Schellenberg, 1995)

Correlational approach (including multivariate methods)

Essence: determining which variables covary; measuring the degree to which two or more variables are interrelated.

Strengths: encourages looking at many variables and at the interrelationships among variables
direction and degree of covariation can be quantified
multivariate methods give better pictures, since they deal with a greater number of possibly important variables and their relationships
allows predictions to be made and verified

Weaknesses: difficult to conclude causality
complex activities, processes broken down into overly simple components
some artificiality in defining and measuring variables

Illustration: Can factor analytic procedures be used to verify nine distinctive attentional styles consistent with the nine types of the esoteric enneagram typology? (Brent, 1994)

Action research

Essence: research leading to social change

Strengths: can facilitate positive social change while allowing careful assessment of this change and of responsible factors at the same time
congruency of life aims and research: I study what I do, I do what I study

Weaknesses: investigator not neutral
greater logistical and administrative support required

Illustration: Which practices and principles are most and least effective in helping persons raise their consciousness with respect to issues of global ecology?

Meta-analytical procedures

Essence: quantitative analysis of findings of a body of similar studies

Strengths: can summarize findings of similar studies in a quantitative manner (unlike the usual literary or narrative literature review)
emphasizes effect sizes and their homogeneity (rather than levels of statistical significance)
by appropriate subgroupings of studies, moderator variables can be identified and their influence assessed
flaws in studies can be studied statistically
can estimate necessary "file drawer" studies needed to cancel obtained effects
Binomial effect size display (BESD): appealing data presentation

Weaknesses:	merely summarizes what has already been done summarized studies may have undetected weaknesses or flaws not surprising for small and possibly insignificant effects to accumulate to "significant" levels garbage in, garbage out; bundle of sticks analogy not always easy to interpret what is really the case can ignore important but "uncoded' factors can trivialize research and lead to false confidence of real or important effects required statistical information not always available in summarized studies
Illustration:	What can meta-analytical techniques teach us about the conditions under which laboratory forms of extrasensory perception and psychokinesis are most and least likely to occur?

Parapsychological assessments and design issues

Essence:	specialized methods for exploring exceptional human abilities such as telepathy, clairvoyance, precognition, psychokinesis
Strengths:	rule out artifacts such as sensory cues, rational inference, and chance coincidence useful for demonstrating the presence or existence of these phenomena in the absence of artifacts or confounds permit process studies: i.e., how these phenomena are related to other physical, physiological, psychological, social, spiritual factors appealing to the scientific community
Weaknesses:	artificiality; limits understanding of the real thing events robbed of natural context, meaning good for demonstrating existence of the processes, but much less useful for really learning about the processes plays down naturally occurring experiences forces phenomena into prestructured moulds laboratory designs not appealing to many practitioners field studies rich in unknown and difficult to assess/control factors: makes valid conclusions difficult
Illustration:	In what contexts do synchronicities or meaningful coincidences occur in everyday life, and can their incidence be influenced by means of an intentional "incubation" ritual intervention? (Escoffon, 1994)

Physiological and bio-medical assessments and design issues

Essence:	specific methods for measuring somatic concomitants or outcomes
Strengths:	objective, reliable measures and procedures highly valued by scientific and medical communities medical relevance
Weaknesses:	may emphasize physical/physiological processes at the expense of experiential, cognitive, emotional, behavioral processes what is the practical significance of obtained results?
Illustration:	What are the electroencephalographic and subjective concomitants of shamanic drumming? (Maxfield, 1991)

The last three entries of Table 10 are highlighted and given their own separate sections due to their unique methodological features. Meta-analysis is a special

quantitative method for summarizing large domains of already completed quantitative research and for conducting new analytical and integrative work using already existing findings. The findings that go into a meta-analysis may themselves have been generated using a wide range of quantitative techniques, such as correlational or causal-comparative methods. Statistical arguments are used to clarify areas clouded by ambiguous or inconsistent findings (e.g., whether psychotherapy is really effective) and to add conceptual order to seemingly chaotic sets of data. Useful summaries of meta-analysis may be found in Glass, McGaw & Smith (1981), Hedges & Olkin (1985), Wolf (1986), and Rosenthal (1991).

Parapsychological investigations may be carried out using any of the first fifteen qualitative and quantitative methods. However, parapsychological inquiry deserves its own section because of the special control and interpretative issues that are unique to this area. Discussion of such issues is beyond the scope of this paper but may be found in several useful sources, including Broughton (1991), Edge, Morris, Palmer, & Rush (1986), Krippner (1977-1990), Kurtz (1985), and Wolman (1977). Rhea White (1992) has provided an excellent review of twelve methods that can be applied in the study of spontaneously occurring parapsychological experiences. These methods include: the individual case approach, case collections, surveys, the cross-cultural approach, the longitudinal approach, the clinical approach, the psychological approach, the archetypal approach, the folklorist approach, the active imagination approach, the social constructionist approach, and the experience-centered approach. These overlap somewhat, but not completely, with many of the approaches listed in Table 10. White argues that the most promising of the approaches may be the ones that have been employed least often. The twelve methods suggested for the study of spontaneous parapsychological experiences also could be applied quite fruitfully to the study of other exceptional human experiences and to transpersonal topics in general.

The physiological and bio-medical approach is given its own section because it has its own special methodological requirements of facilities, expertise, equipment, technique, and analysis procedures. Useful resources for these methods include Sidowski (1966), Greenfield & Sternbach (1972), Prokasy & Raskin (1973), Martin & Venables (1980), and Ader (1981). These methods, of course, are most useful for exploring mind/body interactions and interconnections.

The eighteen methods given in Table 10 are well-established research approaches that may be used alone or in various combinations to explore a variety of transpersonal topics. However, to truly do justice to transpersonal issues, these methods are insufficient. It is necessary that they be extended and augmented in creative ways.

SOMETHING NEW: EXTENSIONS AND NOVEL APPROACHES TO TRANSPERSONAL STUDIES

An important aim of The Institute of Transpersonal Psychology (I.T.P.), in addition to providing high-level graduate training in transpersonal psychology, is to facilitate whole-person learning and development and to foster transformation in our students. To help us in this endeavor, we have developed a program that seeks to balance the academic, theoretical, and conceptual aspects of education with complementary nonverbal, experiential aspects. In addition to developing the intellect, we encourage attention to and development of other aspects of our being--our body, our emotions and feelings, our spiritual aspects, our relationships and community involvement, and our potentials for creative expression. Learning and development proceed, concurrently, along six fronts or dimensions of intellect, body, emotion, spirit, community, and creative expression. Our methods of research, however, have not yet been similarly balanced; they have been heavily weighted in favor of the verbal and of the linear, analytical, rational intellect. It would seem that, just as we can honor our other five, nonintellectual, aspects in our being and development, so too we can begin to introduce these other five facets into our research methodologies so that the latter might become more complete and more balanced, and reflect more adequately all aspects of ourselves and of our world.

The simplest way of introducing the additional five aspects (body, emotion, spirit, community, creative expression) is to include them as content areas to be studied in a traditional, intellectual manner. This easier path has in fact been chosen and explored by conventional methodologists. *Although the nonverbal and the nonintellectual has been addressed, among formal researchers it has been addressed, almost exclusively, through the vehicle of words and the obtained knowledge also has been expressed in a solely verbal manner.* We can conceive of a new and truly transpersonal methodology in which each of the six facets of body, emotion, intellect, spirit, community, and creative expression is addressed using appropriate observational methods, and the resultant knowledge is processed and expressed through means other than intellect (words) alone. Such a truly integral methodology would entail special training to detect, recognize, interpret, and report aspects of human functioning and being in nonverbal as well as verbal ways. For example, an interviewer would continue to report on a research participant's words using his or her own words. However, the interviewer would also be sensitive to the nonverbal behavior, metalanguage, emotion, spiritual development, community and relationship aspects, and creative expressions of the participant, using observational skills not only of words and of intellect, but also of body awareness,

emotion, intuition, and other nonverbal capacities. Measures of consistency and of requisite agreement could be developed to assure validity and reliability of these alternate ways of knowing and to guard against delusion and error. Corresponding facets also would have their places in the understanding, interpretation, and "processing" of the meaning of the findings, and in the expression and communication of the research findings. This is an extremely challenging enterprise, and it has not yet been realized at the level of formal academic research.

I believe this challenge *has* been met, however, in other contexts. Each of us meets it in our informal, everyday life experiences, in our personal and tacit ways of knowing, in our direct and indirect interactions with and communications with others and with the world at large. In our nocturnal dreams, each of us is a wizard in the art of nonverbal knowing and expression. In many other areas of our lives, we make effortless and accurate use of the nonverbal--creating and interpreting the meanings of symbols, both spontaneously and deliberately; knowing, making decisions, and taking actions based upon intuition; entering the lived worlds of others through empathy, sympathy, and love; responding with aesthetic appreciation, joy, awe, and tears of wonder-joy to the world's beauty, truth, and goodness; indicating our profound and extensive interconnections with one another and with all of nature through our psychic experiences; understanding and relating to ultimate values and realities, to the transcendent, in ways we call "spiritual". Some of us become specialists in the nonverbal and call ourselves artists and musicians. Others become technicians of the sacred and encourage and develop these skills in our spiritual and esoteric practices. Others emphasize body practices. Some, in whom the six facets are well-developed and well-balanced, are called individuated, creative, poets, shamans, sages, wise, whole. Those of us who are indigenous peoples have remained in more intimate contact with the nonverbal, have not yet overdeveloped intellect at the expense of other faculties, have remained more balanced. All of us, from time to time, leave behind our verbal, intellectual structures and filters and enter realms of exceptional human experiences and peak experiences about which words can merely hint. Those of us who dwell extensively in these realms are called mystics.

Some Initial Extensions

Each of us utilizes and integrates our six facets in the informal research endeavor we call "life". Such an accomplishment is both ordinary and extraordinary. Being mindful that we are already doing this informally can make us more confident that we also can do this successfully and fruitfully in our formal research efforts. In some contexts,

nonverbal, nonintellectual components are slowly being introduced into the formal research enterprise.

In-depth interviews, if sufficiently extensive and intensive, can elicit aspects of experience other than the merely verbal and intellectual. In phenomenological interviews, for example, the participant can be asked to relive an experience and to give as complete an account as possible of what is happening at various "levels"--describing bodily reactions, sensations, feelings, and emotions, as well as intellectual processes and content. The participant accesses her or his bodily, emotional, and intellectual reactions, processes, and contents, but then, since the interview is verbal, is forced to translate any nonverbal experiences into words so that they can be articulated to the interviewer. In requiring that nonverbal experiences be translated into words, much is gained and much is lost. The gains (in terms of additional types and qualities of information) can be maximized, and the losses (resulting from verbal filtering and possible distortions) can be minimized in two ways.

The first way is to help the interviewee experience the nonverbal as fully and as richly as possible and to express these nonverbal aspects in as many different ways as possible--*nonverbally* as well as verbally. A promising technique, for increasing the yield of nonverbal experience and expression, is the "re-enactment interviewing" procedure utilized by Drew (1993). Techniques borrowed from psychodrama (warming-up, scene-setting, and soliloquy) are used to help increase the reality, vividness, and richness of the experiences that are being studied. Re-living and acting out a specific instance of an experience, and verbalizing one's thoughts and feelings as the re-enactment occurs, allow both interviewee and interviewer to observe rich nonverbal accompaniments of the experience (e.g., physiological and motor indicators of emotion) that otherwise would be missed. In addition to using Drew's re-enactment method, other experience-enriching techniques can be employed. These could include: (a) using techniques of sensory restriction (e.g., the *Ganzfeld* procedure for creating a uniform visual and auditory field) to minimize environmental sensory/perceptual distractions, (b) reducing somatic distractions by means of initial relaxation- and quietude-inducing procedures (e.g., progressive relaxation, autogenic training, and other self-regulation exercises), (c) helping the interviewee attend to the appropriate aspects of the experience (using techniques of attention-training, concentration, and focusing), (d) facilitating a condition of passive volition and of effortless intentionality, free from effortful, egocentric striving, (e) encouraging an inward focus of awareness, (f) amplifying possible vehicles of internal and nonverbal information (via instructions, suggestion, and imagery-enhancing procedures), (g) facilitating memory retrieval (through associative and state-dependent or

state specific supports), (h) increasing motivation (through soliciting meaningful and important experiences), and (i) minimizing nonexpression or censorship (through appropriate instructions and by increasing the safety and security aspects of the set and setting). Hypnosis, waking suggestions, and guided imagery procedures could be used to enhance the realism and dimensionality of the nonverbal experiences that are to be remembered, relived, and expressed. Verbal expressions could be augmented by nonverbal expressions such as bodily changes, changes in voice quality, expressive movements, and creative expressions such as artwork, song, dance, and metaphorical productions.

The second way of maximizing gains and minimizing losses in studying the nonverbal expressions that are manifested during an intensive interview is to help the interviewer become more sensitive and attentive to nonverbal processes in himself or herself, as well as in the interviewee. Interviewers could be trained to detect increasingly subtle bodily and emotional indicators in the interviewee, especially when the expression of these indicators has already been amplified through the techniques just described. With appropriate modifications and tailoring, the same procedures used to help prepare the interviewee could also be used to prepare the interviewer to be maximally sensitive and responsive to the nonverbal processes taking place in the interviewee. In addition, the familiar "bracketing" process that phenomenological researchers use to minimize cognitive and belief-induced biases could be extended to include more subtle bodily, emotional, and perceptual structures and filters. Similar preparatory procedures could be used to help the interviewer become less distractible and more sensitive and attuned to everything that is happening in the interviewee. Various forms of mindfulness training and extensive practice in developing witness consciousness would help prepare the interviewer to observe and reflect the nonverbal processes of the interviewee with increased sensitivity, fidelity, and accuracy, and with decreased interviewer-induced additions, omissions, or distortions. The state of mind and state of being of the interviewer would, ideally, approximate that of a clinician who has mastered the art of "evenly hovering attention" which is described by Speeth (1982) and by Epstein (1984), and which was characterized and recommended long ago by such superficially dissimilar proponents as Buddhist meditation practitioners and Freudian psychoanalysts.

In addition, by means of establishing conducive states of body, emotion, and mind, and by appropriately deploying intention and attention, it may be possible for research participant and researcher to share a communion of mind, to dwell together in a Silence wherein each comes to know the other, intuitively and directly. In mundane terms, the research participant and researcher may share a subjective, telepathic

connectedness that could allow the direct accessing of information that cannot be expressed in more objective ways.

But the effective interviewer would be more than a clear and undistorting mirror, faithfully reflecting the gross and subtle verbal and nonverbal processes of the interviewee. As the feminists and the phenomenologists constantly remind us, the researcher and the participant, the interviewer and the interviewee constitute a dialogal, reflexive, synergistic, mutually interacting and mutually influencing system (a dyadic unity or unified dyad). For certain purposes, it is no longer useful to distinguish the two components of this system; each reflects, is reflected in, and participates in the processes of the other. I have been distinguishing the two out of habit, and as a convenience to communication. If we are to be true to the integral, transpersonal ontology and epistemology that we are developing and describing, we would treat the two as one and speak of ways of facilitating the occurrence, expression, detection, and reporting of both the verbal and the nonverbal aspects and processes of both interviewer and interviewee, the latter considered as an integral system or monad. Interviewer and interviewee--the one observes itself and the other, the one influences itself and the other. We distinguish the two only to put them back together later. We distinguish apparent components of a process--occurring, detecting, expressing, reporting, distorting--only to put *them* back together again. We distinguish aspects of functioning--body, emotion, intellect, spirit; the verbal and the nonverbal--only to re-combine them. Different, yet same. Same, yet different. The dance of complements. The appearance of contraries, of paradox.

> Paradox is simply the way nonduality looks to the mental level. In itself, Spirit is not paradoxical; strictly speaking it is not characterizable at all. Even to describe Spirit as hierarchical, manifesting in stages or levels, is already to have slipped into paradox. We may speak of Spirit in terms of layers, dimensions, levels, steps or grades, but even this notion of hierarchy is inaccurate--even hierarchy is illusion, or *maya* as the Hindus call it. Yet according to the wisdom traditions, it is only through understanding the hierarchical nature of this manifest world, or *samsara*, that we can, in fact, climb out of it. (Harman & DeQuincey, 1994, p. 45)

To return to the realm of duality, and continue the themes we have been developing, once we have facilitated the detection of both verbal and nonverbal processes in and by both the interviewer and interviewee, it is necessary for each to process that material and then report or express it in forms that ultimately can be communicated to and appreciated by the reader of a research report. In this culture, all of us have been overtrained to interpret, process, and report information verbally and intellectually. The typical research report (even that describing the most avant-gardist qualitative research) consists entirely of words; everything has been reduced to the realm of the verbal

intellect. The researcher uses words to describe, summarize, interpret, and report other words that the research participant used to describe, summarize, interpret, and report his or her own experiences. We are so accustomed to this mode of functioning that we will need assistance in learning to augment what we do with the nonverbal. It will be a challenge to remember how to respond to events in our research participants and in ourselves that are other than words, to remember how to find meanings wordlessly, to allow ourselves to express our knowing and our being through means other than words. But we can recall that we already do this in other areas of our lives, and these remembrances can help guide us in re-introducing the nonverbal and the not-solely-intellectual into our formal research programs.

There is magic in the nonverbal. This is indicated by the special effectiveness of nonverbal creative expressions (dreams, visions, body and movement work, art work) in facilitating personal and spiritual growth and development. It is indicated by the gains one can achieve through nonverbal experiential therapies that are not possible through more conventional talking cures. It seems that the experiential and the nonverbal can tap into and allow access to realms that cannot be readily addressed in verbal, intellectual means. It also seems that the nonverbal is able to cut through filters, defenses, and censorship structures that may themselves be primarily word-based. Hence, inclusion of the nonverbal, as an additional avenue for knowing, for processing, and for expressing, can greatly increase the yield of any investigation.

Following a model inspired by the I.T.P. six-facet program, in a very schematic format, a fully developed integral methodology would resemble the following: The researcher would observe her or his subject matter (typically, the experiences of another person) using six "eyes", would process, interpret, and come to understand this material using six "brains", then would communicate this understanding to others using six "mouths". The six methods of observing, understanding, and communicating would correspond to the bodily, the emotional, the intellectual, the spiritual, the communal or relational, and the creatively expressive. The consumer or recipient of the research findings would use the same six-fold processes for learning and appreciating what is being communicated, would elaborate it, and pass it on to others. A metaphor for this mode of research might be the following: An orchestra of synesthetic, empathic virtuosos plays intricate, inspired and inspiring themes and variations, using multi-sensory instruments rich in overtones and undertones; the composition is inspired by visions of the senses, of the heart, of the mind, of the soul, of the spirit. The themes and variations are resonantly and unerringly conveyed to a second, similar orchestra, which plays them flawlessly, then elaborates upon them, then conveys the new, more complete composition

to a third orchestra. The third repeats the process for a fourth, and so on. The music is rich and satisfying--a perfect blend of the familiar and the surprising--and a pleasant time is guaranteed for all.

Another Template for Extensions

Linguistic structure suggests a provisional template or model that may serve as a guide for the extension of existing methods along different dimensions. The English language sentence structure of *subject-verb-object* can guide methodological extensions in three directions. (a) *Subject* suggests that an old or new method can be applied or used by different individuals. Traditionally, a procedure is followed by the research participant. In addition, a research procedure could be followed by the *investigator*. It is even possible to supply special instructions to the reader of a research report so that certain aspects of a procedure can be carried out and results experienced by the *reader of the report*. (b) *Verb* suggests the *process* that is applied in a research endeavor. Different processes (ways of knowing) are implied in the previous discussion of six ways of "observing," "processing," and "expressing" information or appreciation of ourselves, others, and the world. Some of these acts are sensory processing, intellectual analysis, emotional responding, and intuitive functioning. The verb aspect of the linguistic template suggests augmenting these processes (by anyone involved in the research project). (c) *Object* suggests the different subject matters or aspects of reality to which investigatory processes could be directed or applied. Even very conventional methods could be applied to unconventional objects of knowledge. For example, methods of naturalistic observation could be directed toward possibly changing densities of spiritual experience among members of a particular community.

It is recognized that these three modes of extension are arbitrary and are suggested by what is itself a very limited and limiting format--the ordinary structure of English sentences. Thus, the extensions themselves are in the service of a *particular linguistic filter* of knowledge and experience. It is suggested because this linguistic template is a familiar and convenient one. Much of this paper is devoted to the limitations of sensory and linguistic modes of functioning and to ways in which these limitations might be superseded. The *subject-verb-object* extensions are interim strategies. They are merely transitional, and it is expected that they might soon give way to less limited and more appropriate approaches to understanding ourselves and the world.

Illustrations

A full realization of the integral methodology does not yet exist. However, we can already point to promising developments in its direction. Dorothy Ettling (1994a) conducted a study of the creative arts as a pathway to embodiment in the personal transformation process of women. Her methodology, which involved aspects of both phenomenological and feminist approaches, included in-depth interviews with nine women. Of interest here is that, in addition to the usual intellectual inductive analysis in which themes were extracted from the written interview transcripts, Dorothy added two nonverbal treatments of her data: emotional and intuitive appreciations of the material. Before reading the transcripts in an intellectual mode, she listened twice to the tape recorded interviews. First, she listened while in a meditative state, attending to the emotions that the tapes elicited within herself. She listened again, this time attending to the emotions expressed by the participants. She allowed her intuitive faculty to identify additional meanings in the material. Finally, she allowed nonverbal productions to arise, creatively expressing the women's stories in the forms of dance, drawings, sculptures, crying, and singing. She later described her process in these words:

> Combining processes of analysis that honored both intuitional and rational knowledge fostered the complementarity of the creative and the intellectual gifts in the participants and in myself. Merging phenomenology with a feminist analysis gave birth within me to a methodology that was both intellectually rigorous and creatively freeing. (Ettling, 1994b, p. 7)

In his dissertation work on the processes, challenges, and transformations that occur in persons as they progress in phases from a typical Western meat-based diet to ovo-lactate to vegan to vegetarian live food diets, Alzak Amlani (1995) is also including a novel, nonverbal treatment of his data. In addition to the usual rational thematic analysis, he listens to each taped interview while in a meditative state, attending to the imagery (visual, auditory, proprioceptive) that arises within him, and he describes that imagery along with its emotional and intuitive meanings.

The multimodal approaches of Ettling and of Amlani bring to mind the multiple approaches to scriptural reading advocated by the early Alexandrian Christian Neoplatonist Origen (185-254 C.E.). Origen held that scriptures could be read or appreciated in three ways: (a) for their literal or fleshly (*somatikos*) meaning, (b) for their intellectual, psychological, or moral (*psychikos*) meaning, and (c) for their spiritual, mystical, or pneumatic (*pneumatikos*) meaning. These correspond nicely with the modes of knowing of the three "eyes" mentioned earlier. To Origen, reading with the fleshly eye was the least important approach to the scriptures, whereas understanding scriptural truths via the spiritual eye was the most important approach. The latter could be aided by

allegorical interpretations of the scriptures (see Latourette, 1975; Nigg, 1962; Temple, 1990).

In her dissertation research on the experience, accompaniments, and self-perceived impacts of a program involving nonverbal dreamwork, Nancy Fagen (1995) is using an unusually well-balanced methodology in which standardized assessments, unstructured interviews, and specially designed questionnaires are augmented by a novel method of data collection and presentation. Since she is interested in studying what happens when participants engage in uninterpreted, nonverbal dream work, she asks each of her participants to incubate a special dream, during the last week of her study, asking the dream itself to comment upon the intervention process using its own voice. In a final section of her dissertation, she will present a selection of such dreams, without any interpretations on her part, so that they might speak more directly to the reader, conveying an aspect of the process other than that conveyed by rational discourse.

An additional extension of research "reporting" through inclusion of the nonverbal has not yet, to my knowledge, been formally tried or proposed. This would involve the deliberate employment of intention in order to invest one's research report with a capability of directly communicating additional content to the reader--nonverbally and "psychically." In principle, this should be possible. I am aware of a number of consistent anecdotes that indicate that this is already taking place, albeit, probably, in an informal, unconscious manner, rather than as a result of a deliberate aim or procedure.

Additional Research Directions

In addition to those already mentioned, we can consider the following additional directions in which we can extend and expand our research endeavors:

- Everyone involved in a research project (the researcher, the participant, and both acting together) can set special intentions (and perhaps even ritualize these at the beginning of the research project) for the "right" persons to appear in one's sample, for them to be able to express the most useful material relevant to the topic being studied, and for the researcher to be able to receive and express new learnings in the most useful ways--ways useful to the participants, to the researcher, to the future readers of the research report, and to the field as a whole.

- We can add nonverbal modes of knowing and expression to our research projects and to the communication of our findings.

- We can add creative expression modes to the productions of the participants and of the report writers.
- We can add additional emotional and intuitive objects, processes, and expressions to our research.
- We can add considerations of imagery, symbology, metaphor, and mythic and archetypal content to our research.
- In our exploration of research topics, we can introduce alternative states of consciousness in the participants and in the researcher.
- We can deliberately attempt to "break set" in various ways, so that we may see our subject matter with fresh eyes. (I am indebted to my colleague Rosemarie Anderson, Ph.D., for this suggestion.).
- We can allow for, encourage, and study the transformative possibilities of a research project for both participants and researcher.
- A researcher/participant interactive session can be, simultaneously, an occasion for disciplined inquiry that can expand the knowledge base of our field, a clinical application in which important personal issues can be clarified and assimilated by the participant, and an opportunity for psychospiritual development and transformation in both researcher and participant.

Developing, testing, extending, and publicizing these and other new aspects of a more complete methodology can help in building an integral approach that can serve transpersonal studies more appropriately and also serve as a template or model for fostering the developing "new science."

A Bolder Step

Emotional, intuitive, and nonverbal expressive aspects can be added in greater density to ongoing research projects to make them more complete, more balanced, and more likely to tap all dimensions of what is being studied. But one can take a bolder step, as well, in the direction of a truly transpersonal methodology. Such a step would involve paying full attention to *what is known directly by the eye of the spirit*; and this type of knowing would seem to require a change or transformation in the investigator's very

being. It would require that the investigator *become* what is being studied, and to know it as *subject* rather than as object.

Evelyn Underhill (1915) gives this advice:

> We know a thing only by uniting with it; by assimilating it; by interpenetration of it and ourselves. . . . Wisdom is the fruit of communion; ignorance the inevitable portion of those who "keep themselves to themselves," and stand apart, judging, analyzing the things which they have never truly known. (p. 4)

Much earlier, in Patanjali's expositions of the *Yoga Sutras* (as interpreted by Taimni, 1975), we find the following:

> From the practice of the component exercises of *Yoga*, on the destruction of impurity, arises spiritual illumination which develops into awareness of Reality. (p. 203)
>
> Concentration [*Dharana*] is the confining of the mind within a limited mental area (object of concentration). (p. 275)
>
> Uninterrupted flow (of the mind) towards the object (chosen for meditation) is contemplation [*Dhyana*]. (p. 278)
>
> The same (contemplation) when there is consciousness only of the object of meditation and not of itself (the mind) is *Samadhi* [absorption]. (p. 281)
>
> The three taken together constitute *Samyama.* (p. 286)
>
> By mastering it (*Samyama*) the light of the higher consciousness. (p. 287)
>
> The substratum [*Dharmi*] is that in which the properties--latent, active or unmanifest--inhere. (p. 304)
>
> By performing *Samyama* on the three kinds of transformations (*Nirodha, Samadhi* and *Ekagrata*) knowledge of the past and the future. (p. 307)
>
> The sound, the meaning (behind it) and the idea (which is present in the mind at the time) are present together in a confused state. By performing *Samyama* (on the sound) they are resolved and there arises comprehension of the meaning of sounds uttered by any living being. (p. 315)
>
> By direct perceptions of the impressions a knowledge of the previous birth. (p. 316)
>
> (By direct perception through *Samyama*) of the image occupying the mind, knowledge of the mind of others. (p. 317)
>
> (By performing *Samyama*) on friendliness etc. (comes) strength (of the quality). (p. 322)
>
> Knowledge of the small, the hidden or the distant by directing the light of superphysical faculty. (p. 324)
>
> Knowledge of the Solar system by performing *Samyama* on the Sun. (p. 326)

(By performing *Samyama*) on the pole-star knowledge of their movements. (p. 329)

(By performing *Samyama)* on the naval centre knowledge of the organization of the body. (p. 330)

(By performing *Samyama* on) the light under the crown of the head vision of perfected Beings. (p. 333)

(Knowledge of) everything from intuition. (p. 334)

(By performing *Samyama*) on the heart, awareness of the nature of the mind. (p. 335)

By performing *Samyama* on the relation between *Akasa* and the ear superphysical hearing. (p. 347)

The power of contacting the state of consciousness which is outside the intellect and is therefore inconceivable is called *Maha-Videha*. From it is destroyed the covering of light. (p. 350)

Mastery over the sense-organs by performing *Samyama* on their power of cognition, real nature, egoism, all-pervasivness and functions. (p. 359)

Thence, instantaneous cognition without the use of any vehicle and complete mastery of *Pradhana*. (p. 361)

Only from the awareness of the distinction between *Sattva* and *Purusa* arise supremacy over all states and forms of existence (omnipotence) and knowledge of everything (omniscience). (p. 364)

By non-attachment even to that, on the very seed of bondage being destroyed, follows *Kaivalya* [liberation]. (p. 365)

Knowledge born of awareness of Reality [*Vivekajam-Jnanam*] by performing *Samyama* on moment and (the process of) its succession. (p. 368)

From it (*Vivekajam-Jnanam*) knowledge of distinction between similars which cannot be distinguished by class, characteristic or position. (p. 369)

The highest knowledge born of the awareness of reality is transcendent, includes the cognition of all objects simultaneously, pertains to all objects and processes whatsoever in the past, present and future and also transcends the World Process (p. 371)

Knowledge of its own nature through self-cognition (is obtained) when consciousness assumes that form in which it does not pass from place to place. (p. 420)

In Patanjali's *Sutras,* we find promises that different types of *direct knowing* can be achieved through the concentration, contemplation, and absorption of attention, consciousness, and awareness upon different "objects." We might consider such direct knowing as seeing directly with the *eye of the heart* or the *eye of the spirit*. One knows directly by merging or becoming one with the object of one's intentionality. Although such an idea is common within indigenous peoples, spiritual and mystical traditions,

esoteric traditions, and Eastern traditions, it is alien to Western epistemologies that are based solely upon sensation (the *eye of the flesh*) and reason (the *eye of the mind*). Even such an unusual way of knowing can be included as yet another component of an integral methodology. We could treat it according to the familiar verification procedures mentioned on page 3 of this paper. The *instrumental injunction* would be: If you wish to know *x*, attend fully to *x* (perform *Samyama* upon *x*), become *x*. The *intuitive apprehension* would be the immediate experience or immediate knowing that co-arises. The *communal confirmation* would involve looking for overlap or consensus among the experiences and expressions of several persons who have practiced the first two steps in the same way and with the same aims. This is not unlike the doing of *state-specific science* in the manner outlined by Charles Tart (1972).

An Illustration of Direct Knowing Through Samyama

In principle, *Samyama* (fullness of attention to the point of becoming one with the object of the attention or intention) could be applied for purposes of acquiring direct knowledge of anything (and direct influence of anything, since knowing and influencing are complementary and inseparable aspects of the same process of direct interaction). Lawrence LeShan (1974), although not using this *Samyama* terminology, has suggested using such a process for purposes of remote healing. The healer, with loving intent, becomes one or merges with the healee. A form of *Samyama* may be involved in some aspects of biofeedback work, physiological self-regulation, psychoneuroimmunology practices, and imagery work. Through the focusing of a high density of intention and attention upon particular systems within the body, corresponding densities of information about these systems and influence of these systems might result. The practitioner may clothe *Samyama* in garments of imagery or, alternatively, may use naked intentionality in focusing attention upon appropriate objects. *Samyama* may be used informally by participants in parapsychology experiments who are asked to obtain direct knowledge of remote, conventionally inaccessible sensory objects (e.g.,a randomly selected object hidden in a box a kilometer away). *Samyama* could conceivably be employed to augment the investigator's knowledge and understanding of any participant experience being investigated in any research project.

I will outline briefly one particular example of how *Samyama* might be used, in a parapsychological context, to study what I termed *nonevident psi* in an earlier publication (Braud, 1982; see also Poynton, 1983). "Psi" is a term parapsychologists use to refer to any instance of extrasensory perception (ESP) or psychokinesis (PK). It seems appropriate to consider extrasensory perception (i.e., telepathy, clairvoyance,

precognition) as a form of *direct knowing* and psychokinesis as a form of *direct mental influence or interaction*. It has always struck me as curious that parapsychologists generally have limited their psi investigations to learning how the psychic process can mimic the sensory process--how the *eye of the spirit* can mimic the *eye of the flesh*. We ask our research participants to reach across space or time, mentally encounter a target object or picture, and describe that target in formal sensory terms, just as though one is viewing it with one's physical eyes or touching it with one's physical fingers. It is of great interest that the mind can perform such feats, often with great accuracy and attention to detail. The *misses* are just as interesting, for they suggest much about what is actually involved in psi functioning; but this consideration is beyond the scope of this paper. The findings of countless successful ESP experiments clearly demonstrate that psi can, on occasion, duplicate some aspects of sensory functioning. It is even easy to understand why investigators have limited themselves almost exclusively to studying such things: It is very easy to verify accurate psi functioning when sensory qualities are involved. If someone paranormally perceives that a target safe contains a light, rough, yellow star, one can open the safe and readily score a "hit" (an accurate response) if the safe indeed contains a yellowish starfish and readily score a "miss" (inaccurate response) if the safe contains a heavy, smooth, purple rubber snake. However, I believe the ease of scoring accuracy in such contexts, and the general success of such experiments, has distracted experimental parapsychologists from studying other, and possibly even more interesting and enlightening, aspects of psi functioning. Is duplicating physical vision the main function of psi? Even in the most common, naturally occurring instances of spontaneous psi--e.g., cases of crisis telepathy--there are strong hints that duplicating sensory impressions is *not* what psi most frequently or most effortlessly does. Why would Nature have redundantly given us psychic "senses" that merely or mainly duplicated our physical senses? In the 1982 paper, I argued that perhaps what psi does best is let us know things about objects, persons, or events that are *not* immediately obvious to the conventional senses (hence the term *nonevident psi*). If I open a box that previously contained a hidden object, the formal characteristics of the object (its appearance, color, shape, texture, temperature, weight) are immediately evident to the senses. Why should our "second sight" provide us with merely more of the same kind of information? What are the qualities or features of an object that are not immediately obvious to the senses? Some of these nonevident qualities involve the object's *relationships* to other objects, people or events, its prior associations, its past history and future possibilities, its meaning, its purpose, its uses, greater systems of which it is a part--in short, its past, present, and future interconnections with other objects, persons, or events. Perhaps our faculty of psi

is adapted to providing just this kind of "information"--information that is *contextual*, that cannot be immediately perceived or rationally deduced by considering the object in isolation.

Perhaps *Samyama*, focused upon certain objects by groups of investigators having the same intentions, could tell us something about the nonevident characteristics, contexts, relationships, and meanings of common objects and could thus provide a means of systematically studying nonevident psi. Objects having rich and different "nonevident aspects" could be randomly selected from a large pool of such objects. Initially, objects having interesting and unusual features could be used--e.g., fragments of meteorites, stones bearing cuneiform inscriptions of an ancient civilization, a piece of moon rock, a hair from a quintuplet. The objects could be presented one-by-one, in hidden form, to several research participants who would focus attention and intention (*Samyama*-like techniques) either upon the hidden objects themselves or upon specific nonevident features that they hoped to learn about through direct knowing (e.g., histories of objects, emotions that tend to be elicited by the objects, meanings or uses of the objects). The participants, in turn, would attempt to become one with the object (or with the type of sought knowledge), and would observe, remember, and report their experiences as fully as possible. Nonverbal expressive indicators could be added to their verbal reports (e.g., songs, artistic productions, movements). Overlaps and differences in the impressions and productions of the various participants could be examined. Consensus or near-consensus among many participants (provided such consensus could not be accounted for by other means) could suggest real and consistently detectable but nonevident characteristics of the objects; the reports could provide indications of how the objects appear in psychic space, so to speak, and these "appearances" could be quite unlike the objects' physical appearances.

Of course, *Samyama* could be directed to objects of attention other than physical objects--e.g., to other persons, to experiences, to dynamic processes, to future possibilities and to historical events. Similar procedures could be used in many other, nonpsychic, research contexts. This research strategy would be especially promising and helpful in investigating transpersonal topics that are not tied very closely to readily measurable physical characteristics. In fact, the procedure, sufficiently elaborated and extended, seems made to order for transpersonal studies.

An intriguing modern exploration of the use of *Samyama* for purposes of direct knowing has been carried out by Jonathan Shear (1981). Persons skilled in meditation recorded their impressions after having performed *Samyama* on the Pole Star. Participants reported provocative accounts of umbrella-like star structures and

movements, along with experiences of specific colors and sounds. Shear describes some of these impressions, which he suggests are consistent among themselves and also consistent with older, historical accounts related to the Pole Star. He suggests that *Samyama* may be used to reveal archetypal structures within the human mind. Additional parallels between the observations of Shear's research participants and those of diverse traditions may be found in Powell (1982).

On the Trustworthiness of Findings

Proponents of quantitative methodologies are deeply concerned about issues of validity (internal validity) and reliability or generalizability (external validity). This is largely in the service of their interest in nomothetic aspects of research--in discovering general, universally applicable laws or principles. The nomothetic interest is, in turn, in the service of motives of explanation, prediction, and control. There is a great emphasis, therefore, upon procedures that facilitate the discovery of general laws--procedures such as random and representative sampling of participants, employing large sample sizes, minimizing investigator involvement, minimizing subjectivity, maximizing objectivity, etc. Certainty is privileged above all else; ambiguity is to be scrupulously avoided.

Proponents of qualitative methodologies are just as alert to the possibility of error, excessive subjectivism, and delusion as are quantitative methodologists. They have developed safeguards against error in the form of methods of establishing "trustworthiness," which include credibility, transferability, dependability, and confirmability (see Lincoln & Guba, 1985). However, the "culprits" for advocates of qualitative methods differ from those of quantitative methodologists. The qualitative advocate is concerned with being true to the experiences of individual participants and true to the complexity of interacting factors that provide the dynamic context that is the individual's lived world. Understanding of the individual case is as important as, or more important than, being able to predict, or control. Because of this idiographic emphasis, there is less concern about random sampling, employing large sample sizes, etc. In fact, since the aim is a full and deep understanding of characteristic *x* of an individual, there is *purposive*, rather than random or representative, sampling of a small number of individuals most likely to possess a great density of characteristic *x*. There is less concern about certainty and a greater tolerance of ambiguity.

There are certain interesting paradoxes that arise in considering these two complementary approaches to research, which I have described elsewhere.

> According to our common way of looking at things, one person's experiences or conclusions are not terribly interesting. Only when several persons report similar

> experiences and come up with similar conclusions (i.e., when some form of consensus is reached) do we begin to pay attention. This is a reasonable position, for consistent repetitions do provide an air of generality and validity to any finding or conceptualization. So it would be good to encourage many investigators to observe, think about, and report their personal psi experiences and other exceptional experiences. But notice that this mode of thinking is an imperative of the conventional paradigm, which seeks general laws and assumes an underlying absolute reality that can be progressively discovered through independent replications. Reality is not viewed this way within the developing new paradigm, where there is just as much interest and value in individual experiences and in context-dependent occurrences (an idiographic emphasis) as there is in general laws (a nomothetic emphasis). And, because the qualities and needs of different individuals, experimenters, or contexts can interact so fully with what is observed (the term "constructed" would be used for these observations, rather than "discovered"), one would expect a high incidence of unique experiences and outcomes and "non-replications" to emerge from many repetition attempts. But, paradoxically, in the new paradigm, since there are many interconnections, the world would be expected to display considerable holographic properties. Observations made in one domain would be expected to be mirrored by observations in other domains. The results of studying one small sample of experiences would be expected to reflect those of many other small samples. This is good news to advocates of an experience-centered approach, for it suggests that representative sampling may not be as critical as previously thought. (Braud, 1994c, p. 304-305).

As further aids for determining the trustworthiness of one's findings and conclusions, Willis Harman (1992) has offered three tests of discernment beyond the ones we have discussed thus far: (a) one can check one's knowledge, findings, and conclusions against those of others through the ages (i.e., compare it against a long-enduring *tradition*) (b) one can ask how would the world be if everyone in the world behaved in accord with one's findings (i.e., what would be the *fruits* of such knowledge?), and (c) one can look for an internal feeling of certainty, a *noetic, intuitive,* and persistent feeling that one's knowledge is true.

Research as a Transformational Opportunity

Within the integral methodology, there is a concern with values, meanings, and purposes. One place in which these play a role is the possible (nay, the expected) changes or transformations in both research participant and researcher that can occur during the course of the research project itself. Because of the active and intensely conscious participation of both persons, with neither having hidden agendas, both researcher and research participant are likely, during individual research sessions and over the course of the entire research project, to experience insights and new assimilations of experiences and knowledge that can contribute importantly to healing, growth, transformation and wholeness. The research project itself becomes an opportunity for personal growth and

transformation. In this respect, a research session is not unlike an effective therapy session for both researcher and participant. This is well recognized by qualitative researchers, especially by those who follow a feminist approach, who formally follow-up their research with subsequent interviews in which they deliberately explore with their participants possible effects, impacts, and fruits of having participated in the research project. They also assess the impacts of the research upon themselves. Both of these assessments are included as part of the overall research report. This concern with outcomes and consequences is an important feature of the integral methodology. In this respect, each and every research endeavor can be viewed as an action research project and as an intervention study. One becomes what one studies, and one studies what one becomes.

Reflections and Progressions

Through the years, many observations have led me to suspect that as researchers, we choose research topics that allow us to study our own issues. Perhaps the stance of disciplined inquiry allows us to approach these personal issues with sufficient distance and objectivity so that we can learn about them without being overwhelmed by what we learn.

There appears also to be a parallelism between the research methods we favor and our current, general stance toward self and the world. I have observed, for example, investigators who seem to have become less driven by needs of control and of certitude, less doubting in their approach to findings, less insecure, less interested in power and in magic, less seeking in an effortful, striving way, and less interested in proving things or even in seeking knowledge or knowing. These characteristics have gradually been replaced by a preference to let things be, by a greater tolerance of uncertainty and ambiguity, by a stance more of faith than of doubt and skepticism, by greater feelings of security, by a greater appreciation of mystery and of the mystical, by a feeling of having found what they had been seeking, by a greater interest in discovery than in proof, and by an increased valuing of experience and of wisdom. Mirroring those changes, there seem to have been movements away from the more quantitative, nomothetic pole of the research continuum toward the more qualitative, idiographic region. Transformations in being appear to be reflected in changes in preferred research strategies. Certain research methods seem more comfortable and more in keeping with one's current values, and it seems wise to honor those fittings.

On the other hand, honoring them too fully or exclusively might encourage indolence and promote imbalance. "Without contraries [there] is no progression," wrote

William Blake. Hegelians would remind us that without antithesis, there can be no higher synthesis. So it also may be wise for us to include contraries in our research endeavors, to build in opportunities for dynamic tensions that can help us stretch and lead us in new directions--something for us to push against. To one who feels extremely comfortable with qualitative methods, this might involve the injection of some quantitative elements into the research plan. Similarly, devotees of quantitative approaches might introduce complementary qualitative aspects into their researches. Such practices could prove to be expanding for the researcher, and they also could provide a larger and more complete account of the topic being researched.

Should Science Be Expanded?

We have been making a case for the extension of the research enterprise through the inclusion of many additional ways of knowing and additional things to know. In several areas, many are urging that science itself be expanded to encompass these new areas and methods of study. And there are indications that such an expansion is indeed happening. Qualitative methods are becoming more commonplace and acceptable. Increased attention is being paid to inner human experiences. There are increasing demands for careful and critical assessments of the possible consequences of scientifically acquired knowledge.

However, a knowledge that wherever there is increasing light, there shall also be increasing darkness might lead one to consider the wisdom of expanding science in these ways. One can recall that there always has been interest in all of these "new" additions to science, but that, previously, they have been entertained in other departments of human endeavor. They have been segregated from analytical science and established in their own disciplines of philosophy, art, and the psychological and spiritual disciplines. Could there have been good reasons for this? Are the natural ways of these different disciplines and different human faculties in some ways incompatible, and might they need their own unique and specialized domains in order to flourish fully? Or have the previous separations themselves been unwise and limiting--the result of an unthinking movement toward specialization in the face of practical and political pressures?

And to some, there is an ever-lurking discomfort with the trends outlined in this paper, a vague apprehension of a possible danger--that somehow the newly introduced facets may somehow become "spoiled" by their inclusion in an extended science. Are there not, they argue, dangers of misuse, of distortion, of sterilizing, institutionalizing, and "scientizing" even these special new arrivals? Will the forces that transformed an open science into a closed scientism remain active enough to distort and encompass these

newly admitted features? Or are these dangers not inherent in science at all, but simply the result of unwise, unmindful, and unbalanced human actions and practices? And if the danger, the potential imbalance, is not in the scientific approach itself, but within its human practitioners, does this not also suggest that an equally useful strategy for increasing balance is not to deliberately introduce balance into the scientific discipline itself, but to foster an organically developing balance within individuals? Rather than extend and expand science itself, might it not be better to leave science as it is and let the enhancing of these new features and their mixing and balancing with other features occur outside of science but within individuals instead?

Are these concerns artificial and groundless? Are we making distinctions where there really are none? Are we falling once again into the trap of thinking and making things separate that really are one, thinking *either/or* rather than *both/and?* Is not the obvious answer a balance of both--expansion within science *and* expansion within the individual, with a mix of specialization *and* generality within each?

Three considerations save me from spinning my wheels and getting lost forever in these issues. The first is simply a set of two sayings--one new, one old:

> We dance round in a ring and suppose,
> But the Secret sits in the middle and knows
> - *Robert Frost*

> When we understand, we are at the center of the circle,
> and there we sit while Yes and No chase each other
> around the circumference.
> - *Chuang-tzu*

The second consideration is the recall of a pervasive pattern. It is a pattern that becomes evident when one examines the progressions that occur in such superficially disparate areas as cosmology, phylogeny, ontogeny, the life-course of individual organisms, human psychological development, and scientific paradigms. It is concealed and revealed in astrology, in alchemy, and in other esoteric disciplines--in the qualities of Neptune and of Saturn, in the alchemical mottoes of *solve et coagula, separatio,* and *coniunctio*, in the symbolism of the dragon Ouroboros and of the sacred spiral. It is the journey from The One to The Many to The One described in the spiritual and mythological traditions. T. S. Eliot alludes to it in lines of his poem *Little Gidding*: "We shall not cease from exploration/And the end of all our exploring/Will be to arrive where we started/And know the place for the first time." Another of its manifestations is in the historical development of philosophies and worldviews, as discerned by Richard Tarnas (1991) in the end of the Epilog to his book, *The Passion of the Western Mind*. It is the

progression of successive identifications, disidentifications, and reidentifications that occur in the journey from the Undifferentiated to Separation to Reunion. The fullness, constriction, and re-expansion of science seems but another arena in which this familiar progression is being acted out.

The third consideration is the recall of a terminology invented by physicists to describe paradoxical processes such as the wave/particle characteristics of photons; they called them *complementary conjugates*--literally, the complements that play together. The integral methodology provides another playground in which we can continue to appreciate and realize (in both meanings of both words) this eternal playful dance.

REFERENCES

Ader, R. (Ed.). (1981). *Psychoneuroimmunology*. Orlando, Florida: Academic Press.

Alcock, J.A. (1985). Parapsychology as a "spiritual" science. In P. Kurtz (Ed.), *A skeptics' handbook of parapsychology*. Buffalo, N.Y.:Prometheus Books.

Amlani, A. (1995). *Diet and psychospiritual development: Physiological, psychological, and spiritual changes and challenges associated with lacto-ovo, vegan, and live foods diets*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Andras, J. (1993). *A phenomenological investigation of: The decision process of a woman trusting herself in making a spiritual commitment that is contrary to the wishes of a significant person or persons*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Armstrong, D.M. (1979). The nature of mind. In C.V. Borst (Ed), *The mind-brain identity theory*. London:Macmillan.

Bacon, F. (1971). *Novum Organum*. Chicago: Encyclopedia Britannica, Inc. (Original work published 1620)

Belenky, M.F., Clinchy, B.M., Goldberger, N.R., & Tarule, J.M. (1986). *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic Books.

Beloff, J. (1990). *The relentless question: Reflections on the paranormal*. Jefferson, NC: McFarland.

Blake, W. (1977). *The complete poems*. London: Penguin.

Bleier, R. (1986). *Feminist approaches to science*. New York: Pergamon Press.

Bohm, D. (1980). *Wholeness and the implicate order*. London: Routledge & Kegan Paul.

Bohm, D. (1986). A new theory on the relationship of mind and matter. *Journal of the American Society for Psychical Research*, *80*(2), 113-136.

Bohm, D. (1988). Postmodern science and a postmodern world. In D.R. Griffin (Ed.), *The reenchantment of science: Postmodern proposals*. Albany, NY: State University of New York Press.

Bohm, D., & Hiley, B.J. (1993). *The undivided universe: An ontological interpretation of quantum mechanics*. London: Routledge.

Borg, W.R., & Gall, M.D. (1989). *Educational research: An introduction (5th edition)*. White Plains, NY: Longman.

Boring, E.G. (1950). *A history of experimental psychology*. New York: Appleton-Century-Crofts.

Braud, W.G. (1982). Nonevident psi. *Parapsychology Review*, 13(6), 16-18.

Braud, W.G. (1994). Empirical explorations of prayer, distant healing, and remote mental influence. *Journal of Religion and Psychical Research*, 17(2), 62-73.

Braud, W.G. (1994a). Can our intentions interact directly with the physical world? *European Journal of Parapsychology*, *10*, 78-90.

Braud, W. G. (1994b). The influence of mind in the physical world: A psychologist's view. *European Journal of Parapsychology*, *10*, 66-77.

Braud, W.G. (1994c). Honoring our natural experiences. *Journal of the American Society for Psychical Research*, *88*(3), 293-308.

Brent, B. (1994). *A quantitative and descriptive study of distinct and self-consistent attentional styles and their relation to Enneagram typology*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Broughton, R.S. (1991). *Parapsychology: The controversial science*. New York: Ballantine.

Byrd, R.C. (1988). Positive therapeutic effects of intercessory prayer in a coronary care unit population. *Southern Medical Journal*, *81*(7), 826-829.

Crick, F. (1966). *Of molecules and men.* Seattle: University of Washington Press.

Crick, F. (1994). *The astonishing hypothesis: The scientific search for the soul*. New York: Charles Scribners.

Crawford, M., & Gentry M. (1989). *Gender and thought: Psychological perspectives*. New York: Springer-Verlag.

Danziger, K. (1979a). The positivist repudiation of Wundt. *Journal of the History of the Behavioral Sciences*, *15*, 205-230.

Danziger, K. (1979b). The social origins of modern psychology. In A.R. Buss (Ed.), *Psychology in social context*. New York: Irvington.

Davids, T.W.R. (1911). Does Al Ghazzali use an Indian metaphor? *Journal of the Royal Asiatic Society* (London), 200-201.

Dennett, D. (1979). Review of *The Self and Its Brain* by Karl Popper and John Eccles. *Journal of Philosophy*, *76*(2), 97.

Denzin, N.K., & Lincoln, Y.S. (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

Dossey, L. (1989). *Recovering the soul: A scientific and spiritual search*. New York: Bantam.

Dossey, L. (1992). Era III medicine: The next frontier. *Revision*, *14*(3), 128-139.

Dossey, L. (1993). *Healing words: The power of prayer and the practice of medicine*. New York: HarperCollins.

Drew, N. (1993). Reenactment interviewing: A methodology for phenomenological research. *IMAGE: Journal of Nursing Scholarship*, *25*(4), 345-351.

Edge, H., Morris, R., Palmer, J., & Rush, J. (1986). *Foundations of parapsychology: Exploring the boundaries of human capability*. Boston: Routledge & Kegan Paul.

Eliot, T.S. (1974). *Collected poems 1909-1962*. London: Faber & Faber.

Epstein, M.D. (1984). On the neglect of evenly suspended attention. *Journal of Transpersonal Psychology*, *16(*2), 193-205.

Escoffon, D. (1994). *Synchronicity or meaningful coincidences: Quantification of feeling states, circumstances, and attributing causes, and an experiment with "synchronicity incubation*." Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Ettling, D. (1994a). *A phenomenological study of the creative arts as a pathway to embodiment in the personal transformation process of nine women*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Ettling, D. (1994b). Report on dissertation research. *ITP Dissertation Express Newsletter*, *2*(1), 6-8.

Fagen, N. (1995). *Elaborating dreams through creative expressions: Experiences, accompaniments, and perceived effects*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Flanagan, O. (1992). *Consciousness reconsidered*. Cambridge, MA: The MIT Press.

Gergen, M.M. (1988). *Feminist thought and the structure of knowledge*. New York: New York University Press.

Gilligan, C. (1986). *In a different voice*. Cambridge, MA: Harvard University Press.

Glass, G.V., McGaw, B., & Smith, M.L. (1981). *Meta-analysis in social research*. Beverly Hills, CA: Sage Publications.

Green, E., & Green, A. (1977). *Beyond biofeedback*. New York: Dell Publishing Company.

Green, J., & Shellenberger, R. (1994). The subtle energy of love. *Subtle Energies*, *4*(1), 31-55.

Greenfield, N., & Sternbach, R. (Eds.) . (1972). *Handbook of psychophysiology*. New York: Holt, Rinehart & Winston.

Grof, S. (1975). *Realms of the human unconscious: Observations from LSD research*. New York: Viking.

Grof, S. (1985). *Beyond the brain: Birth, death, and transcendence in psychotherapy*. Albany, NY: State University of New York Press.

Grof, S. (1988). *The adventure of self-discovery*. Albany, NY: State University of New York Press.

Haisch, B. (1994). *A physical sciences paradigm change in the concept of matter and implications for understanding of consciousness*. Unpublished manuscript.

Haisch, B., Rueda, A., & Puthoff, H.E. (1994a). Inertia as a zero-point-field Lorentz force. *Physical Review A*, *49*(2), 678-694.

Haisch, B., Rueda, A., & Puthoff, H.E. (1994b). *A zero-point field origin for the inertia of matter*. Unpublished manuscript.

Harding, S. (1991). *Whose science? Whose knowledge?* Ithaca, NY: Cornell University Press.

Harman, W.J. (1991). *A re-examination of the metaphysical foundations of modern science*. Sausalito, CA: Institute of Noetic Sciences.

Harman, W. (1992). Science and religion. In J. Mishlove (Ed.), *Thinking allowed: Conversations on the leading edge of knowledge* (pp. 97-104). Tulsa, OK: Council Oak Books.

Harman, W., & DeQuincey, C. (1994). *The scientific exploration of consciousness: Toward an adequate epistemology*. Sausalito, CA: Institute of Noetic Sciences.

Hedges, L.V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. Orlando, FL: Academic.

Hooks, B. (1984). *Feminist theory: From margin to center*. Boston: South End Press.

James, W. (1911). *Some problems of philosophy*. New York: Longmans, Green & Company.

James, W. (1956). *The will to believe, human immortality, and other essays on popular philosophy*. New York: Dover. (Originally work published in 1897)

James, W. (1976). *Essays in radical empiricism*. Cambridge, MA: Harvard University Press. (Original work published in 1912)

James, W. (1977). *A pluralistic universe*. Cambridge, MA: Harvard University Press. (Original work published in 1909)

Jantsch, E. (1979). *The self-organizing universe: Scientific and human implications of the emerging paradigm of evolution*. Elmsford, NY: Pergamon Press.

Josephson, B.D., & Rubik, B.A. (1992). The challenge of consciousness research. *Frontier Perspectives*, 3(1), 15-19.

Kidd, C.B. (1966). Congenital ichthyosiform erythrodermia treated by hypnosis. *British Journal of Dermatology*, *78*, 101-105.

Krippner, S. (Ed.) . (1977, 1978, 1982). *Advances in parapsychological research: Volumes 1, 2, 3*. New York: Plenum.

Krippner, S. (Ed.) . (1984, 1987, 1990). *Advances in parapsychological research: Volumes 4, 5,6*. Jefferson, NC: McFarland.

Kurtz, P. (Ed.) . (1985). *A skeptic's handbook of parapsychology*. Buffalo, NY: Prometheus.

Latourette, K.S. (1975). *A history of Christianity, Volume I: Beginnings to 1500* (p. 150). New York: Harper & Row

Leary, D.E. (1979). Wundt and after: Psychology's shifting relations with the natural sciences, social sciences, and philosophy. *Journal of the History of the Behavioral Sciences*, *15*, 231-241.

Lehrman, E. (1999). *The psychospiritual moratorium: An investigation of the dynamics of psychospiritual growth in mid-life*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

LeShan, L. (1974). *The medium, the mystic, and the physicist*. New York: Viking.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.

Lorimer, D. (1988). Towards a new science--A critical appraisal of scientific knowledge. 17th Annual Conference on the Unity of the Sciences, Los Angeles, November 24-27.

Lovejoy, A.O. (1936). *The great chain of being*. Cambridge: Harvard University Press.

Martin, L., & Venables, P. (Eds.) . (1980). *Techniques in psychophysiology*. New York: Wiley.

Mason, A.A. (1952). A case of congenital ichthyosiform erythrodermia of Brocq treated by hypnosis. *British Medical Journal*, *2*, 422-423.

Maxfield, M.C. (1991). *Effects of rhythmic drumming on EEG and subjective experience*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

McKenzie, A.E.E. (1960). *The major achievements of science*. Cambridge: Cambridge University Press.

Meier, F. (1982). The problem of nature in the esoteric monism of Islam. In J. Campbell (Ed.), *Spirit and nature: Papers from the Eranos yearbooks, Bollingen Series XXX ·1* (pp. 166-170). Princeton, NJ: Princeton/Bollingen.

Merchant, C. (1980). *The death of nature: Women, ecology, and the scientific revolution*. New York: Harper & Row.

Minsky, M. (1986). *The society of mind*. New York: Simon & Schuster.

Monette, D., Sullivan, T., & DeJong, C. (1990). *Applied social research: Tool for the human services (2nd edition)*. New York: Holt, Rinehart and Winston.

Morowitz, H. (1980). *Rediscovering the mind*. Psychology Today, 14(2), 12-14.

Morrill, B. (1994). *Quest for wholeness: The individuation process of African American women--Seven case studies*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Morse, J.M. (1992). *Qualitative health research*. Newbury Park, CA: Sage Publications.

Morse, J.M. (1991). *Qualitative nursing research*. Newbury Park, CA: Sage Publications.

Musil, R. (1985). *A man without qualities*. New York: Putnam Perigee.

Needleman, J. (1975). *A sense of the cosmos*. New York: Arkana.

Needleman, J. (1990). *Lost Christianity*. New York: Doubleday.

Nelson, L. (1990). *Who knows: From Quine to a feminist empiricism*. Philadelphia: Temple University Press.

Nicolis, G., & Prigogine, I. (1989). *Exploring complexity*. New York: Freeman.

Nigg, W. (1962). *The heretics* (p. 46). New York: Dorset Press.

Nielsen, J.M. (1990). *Feminist research methods: Exemplary readings in the social sciences*. Boulder, CO: Westview.

ÓLaoire, S. (1993). *An experimental study of the effects of intercessory prayer-at-a-distance on self-esteem, anxiety, and depression.* Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Opitz, T. (1994). *The differential effects of a film-assisted and a nonfilm-assisted transpersonal psychology curriculum on the self-esteem of adolescents*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Pavlov, I. P. (1927). *Conditioned reflexes: An investigation of the physiological activity of the cerebral cortex*. London: Oxford University Press.

Plumwood, V. (1993). *Feminism and the mastery of nature*. New York: Routledge.

Polkinghorne, D. (1983). *Methodology for the human sciences: Systems of inquiry*. Albany, NY: State University of New York Press.

Polkinghorne, D. (1988). *Narrative knowing and the human sciences*. Albany, NY: State University of New York Press.

Powell, J.N. (1982). *The tao of symbols*. New York: William Morrow & Company.

Poynton, J.C. (1983). Nonevident psi and phenomenology. *Parapsychology Review*, *14*(6), 9-10.

Prigogine, I. (1980). *From being to becoming*. New York: Freeman.

Prigogine, I., & Stengers, I. (1984). *Order out of chaos*. New York: Bantam.

Prokasy, W., & Raskin, D. (Eds.) . (1973). *Electrodermal activity in psychological research*. New York: Academic Press.

Puthoff, H.E. (1987). Ground state of hydrogen as a zero-point-fluctuation determined state. *Physical Review D*, *35*, 3266.

Puthoff, H.E. (1989). Gravity as a zero-point-fluctuation force. *Physical Review A*, *39*, 2333-2342.

Razran, G. (1961). The observable unconscious and the inferable conscious in current Soviet psychophysiology. *Psychological Review*, *68*, 81-147.

Reinharz, S. (1992). *Feminist methods in social research*. New York: Oxford University Press.

Report on an International Symposium on Science, Technology, and the Environment: A case for global co-operation (1990). Athens, Greece: Global Co-operation for a Better World.

Report on the Second International Symposium on Science and Consciousness (1992). Athens, Greece: The Athenian Society for Science and Human Development & The Brahma Kumaris World Spiritual University.

Riger, S. (1992). Epistemological debates, feminist voices: Science, social values, and the study of women. *American Psychologist*, *47*(6),730-740.

Rosenthal, R. (1991). *Meta-analytic procedures for social research*. Beverly Hills, CA: Sage Publications.

Schellenberg, J. (1995). *Transpersonal experiences in the exploration of childhood sexual abuse and adult sexual expression: A study of promise*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

Shepherd, L.J. (1993). *Lifting the veil: The feminine face of science.* Boston: Shambhala.

Sagan, C. (1978). *The dragons of Eden*. New York: Ballantine Books.

Schneck, J.M. (1966). Hypnotherapy for ichthyosis. *Psychosomatics*, *7*, 233-235.

Schrödinger, E. (1964). *My view of the world*. Cambridge: Cambridge University Press.

Schumacher, E.F. (1977). *A guide for the perplexed*. New York: Harper & Row.

Shear, J. (1981). Maharishi, Plato and the TM-Sidhi Program on innate structures of consciousness. *Metaphilosophy*, *12*(1), 73-74.

Shepherd, L.J. (1993). *Lifting the veil: The feminine face of science*. Boston: Shambhala.

Sidowski, J.B. (Ed.) . (1966). *Experimental methods and instrumentation in psychology*. New York: McGraw-Hill.

Skinner, B.F. (1972). *Cumulative record*. New York: Appleton-Century-Crofts.

Smart, J.C.C. (1977). Sensations and brain processes. In C.V. Borst (Ed), *The mind-brain identity theory*. London: Macmillan.

Smith, H. (1976). *Forgotten truth: The primordial tradition*. New York: Harper & Row.

Smith, H. (1992). *Beyond the post-modern mind*. Wheaton, IL: Theosophical Publishing House.

Speeth, K.R. (1982). On psychotherapeutic attention. *Journal of Transpersonal Psychology*, *14*(2), 141-160.

Sperry, R. (1981). Changing priorities. *Annual Review of Neuroscience*, *4*, 1-15.

Sperry, R. (1987). Structure and significance of the consciousness revolution. *The Journal of Mind & Behavior*, *8*(1), 37-66.

Sperry, R. (1992). Turnabout on consciousness: A mentalist view. *The Journal of Mind and Behavior*, *13*(3), 259-280.

Taimni, I.K. (1975). *The science of Yoga*. Wheaton, IL: Theosophical Publishing House.

Tarnas, R. (1991). *The passion of the Western mind*. New York: Ballantine.

Tart, C.T. (1972). States of consciousness and state-specific sciences. *Science*, *176*, 1203-1210.

Temple, R. (1990). *Icons and the mystical origins of Christianity* (pp. 33-34). Rockport, MA: Element.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. Bristol, PA: The Falmer Press.

Underhill, E. (1911). *Mysticism: A study in the nature and development of man's spiritual consciousness*. London: Methuen.

Underhill, E. (1915). *Practical mysticism*. New York: Dutton.

White, R.A. (1991). Feminist science, postmodern views, and exceptional human experience. *Exceptional Human Experience*, *9*, 2-11.

White, R. (1992). Review of approaches to the study of spontaneous psi experiences. *Journal of Scientific Exploration, 6*(2), 147-154.

White, R. (1993). *Exceptional human experiences: Background papers.* Dix Hills, NY: Exceptional Human Experiences Network.

Wilber, K. (1977). *The spectrum of consciousness*. Wheaton, IL: Theosophical Publishing House.

Wilber, K. (1990). *Eye to eye: The quest for the new paradigm*. Boston: Shambhala.

Wink, C.A.S. (1961). Congenital ichthyosiform erythrodermia treated by hypnosis: Report of two cases. *British Medical Journal*, *2*, 741-743.

Wolf, F.M. (1986). *Meta-analysis: Quantitative methods for research synthesis*. Beverly Hills, CA: Sage Publications.

Wolf, S. (1950). Effects of suggestions and conditioning on the action of chemical agents in human subjects: The pharmacology of placebos. *Journal of Clinical Investigation*, *29*, 100-109.

Wolman, B. (1977). *Handbook of parapsychology*. New York: Van Nostrand Reinhold.

Wooldridge, D.E. (1963). *The machinery of the brain*. New York: McGraw-Hill.

Wooldridge, D.E. (1966). *The machinery of life*. New York: McGraw-Hill.

Wooldridge, D.E. (1968). *Mechanical man: The physical basis of intelligent life*. New York: McGraw-Hill.

Young, N. (1992). *Exceptional love relationships: Initial validation of a bonded couple scale*. Unpublished doctoral dissertation, Institute of Transpersonal Psychology, Palo Alto, CA.

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