

- Varela, F. 1999. Present-Time Consciousness. *Journal of Consciousness Studies*, 6(2/3): 111-140.
- Varela, F., Thompson, E. & Rosch, E. 1991. *The Embodied Mind*. Boston: MIT Press.
- Velmans, M. 2000. *Understanding Consciousness*. London: Routledge.
- Wallace, B. 1999. The Buddhist Tradition of Samatha: methods for refining and examining consciousness. *Journal of Consciousness Studies*, 6(2/3): 175-187.
- Woolgar, S. 1996. Psychology, Qualitative Methods and the Idea of Science. In *Handbook of Qualitative Research Methods*, edited by Richardson, J. Leicester: BPS Publications.

An Integral Approach to Consciousness Research

A Proposal for Integrating First, Second and Third Person Accounts of Consciousness

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Introduction

As this book demonstrates, there has recently been something of an explosion of interest in the development of a "science of consciousness," and yet there are at present approximately a dozen major but conflicting schools of consciousness theory and research. The approach to consciousness studies suggested in this chapter assumes that each of these schools has something irreplaceably important to offer, and thus what is required is a general model sophisticated enough to incorporate the essentials of each of them. These schools include the following:

1. *Cognitive science*, which tends to view consciousness as anchored in functional schemas of the brain/mind, either in a simple representational fashion, such as Jackendoff's (1987) "computational mind," or in the more complex emergent/connectionist models, which view consciousness as an

emergent of hierarchically integrated networks. The emergent/connectionist is perhaps the dominant model of cognitive science at this point, and is nicely summarized in Alwyn Scott's *Stairway to the Mind*, the "stairway" being the hierarchy of emergents summing in consciousness.

2. *Introspectionism* maintains that consciousness is best understood in terms of intentionality, anchored in first-person accounts — the inspection and interpretation of immediate awareness and lived experience — and not merely in third-person or objectivist accounts, no matter how "scientific" they might appear. Without denying their significant differences, this broad category includes everything from philosophical intentionality to introspective psychology, existentialism, and phenomenology.

3. *Neuropsychology* views consciousness as anchored in neural systems. Unlike cognitive science, which is often based on computer science and is consequently vague about how consciousness is actually related to organic brain structures, neuropsychology is a more biologically based approach and views consciousness as intrinsically residing in organic neural systems of sufficient complexity.

4. *Individual psychotherapy* uses introspective and interpretive psychology to treat psychological distress. It thus tends to view consciousness as primarily anchored in an individual organism's adaptive capacities. Most major schools of psychotherapy embody a theory of consciousness precisely because they must account for a human being's need to create meaning and signification, the disruption of which results in painful symptoms of mental and emotional distress. In its more avant-garde forms, such as the *Jungian*, this approach postulates collective structures of intentionality (and thus consciousness), the fragmentation of which contributes to psychopathology.

5. *Social psychology* views consciousness as embedded in networks of cultural meaning, or, alternatively, as being largely a byproduct of the social system itself. This includes approaches as varied as ecological, Marxist, constructivist, and cultural hermeneutics, all of which maintain that the nexus of consciousness is not located merely or even principally in the individual.

6. *Clinical psychiatry* focuses on psychopathology. For a half century, psychiatry was largely anchored in a Freudian metapsychology, but the field increasingly views consciousness in strictly neurophysiological and biological terms, verging on a *clinical identity theory*: consciousness is the neuronal system, so that a presenting problem in the former is actually an imbalance in the latter, correctable with medication.

7. *Developmental psychology* views consciousness not as a single, static entity but as a developmentally unfolding process with a substantially different architecture at each of its stages of growth. Thus an understanding of consciousness demands investigating the architecture at each of its levels of unfolding. In its more avant-garde forms, this approach includes higher stages of exceptional development and wellbeing, and the study of gifted, extraordinary, and supranormal capacities, viewed as higher developmental potentials latent in all humans. This includes higher stages of cognitive, affective, somatic, moral, and spiritual development.

8. *Psychosomatic medicine* views consciousness as strongly and intrinsically interactive with organic bodily processes, evidenced in such fields as psychoneuroimmunology and biofeedback. In its more avant-garde forms, this approach includes consciousness and 'miraculous healing,' the effects of prayer on recovery, light/sound and healing, spontaneous remission, and so on. It also includes any of the approaches that investigate the effects of intentionality on healing, from art therapy to visualization to psychotherapy and meditation.

9. *Nonordinary states of consciousness, from dreams to psychedelics*, constitute a field of study that, its advocates believe, is crucial to a grasp of consciousness in general. Although some of the effects of psychedelics — to take a controversial example — are undoubtedly due to "toxic side-effects," the consensus of research opinion is that they also act as "nonspecific amplifiers of experience," and thus they can be instrumental in disclosing and amplifying aspects of consciousness that might otherwise go unstudied (Grof 1998).

10. *Eastern and contemplative traditions* maintain that ordinary consciousness is but a narrow and restricted version of deeper or higher modes of awareness, and that specific injunctions (yoga, meditation) are necessary to evoke these higher and exceptional potentials. Moreover, they all maintain that the essentials of consciousness itself can only be grasped in these higher, postformal, and nondual states of consciousness (Feuerstein 1998; Walsh 1999).

11. What might be called the *quantum consciousness* approaches view consciousness as being intrinsically capable of interacting with, and altering, the physical world, generally through quantum interactions, both in the human body at the intracellular level (e.g., microtubules), and in the material world at large (*psi*). This approach also includes attempts to plug consciousness into the physical world according to various avant-garde physical theories (e.g., boot-strapping, hyperspace, strings).

12. *Subtle energies* research postulates subtler types of bioenergies beyond the four recognized forces of physics (strong and weak nuclear, electromagnetic, gravitational), and that these *subtler energies* play an intrinsic role in consciousness and its activity. Known in the traditions by such terms as *prana*, *ki*, and *chi* — and said to be responsible for the effectiveness of acupuncture, to give only one example — these energies are often held to be the “missing link” between intentional mind and physical body. For the Great Chain theorists, both East and West, this bioenergy acts as a two-way conveyor belt, transferring the impact of matter to the mind and imposing the intentionality of the mind on matter.

13. Evolutionary psychology and its close relative sociobiology see behavior and consciousness in functional terms as expressions of evolutionary pressures. From this perspective, consciousness and its various forms and expressions exist because of, and are to be understood in terms of, the evolutionary advantage they confer (Wright 1994; Barkow, Cosmides & Tooby 1992). This is in some ways opposite to the stance of *consciousness inessentialism* which argues that animals, including humans, might survive and flourish just as well without conscious awareness.

The approach to consciousness described in this paper involves a model that explicitly draws on the strengths of each of those approaches, and attempts to incorporate and integrate their essential features. But in order to understand this model, a little background information is required. What follows is a very brief summary of an approach developed at length in a dozen books, including *Transformations of Consciousness*, *A Brief History of Everything*, and *The Eye of Spirit*, which the interested reader can consult for detailed arguments and extensive references.

The four corners of the kosmos

Figure 1 is a schematic summary of “the four quadrants” of existence: intentional, behavioral, cultural, and social. These four quadrants are a summary of a data search across various developmental and evolutionary fields, including over two hundred developmental sequences recognized by various branches of knowledge — ranging from stellar physics to molecular biology, from anthropology to linguistics, from developmental psychology to ethical orien-

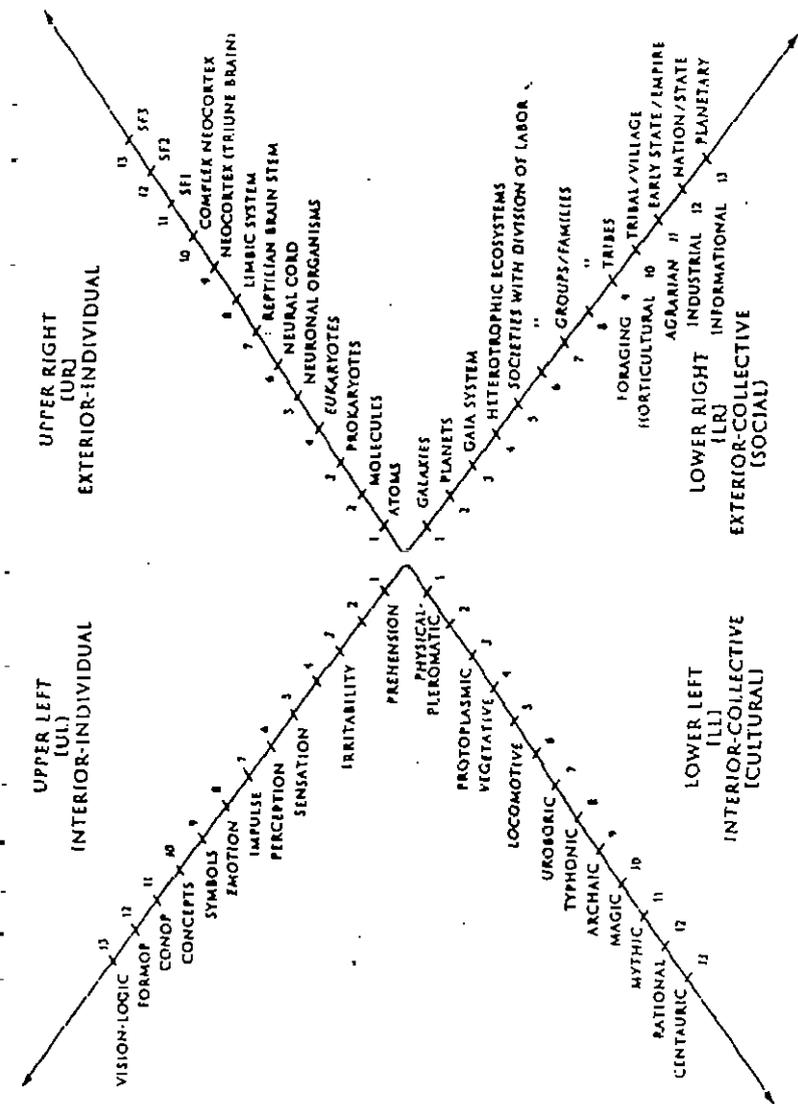


Figure 1

tations, from cultural hermeneutics to contemplative endeavors. They include both Eastern and Western disciplines, as well as premodern, modern, and postmodern sources (Wilber 1995, 1996).

These various developmental sequences all fell into one of four major classes — the four quadrants — and within those four quadrants there was substantial agreement as to the various stages or levels in each. Figure 1 is a simple summary of this data search; it thus represents an a posteriori conclusion, not an a priori assumption.

Of course people can differ about the details of such a diagram, and Figure 1 is not intended to be cast in stone. It is presented here as a reasonable summary that helps carry the present discussion. Likewise, each of the quadrants might more accurately be constructed as a branching tree, and not a simple straight line, indicating the rich variation within each grade and clade (each level and type). Each quadrant includes both hierarchies (or clear gradations) and heterarchies (or pluralistic and equivalent unfoldings within a given grade). Figure 1, again, is nothing but a simple schematic summary to help further the discussion.

Upper right (exterior-individual/behavioral) quadrant

This quadrant is perhaps the most familiar. It is the standard hierarchy presented by modern evolutionary science: atoms to molecules to cells to organisms, each of which “transcends but includes” its predecessor in an irreversible fashion: cells contain molecules, but not vice versa; molecules contain atoms, but not vice versa, and so on — the “not vice versa” constitutes the irreversible hierarchy of time’s evolutionary arrow. (SF1, SF2, and SF3 refer to higher structure-functions of the human brain, which we will explain in a moment.)

Each of these individual units, in other words, is what Koestler called a “holon,” a whole that is simultaneously part of some other whole (a whole atom is part of a whole molecule, a whole molecule is part of a whole cell, etc.). The Upper Right quadrant is simply a summary of the scientific research on the evolution of individual holons.

Lower right (exterior-collective/social) quadrant

But individual holons always exist in communities of similar holons. In fact, the very existence of individual holons in many ways depends upon communi-

ties of other holons that, if nothing else, provide the background fields in which individual holons can exist. Erich Jantsch (1980), in his pioneering book *The Self-Organizing Universe*, pointed out that every “micro” event (individual holon) exists embedded in a corresponding “macro” event (a community or collective of similarly structured holons). These communities, collectives, or societies are summarized in the Lower Right quadrant, and they, too, simply represent the results of generally uncontested scientific research.

Thus, for example, Jantsch points out that when atoms were the most complex individual holons in existence, galaxies were the most complex collective structures; with molecules, planets; with procaryotes, the Gaia system; with limbic systems, groups and families; and so forth.¹ Jantsch made the fascinating observation that while individual holons generally get bigger (because they transcend and include their predecessors: molecules are bigger than the atoms they contain), the collective usually gets smaller (planets are smaller than galaxies; families are smaller than planets, etc.). The reason is that as an individual holon gets more complex (possesses more depth), the number of holons that can reach that depth become less and less, and thus the collective becomes smaller and smaller (e.g., there will always be fewer molecules than atoms, and thus the collective of molecules — planets — will always be smaller than the collective of atoms — galaxies). This entire trend can be summarized as: evolution produces greater depth, less span (Wilber 1995).

Those are the two “Right Hand” quadrants. What both of those quadrants have in common is that they represent holons that all possess simple location — they can all be seen with the senses or their extensions; they are all empirical phenomena; they exist in the sensorimotor worldspace. They are, in other words, objective and interobjective realities; they are what individual and communal holons look like from the outside, in an exterior and objectifying fashion.

Upper left (interior-individual/intentional) quadrant

But various types of evidence suggest that every exterior has an interior. If we likewise do a data search among the evolutionary trends of interior apprehension, we also find a largely uncontested hierarchy of emergent properties summarized in the Upper Left quadrant: prehension to irritability to sensation

to perception to impulse to image to symbol to concept to rule (concrete operations or "conop") to formal operations ("formop") and synthesizing reason ("vision-logic"). The higher levels correspond with structure-functions in the brain labeled SF1, SF2, and SF3 in the Upper Right. The existence of most of those emergent properties are largely uncontested by specialists in the field, and the holons listed in the Upper Left represent a simple summary of some of the major evolutionary capacities of interior apprehension. (There is still some heated discussion over the nature of "emergence," but the existence and evolutionary order of most of the various capacities themselves, from sensation to perception to image and concept, are generally uncontested.)

There is, however, rather endless debate about just how "far down" you can push prehension (or any form of rudimentary consciousness). Whitehead (1929/1959) pushes it all the way down, to the atoms of existence (actual occasions), while most scientists find this a bit much. Teilhard de Chardin's (1964) conclusion seems to be the most sensible: "Refracted rearwards along the course of evolution, consciousness displays itself qualitatively as a spectrum of shifting shades whose lower terms are lost in the night."

Lower left (interior-collective/cultural) quadrant

As always, every individual holon exists in a community (i.e., every agency is actually agency-in-communion). If we look at the collective forms of individual consciousness, we find a communally-shared sensitivity (from flocks of geese to human zeitgeist) including various worldspaces or worldviews. These various cultural or communal interiors are summarized in the Lower Left quadrant.

Moreover, cultural worldviews evolve and those who have carefully investigated this historical evolution include researchers from Jean Gebser to Michel Foucault to Jurgen Habermas. This research is detailed in *Up from Eden* and summarized in the Lower Left quadrant in Figure 1. "Uroboros" means reptilian (or brain-stem based); "typhonic" means emotional-sexual (limbic-system based); archaic, magic, mythic, and rational are fairly self-explanatory (they are four of the most significant of the human cultural worldviews to evolve thus far), "Centauric" means a bodymind integration and cognitive synthesizing activity which some researchers, including Gebser (1985) and Habermas (1990), see starting to emerge at this time.

The four quadrant grid

Thus, the upper half of Figure 1 refers to individual holons, the lower half, to their collective forms. The right half refers to the exterior or objective aspects of holons, and the left half, to their interior or subjective forms. This gives us a grid of exterior-individual (or behavioral), interior-individual (or intentional), exterior-collective (or social), and interior-collective (or cultural) — a grid of subjective, objective, intersubjective, and interobjective realities.

Unfortunately, as we will see, because many researchers specialize in one quadrant only, they tend to ignore or, even worse, deny the existence of the other quadrants. Materialist or Right-Hand theorists, for example, tend to deny substantial existence to interior, Left-Hand, and conscious intentionality. We will see many examples of this type of quadrant partiality, a reductionism that we will henceforth thoroughly bracket. In saying that the holons presented in each quadrant are largely uncontested, we mean specifically by those who actually study that quadrant in its own terms.

Once we put these four quadrants together, a surprising set of further conclusions rather startlingly announce themselves. These conclusions seem crucial to grasping the overall nature of consciousness.

The contours of consciousness

Quadrants and their languages

Begin with the fact that each of the quadrants is described in a different type of language. The Upper Left is described in "I" language; the Lower Left is described in "we" language; and the two Right Hand quadrants, since they are both objective, are described in "it" language. These are essentially Sir Karl Popper's (1974) "three worlds" (subjective, cultural, and objective); Plato's (1956) the Good (as the ground of morals, the "we" of the Lower Left), the True (objective truth or it-propositions, the Right Hand), and the Beautiful (the aesthetic beauty in the I of each beholder, the Upper Left); Habermas' (1984-5) three validity claims (subjective truthfulness of I, cultural justness of we, and objective truth of its). Historically of great importance, these are also the three major domains of Kant's (1951, 1990) three critiques: science or its (Critique of Pure Reason), morals or we (Critique of Practical Reason), and art

and self-expression of the I (*Critique of Judgment*).

In short, the Upper Left is described in *first-person*, the Lower Left in *second-person*, and the Right Hand in *third-person* language. Each major approach to consciousness tends to emphasize only one of those voices. The first-person, I-language, phenomenological approaches include #2, 4, 9, 10, and 12. The second-person, we-language, intersubjective accounts include #5 (which itself is a catch-all category for hermeneutics, cultural studies, and *verstehen* sociology). And third-person, it-language, objectivist accounts include #1, 3, 6, 11 and 13. One of our major conclusions is that an integral theory of consciousness would explicitly include all three types of accounts: a 1-2-3 of consciousness studies.

Quadrants and their validity claims

Equally important, each of the quadrants has a different "type of truth" or validity claim — different types of knowledge with different types of evidence and validation procedures. Thus, propositions in the Upper Right are said to be true if they match a specific fact or objective state of affairs: a statement is true if the map matches the territory — so-called objective truth (representational truth and the correspondence theory of truth).

In the Upper Left quadrant, on the other hand, a statement is valid, not if it represents an objective state of affairs, but if it authentically expresses a subjective reality. The validity criterion here is not just truth but truthfulness or sincerity — not "Does the map match the territory?" but "Can the map-maker be trusted?" I must trust you to report your interior status truthfully, because there is no other way for me to get to know your interior, and thus no other way for me to investigate your subjective consciousness.²

In the Lower Right quadrant of interobjective realities, the validity claim is concerned with how individual holons fit together into interlocking systems. Truth in this quadrant concerns the elucidating of the networks of mutually reciprocal systems within systems of complex interaction. The validity claim, in other words, is grounded in interobjective fit, or simply functional fit.

In the Lower Left quadrant, on the other hand, we are concerned not simply with how objects fit together in physical space, but how subjects fit together in cultural space. The validity claim here concerns the way that my subjective consciousness fits with your subjective consciousness, and how we together decide upon those cultural practices that allow us to inhabit the same

cultural space. The validity claim, in other words, concerns the appropriateness or justness of our statements and actions (ethics in the broadest sense). Not just, "Is it true?", but "Is it good, right, appropriate, just?" And if you and I are to inhabit the same cultural space, we must implicitly or explicitly ask and to some degree answer those intersubjective questions. We must find ways, not simply to access objective truth or subjective truthfulness, but to reach mutual understanding in a shared intersubjective space. Not that we have to agree with each other, but that we can recognize each other, the opposite of which is, quite simply, war. These validity claims and their different languages are summarized in Figure 2.

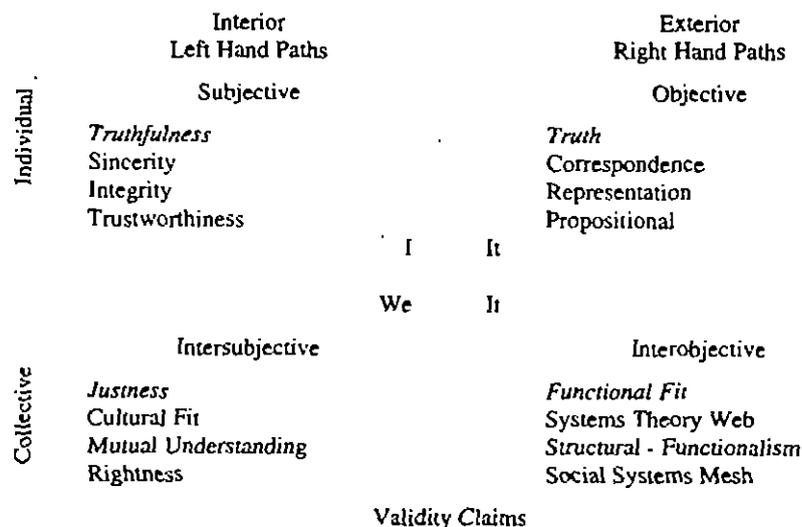


Figure 2

Common elements of knowledge acquisition: The three strands

If we now look carefully at each of these four validity claims or "types of truth" and attempt to discern what all of them have in common — that is, what all authentic knowledge claims have in common — we seem to find the following (Wilber 1996, 1997):

Each valid mode of knowing consists of an injunction, an apprehension, and a confirmation. The injunction is always of the form, "If you want to know this, do this." This injunction, exemplar, or paradigm is, as Kuhn (1970) pointed out, an actual practice, not a mere concept.

In other words, the injunction or exemplar brings forth a particular data domain — a particular experience, apprehension, or evidence (the second strand of all valid knowledge). This apprehension, data, or evidence is then tested in the circle of those who have completed the first two strands. Bad data or bad evidence is rebuffed, and this potential falsifiability is the crucial third component of all genuine validity claims; it most certainly is not restricted to empirical or sensory claims alone: there is sensory experience, mental experience, and spiritual experience, and any specific claim in each of those domains can potentially be falsified by further data in those domains. For example, the meaning of Hamlet is not about the joys of war: that is a bad interpretation and can be falsified by virtually any community of adequate interpreters.

Thus, each holon seems to have at least four facets (intentional, behavioral, cultural, and social), each of which is accessed by a different type of truth or validity claim (objective truth, subjective truthfulness, intersubjective justness, and interobjective functional fit). And all of those four validity claims follow the three strands of valid knowledge acquisition: injunction, apprehension, confirmation/rejection (or exemplar, evidence, falsifiability).

Notice that assessing the Left Hand quadrants depends significantly upon interpretation, whereas the Right Hand quadrants are all primarily empirical events. Objective exteriors can be seen, but all subjectivity requires interpretation.

Thus, it appears that the two Right Hand validity claims (objective truth and functional fit) are grounded in empirical observation (and some sort of correspondence theory of truth); whereas the two Left Hand validity claims (subjective truthfulness and intersubjective meaning) require extensive interpretation or hermeneutics (and some sort of coherence theory of truth). And we can begin to see why the human knowledge quest has almost always

divided into these two broad camps: empirical vs. hermeneutic, positivistic vs. interpretive, scientific vs. intuitive, analytic vs. transcendental, Anglo-Saxon and Continental, Right Hand and Left Hand. The correct point is, of course, that both are indispensable.

The interdependence of the quadrants

Most fascinating of all, perhaps, is that each quadrant has correlates in all the others. That is, since every holon apparently has these four facets (intentional, behavioral, cultural, and social), each of these facets has a very specific correlation with all the others. These can readily be seen in Figure 1. For example, wherever we find a holon with a limbic system, we likely find that it has an interior capacity for impulse/emotion, it lives in the collective of a group, herd, or family, and it shares an emotional-sexual worldview. Apparently each quadrant causes, and is caused by, the others, in a circular and nonreducible fashion, which is precisely why all four types of truth (and all four validity claims) are necessary to access the various dimensions of any holon.

The further reaches of human nature

We need one last piece of background information. Figure 1 summarizes the four main strands of evolutionary unfolding to date. But who is to say this extraordinary unfolding has to stop with the formal or rational stage? Why not higher stages? "The mental man has not been Nature's best effort or highest reach.... We have to exceed our present consciousness and surpass our present status of Nature," claimed Aurobindo (1970). Who can believably say that this amazing current of evolution simply came to a crashing halt once it produced you and me?

Several of the theories summarized in the Introduction are predicated on the fact that consciousness evolution seems to show evidence of higher (postformal, or transpersonal) stages of growth. There appear to be, in other words, several higher stages in the Upper Left quadrant. (Alexander and Langer 1990; 1984; Kohlberg and Ryncarz 1990).

The school of transpersonal psychology, in particular, has begun to investigate these higher stages (Walsh & Vaughan 1993). Substantial cross-

cultural evidence strongly suggests that there are at least four broad stages of postformal consciousness development — that is, development that goes beyond but includes the formal operational level: the psychic, the subtle, the causal, and the nondual. Since each quadrant has correlates in the others, we anticipate different brain states associated with these postformal states, as well as different micro-communities or “*sanghas*.” See Wilber (1995, 1997) for further discussion.

The precise definitions of those four postformal stages need not concern us; interested readers can consult the appropriate authorities, for example, in Walsh and Vaughan (1993). The point is simply that there now exists a substantial amount of rather compelling evidence that interior consciousness can continue the evolutionary process of transcend and include, transcend and include, so that even rationality itself is transcended (but included!) in postformal stages of awareness, stages that increasingly take on characteristics that might best be described as spiritual or mystical. But this is a “mysticism” thoroughly grounded in genuine experience and verifiable by all those who have successfully followed the requisite set of conscious experiments, injunctions, and exemplars (Wilber 1995).

In Zen, for example, we have the injunction known as *shikan-taza* (or sitting meditation). The mastery of this exemplar or paradigm opens one to various *kensho* or *satori* experiences (direct apprehensions of the spiritual data brought forth by the injunction), experiences which are then thoroughly tested by the community of those who have completed the first two strands. Bad, partial, or inaccurate apprehensions are thoroughly rebuffed and rejected by the community of the adequate (falsifiability). Zen, in other words, aggressively follows the three strands of all valid knowledge acquisition, which is probably why it has gained such a solid and “no-nonsense” reputation in spiritual studies.³

It is from these types of experimental, phenomenological, Left-Hand paths of knowledge acquisition that transpersonal researchers have concluded that there exist at least four higher stages of postformal development available as structural potentials of their own bodymind. If, with reference to the Upper Left quadrant, we add these four higher and postformal stages to the standard stages given in Figure 1, we arrive at: the Great Chain of Being, precisely as traditionally outlined by philosopher-sages from Plotinus to Aurobindo to Asanga to Chih-I to Lady Tsogyal. Figure 3 is a short summary of the Great Chain as given by perhaps its two most gifted exponents, Plotinus (1992) and

The Great Chain of Being and Consciousness

PLOTINUS	AUROBINDO
Absolute One (Godhead)	Satchitananda/Supermind (Godhead)
Nous (Intuitive Mind) [subtle]	Intuitive Mind/Overmind
Soul/World-Soul [psychic]	Illumined World-Mind
Creative Reason [vision-logic]	Higher-mind/Network-mind
Logical Faculty [formop]	Logical mind
Concepts and Opinions	Concrete mind [conop]
Images	Lower mind [preop]
Pleasure/pain (emotions)	Vital-emotional; impulse
Perception	Perception
Sensation	Sensation
Vegetative life function	Vegetative
Matter	Matter (physical)

Figure 3

Sri Aurobindo, (1970) showing the stunning similarity of the Great Chain wherever it appeared, East or West, North or South (a truly “multicultural” map if ever there was one). Again, the exact details need not detain us; interested readers can consult other works for a finer discussion (Smith 1976; Lovejoy 1964; Wilber et al. 1986). The point is simply that the interior dimensions of the human being seem to be composed of a spectrum of consciousness, running from sensation to perception to impulse to image to symbol to concept to rule to formal to vision-logic to psychic to subtle to causal to nondual states. In simplified form, this spectrum appears to range from subconscious to self-conscious to superconscious; from prepersonal to personal to transpersonal; from instinctual to mental to spiritual; from preformal to formal to postformal; from instinct to ego to God. Thus, you can perhaps start to see why an “all-quadrant, all-level” approach may be the minimum degree of sophistication necessary to secure a genuinely integral theory of consciousness.

Consciousness distributed

If we now return to the thirteen theories outlined in the Introduction, we can perhaps start to see why all of them have proven so durable: they are each

accessing one or more of the forty plus quadrant-levels of existence, and thus each is telling us something very important (but partial) about consciousness. This is why all of those approaches may be important for an integral view of consciousness. An "all-level, all-quadrant" approach finds important truths in each of them, and in very specific ways.

But it is not simply that we have a given phenomenon called "consciousness" and that these various approaches are each giving us a different view of the beast. Rather, it appears that consciousness actually exists "distributed" across all four quadrants with all of their various levels and dimensions. There is no one quadrant (and certainly no one level) to which we can point and say, there is consciousness. Consciousness is in no way localized in that fashion.

Thus, the first step toward a genuine theory of consciousness is the realization that consciousness is not located in the organism. Rather, consciousness is a four-quadrant affair, and it exists, if it exists at all, distributed across all four quadrants, anchored equally in each. Neither consciousness, personality, individual agency, nor psychopathology can be located simply or solely in the individual organism. The subjective domain (Upper Left) is always already embedded in intersubjective (Lower Left), objective (Upper Right), and interobjective (Lower Right) realities, all of which are partly constitutive of subjective agency and its pathologies.

It is true that the Upper Left quadrant is the locus of consciousness as it appears in an individual, but that's the point: as it appears in an individual. Yet consciousness on the whole is anchored in all of the quadrants — intentional, behavioral, cultural, and social. If you "erase" any quadrant, they all disappear, because each is intrinsically necessary for the existence of the others.

Thus, it is quite true that consciousness is anchored in the physical brain (as maintained by theories 1, 3, 6, 8). But consciousness is also and equally anchored in interior intentionality (as maintained by theories 2, 4, 7, 10, 11), an intentionality that cannot be explained in physicalist or empiricist terms nor disclosed by their methods or their validity claims.

By the same token, neither can consciousness be finally located in the individual (whether of the Upper Left or Upper Right or both together), because consciousness is also anchored in cultural meaning (the intersubjective chains of cultural signifieds), without which individuated consciousness does not develop. Without this background of cultural practices and meanings (Lower Left), my individual intentions do not and cannot even develop, as the occasional cases of "wolf boy" demonstrate. In precisely the same way that

there is no private language, there is no individual consciousness. You cannot generate meaning in a vacuum, nor with a physical brain alone, but only in an intersubjective circle of mutual recognition. Physical brains raised in the wild ("wolf boy") generate neither personal autonomy nor linguistic competence, from which it plainly follows, the physical brain per se is not the autonomous seat of consciousness.

Likewise, consciousness is also embedded in, and distributed across, the material social systems in which it finds itself. Not just chains of cultural signifieds, but chains of social signifiers, determine the specific contours of any particular manifestation of consciousness, and without the material conditions of the social system, both individuated consciousness and personal integrity fail to emerge.

In short, consciousness is not located merely in the physical brain, nor in the physical organism, nor in the ecological system, nor in the cultural context, nor does it emerge from any of those domains. Rather, it is anchored in, and distributed across, all of those domains with all of their available levels. The Upper Left quadrant is simply the functional locus of a distributed phenomenon.

In particular, consciousness cannot be pinned down with "simple location" (which means, any type of location in the sensorimotor worldspace, whether that location actually be simple or dispersed or systems oriented). Consciousness is distributed, not just in spaces of extension (Right Hand), but also in spaces of intention (Left Hand), and attempts to reduce one to the other have consistently and spectacularly failed. Consciousness is not located inside the brain, nor outside the brain either, because both of those are physical boundaries with simple location, and yet a good part of consciousness exists not merely in physical space but in emotional spaces, mental spaces, and spiritual spaces, none of which have simple location, and yet all of which are as real (or more real) than simple physical space (they are Left Hand, not Right Hand, occasions).

The Right Hand reductionists attempt to reduce intentional spaces to extensional spaces and then "locate" consciousness in a hierarchical network of physically extended emergents (atoms to molecules to cells to nervous system to brain), and that will never, never work. It gives us, more or less, only half the story (the Right Hand half).

David Chalmers (1995) recently caused a sensation by having his essay "The Puzzle of Conscious Experience" published by *Scientific American*, bastion of physicalist science. Chalmers's stunning conclusion was that sub-

jective consciousness continues to defy all objectivist explanations. "Toward this end, I propose that conscious experience be considered a fundamental feature, irreducible to anything more basic. The idea may seem strange at first, but consistency seems to demand it" (p. 83). It never ceases to amaze how Anglo-Saxon philosophers greet the reinvention of the wheel with such fuss.

But Chalmers makes a series of excellent points. The first is the irreducibility of consciousness, which has to be "added" to the physical world in order to give a complete account of the universe.

This simple attempt to reintroduce both Left and Right Hand domains to the Kosmos has been considered quite bold, a testament to the power of reductionism against which so obvious a statement seems radical. Chalmers moves toward a formulation: "Perhaps information has two basic aspects: a physical one and an experiential one.... Wherever we find conscious experience, it exists as one aspect of an information state, the other aspect of which is embedded in a physical process in the brain" (p. 85). That is, each state has an interior/intentional and exterior/physical aspect. But perhaps all holons have not just those two, but rather four, fundamental and irreducible aspects. So every "information state" actually and simultaneously has an intentional, behavioral, cultural, and social aspect; and moreover, each of those aspects has at least ten basic levels — much closer to a theory of everything, if such even makes any sense.

Chalmers goes on to point out that all of the physicalist and reductionist approaches to consciousness, including Daniel Dennett's (1991) and Francis Crick's, only solve what Chalmers calls "the easy problems" (such as objective integration in brain processes) leaving the central mystery of consciousness untouched. He is quite right, of course.

Chalmers says that "the hard problem" is "the question of how physical processes in the brain give rise to subjective experience" — that is, how physical and mental interact. This is still the Cartesian question, and it is no closer to being solved today than it was in Descartes' time — precisely because the brain (and every Right Hand event) has simple location, whereas intentionality (and every Left Hand event) does not.

For example, in the simple hierarchy: physical matter, sensation, perception, impulse, image, symbol, concept.... there is an explanatory gap between matter and sensation that has not yet been satisfactorily bridged — not by neuroscience, nor cognitive science, nor neuropsychology, nor phenomenology, nor systems theory. As David Joravsky (1982) put it in his review of

Richard Gregory's (1982) *Mind in Science*. "How is sensation related to neural activity? Unfortunately, we do not know." The reason, he says, is that there is "an irreducible gap between physics and sensation which physiology cannot bridge" — what he calls "an impassible gulf between our two realms." Between, that is, the Left and Right halves of the Kosmos.

But, of course, it is not actually an impassible gulf: you see the physical world right now, so the gulf is bridged. The question is, how? And the answer, we believe, only discloses itself to postformal awareness. The "impassible gulf" is simply another name for the subject/object dualism, which is the hallmark, not of Descartes's error, but of all manifestation, which Descartes simply happened to spot with unusual clarity. It is still with us, this gap, and it remains the mystery hidden in the heart of *samsara*, a mystery that absolutely refuses to yield its secrets to anything less than postformal and nondual consciousness development (we will return to this in a moment).

In the meantime, one thing seems certain: the attempt to solve this dilemma by any sort of reductionism — attempting to reduce Left to Right or Right to Left, or any quadrant to any other, or any level to any other — is doomed to failure, simply because the four quadrants are apparently very real aspects of the human holon, aspects that aggressively resist being erased or reduced. Such reductionisms, to borrow Joravsky's phrase, "create mysteries or nonsense, or both together."

And that is precisely why some kind of "all-quadrant, all-level" approach to consciousness is likely the only viable approach to a genuinely integral theory of consciousness. We can now look briefly at what might be involved in the methodology of such an approach.

Methodology of an integral approach

The methodology of an integral study of consciousness would apparently require at least three broad wings. The first is a commitment to interdisciplinary study and thinking. In our time of massive information overload this is obviously no small requirement and none of us will master it. However, all of us can try to seek out and be open to ideas and information outside our own particular base (quadrant-level).

This allows us to begin the second requirement: the simultaneous tracking of the various levels and lines in each of the quadrants, then noting their

correlations, each to all the others, and in no way trying to reduce any to the others.

The third is our own interior transformation and development. This is one crucial reason why the Left Hand dimensions of immediate consciousness have been so intensely ignored and aggressively devalued by most "scientific" researchers. Any Right Hand path of knowledge can be engaged without a demand for interior transformation (or change in level of consciousness); one merely learns a new translation (within the same level of consciousness). More specifically, most researchers have already, in the process of growing up, transformed to rationality (formop or vision-logic), and no higher transformations are required for empiric-analytic or systems theory investigations.

But the Left Hand paths, at the point that they begin to go postformal, demand a transformation of consciousness in the researchers themselves. You can master quantum physics without transforming consciousness; but you cannot in any fashion master Zen without doing so.

But if you have not transformed to (or at least strongly glimpsed) the causal and nondual realms (transpersonal and postformal), you will not be able to see the referents of most of Plotinus's sentences, or those of other transpersonal philosophies (Walsh 1989). They will make no sense to you. You will think Plotinus is "seeing things" — and he is, and so could you and I, if we both transform to those postformal worldspaces, whereupon the referents of Plotinus's sentences, referents that exist in the causal and nondual worldspaces, become plain as day. And that transformation is an absolutely unavoidable part of the paradigm (the injunction) of an integral approach to consciousness.

So those three wings — interdisciplinary study, nonreductionistic "simul-tracking" of all quadrants, and the transformation of researchers themselves — may all be essential for an integral approach to consciousness. Thus, an integral theory of consciousness is not merely an eclecticism of the dozen major approaches summarized above, but rather a tightly integrated approach that follows intrinsically from the holonic nature of the Kosmos.

The methodology of an integral approach to consciousness is obviously complex, but it follows some of the simple guidelines we have already outlined: three strands, four validity claims, ten or more levels of each. To briefly review:

The three strands operative in all valid knowledge are injunction, apprehension, confirmation (or exemplar, evidence, confirmation/rejection; or in-

strumental, data, fallibilism). These three strands appear to operate in the generation of all valid knowledge — on any level, in any quadrant. But each quadrant has a different architecture and thus a different type of validity claim through which the three strands operate: propositional truth (Upper Right), subjective truthfulness (Upper Left), cultural meaning (Lower Left), and functional fit (Lower Right).

Further, there are at least ten major levels of development in each of those quadrants and thus the knowledge quest takes on different forms as we move through those various levels in each quadrant. The three strands and four claims are still fully operating in each case, but the specific contours vary.

Meditation: An opportunity for integral research

There has recently been an explosion of meditation research and a recent review listed well over 1000 publications (Murphy & Donovan 1997). However, this research has its limitations. Most subjects have been relative beginners who have not accessed higher states and stages, many parameters have been only vaguely related to the goals of meditation (i.e., transpersonal development), many researchers have not themselves done sufficient practice to understand the significance of advanced experiences, and there has been little integration across quadrants. (Notable partial exceptions can be found in Alexander et al. 1990; Wilber et al. 1986). However, the opportunity for more multilevel, multiquadrant integrative research is available. What might such a program look like?

One place to begin would be in the Upper Left quadrant with a careful examination of the phenomenology of advanced experiences. This could include both the content analysis of classic texts, such as Daniel Brown (1986) has begun, and with interviews of contemporary practitioners: paper and pencil measures such as the Profile of Meditative Experiences and interpretative techniques such as the Rorschach (Brown & Engler 1986). The result would be a detailed phenomenology of meditative experience.

At least some of these experiences will reflect higher states and stages. As such they will be comprehensible to researchers only to the extent that the researchers themselves have transformed to, or at the very least glimpsed, these levels. Otherwise the phenomenology of these higher stages, as well as the psychologies and philosophies derived from them, will remain what Immanuel Kant called "empty concepts" (Walsh 1989). Therefore, undertak-

ing a contemplative discipline of some kind will be a necessary prerequisite for researchers studying these areas.

These subjective findings could be correlated with objective Upper Right quadrant parameters. These include both psychometric scales (Alexander et al. 1990) biology, e.g., electroencephalography, brain imaging (MRI & PET), and biochemistry (Shapiro & Walsh 1984; West 1987). At the specific moment of any particular meditative experience, what are the physiological correlates?

On the collective side, it would be fascinating to see the social forms and institutions (Lower Right quadrant) that practitioners prefer, create and feel supported by. Considerable information is available from classical texts, which suggest lifestyles and institutions of simplicity, quiet, nonmaterialism, service, and a *sangha* (community of practitioners). How these institutions will manifest in the contemporary information age is a viable object of research. Conversely, what social institutions are conducive to meditative development?

To complete the integral picture we will want to investigate the culture (Lower Left quadrant) that accompanies these postformal experiences, biology and social structures. What worldviews and ethical systems arise? What shared understanding of reality emerges, and how does it affect experience, behavior and social institutions? Conversely, what are the effects of intersubjective structures — different languages, worldviews, moral systems — on meditative experiences?

And of course we will want to examine development across time in all four quadrants. How do gradually deepening experiences and insights interact with behavior, culture and society?

An integral, all-quadrant, multilevel (both personal and transpersonal) developmental approach such as this is demanding and will obviously require that researchers have interdisciplinary skills and contemplative training. But the rewards will be a far richer understanding of this area than any we have had to date.

Let us now quickly run through the major schools of consciousness studies outlined in the Introduction and indicate exactly some of the implications of an integral approach in each case.

An all-quadrant, all-level approach

The emergent/connectionist cognitive science models (such as Alwyn Scott's *Stairway to the Mind*) apply the three strands of knowledge acquisition to the Upper Right quadrant, the objective aspects of individual holons. Statements are thus guided by the validity claim of propositional truth tied to empirically observable events, which means that in this approach the three strands will acknowledge only those holons that register in the sensorimotor worldspace (i.e., holons with simple location, empirically observable by the senses or their extensions). Nonetheless, all holons without exception are holarchic, or composed of hierarchical holons within holons indefinitely, and so this emergent/connectionist approach will apply the three strands to objective, exterior, hierarchical systems as they appear in the individual, objective organism (the Upper Right quadrant).

All of this is fine, right up to the point where these approaches overstep their epistemic warrant and try to account for the other quadrants solely in terms of their own. In the case of the emergent/connectionist theories, this means that they will present a valid Upper Right hierarchy (atoms to molecules to cells to neural pathways to reptilian stem to limbic system to neocortex). But then consciousness is somehow supposed to miraculously jump out at the top level (the Left Hand dimensions are often treated as a monolithic and monological single entity, and then this "consciousness" is simply added on top of the Right Hand hierarchy, instead of seeing that there are levels of consciousness which exist as the interior or Left Hand dimension of every step in the Right Hand hierarchy).

So in an integral theory of consciousness, we would certainly include the Upper Right hierarchy and those aspects of the emergent/connectionist and evolutionary psychology models that legitimately reflect that territory; but where those theories overstep their epistemic warrant (and are thus reduced to reductionism), we should perhaps move on.

The introspective/interpretative approaches give us the interior contours of individual consciousness: the three strands legitimately applied to the interior of individual holons under the auspices of truthfulness. This exploration and elucidation of the Upper Left quadrant is an important facet of an integral approach to consciousness. It is perhaps best exemplified in the first-person, phenomenological, and interpretive accounts of consciousness that can be found from depth psychology to phenomenology to meditation and

contemplation, all of which, at their most authentic, are guided by injunction, apprehension, and confirmation, thus legitimately grounding their knowledge claims in reproducible evidence.

Eastern and nonordinary state models point out that there are more things in the Upper Left quadrant than are dreamt of in our philosophy, not to mention our conventional psychologies. The three strands of all valid knowledge are here applied to states that are largely nonverbal, postformal, and transpersonal.

Those approaches are quite right: no theory of consciousness can hope to be complete that ignores the higher or postformal dimensions of consciousness itself. Moreover, this demands that, at some point, researchers interested in these levels and their implications must transform their own consciousness in order to be adequate to the evidence. This is not a loss of objectivity but rather the prerequisite for data accumulation, just as we do not say that learning to use a microscope is the loss of one's objectivity — it is simply the learning of the injunctive strand. In this case, the data is postformal, and so therefore is the injunction.

Advocates of subtle energies (*prana*, bioenergy) bring a piece of the puzzle to this investigation. However, they often seem to believe that these subtle energies are the central or even sole aspect of consciousness, whereas these energies may be merely one of the lower dimensions in the overall spectrum itself. For the Great Chain theorists, East and West, *prana* is simply the link between the material body and the mental domain. Moreover, the whole point of a four-quadrant analysis is that what the great wisdom traditions tended to represent as disembodied, transcendental, and nonmaterial modes actually have correlates in the material domain (every Left Hand occasion has a Right Hand correlate), and thus it is much more accurate to speak of the physical bodymind, the emotional bodymind, the mental bodymind, and so on. This simultaneously allows transcendental occasions and firmly grounds them. And in this conception, *prana* is simply the emotional bodymind in general, with correlates in all four quadrants (subjective: proto-emotions; objective: limbic system; intersubjective: magical; interobjective: tribal). What is not helpful, however, is to claim that these energies alone hold the key to consciousness.

Psi studies (telepathy, precognition, psychokinesis, clairvoyance) have been some of the more controversial aspects of consciousness research. This controversy may be resolving in light of recent advances. These advances

include increasingly tight experimental designs, replicable findings across laboratories (e.g. the Ganzfield studies), and statistical meta-analyses which have revealed surprisingly highly significant findings (Radin 1997).

None of the intentional and Left Hand dimensions of consciousness follow the physical rules of simple location, and we don't need psi events to tell us that. Thus, an integral theory of consciousness would take seriously at least the possibility of psi phenomena, without blowing their possible existence all out of proportion; they are, at best, a small slice of a very big pie.

Of the thirteen major approaches listed in the introduction, the quantum approaches are the ones that appear to lack substantial evidence at this time. To date the theoretical conclusions (such as that intentionality collapses the Schrödinger wave function) are based on extremely speculative notions that most physicists themselves find quite dubious (Wilber 1996).

A central problem with these quantum approaches is that they are trying to solve the subject/object dualism on a level at which it cannot be solved. That problem is (dis)solved only in postformal development, and no amount of formal propositions will come anywhere near the solution. Nonetheless, this line of research might help to elucidate some of the interactions between biological intentionality and matter.

All of those approaches center on the individual. But the cultural approaches to consciousness point out that individual consciousness does not, and cannot, arise on its own. All subjective events are always already intersubjective events. There is no private language; there is no autonomous consciousness. The very words we are both now sharing were not invented by us, do not come solely from my consciousness or from yours. Rather, we simply find ourselves in a vast intersubjective worldspace in which we live and move and have our being. This cultural worldspace (the Lower Left quadrant) has a hand in the very structure, shape, feel, and tone of our consciousness, and no theory of consciousness is complete that ignores this crucial dimension.

In these cultural hermeneutic approaches, the three strands are applied to the intersubjective circle itself, the deep semantics of the worlds of meaning in which we collectively exist. These cultural worldspaces evolve and develop (archaic to magic to mythic to mental, etc.), and the three strands applied to those worldspaces, under the auspices of mutual understanding and appropriateness, reveal those cultural contours of consciousness, which is exactly the course these important approaches take. This, too, is a crucial component of an integral theory of consciousness.⁴

As for the social sciences: the materialities of communication, the technological base, and the social system in the objective sense reach deep into the contours of consciousness to mold the final product. The three strands, under the auspices of propositional truth and functional fit, expose these social determinants at each of their levels, which is exactly the appropriate research agenda of the empirical social sciences.

A narrow Marxist approach, of course, has long been discredited (precisely because it oversteps its warrant, reducing all quadrants to the Lower Right). However, the moment of truth in historical materialism is that the modes of material production (e.g., foraging, horticultural, agrarian, industrial, informational) have a profound and constitutive influence on the actual contents of individual consciousness, and thus an understanding of these social determinants is absolutely crucial for an integral theory of consciousness.

Summary and Conclusion

This outline, abbreviated as it is, nonetheless indicates the broad contours of the methodology of an integral theory of consciousness, and indicates the inadequacy of less comprehensive approaches. The integral aspect enters in simultaneously tracking each level and quadrant in its own terms and then noting the correlations between them. This is a methodology of contemporaneously tracking the various levels and lines in each of the quadrants and then correlating their overall relations, each to all the others, and in no way trying to reduce any to the others.

This "simultracking" requires a judicious and balanced use of all four validity claims (truth, truthfulness, cultural meaning, functional fit). Each of these is redeemed under the warrant of the three strands of valid knowledge acquisition (injunction, apprehension, confirmation) carried out across the dozen or more levels in each of the quadrants — which means, in shorthand fashion, the investigation of sensory experience, mental experience, and spiritual experience: the eye of flesh, the eye of mind, and the eye of contemplation: all-level, all-quadrant.

And this means that, where appropriate, researchers will have to engage various injunctions that transform their own consciousness, if they are to be adequate to the postformal data. If we do not do this, then we will not know

this. We will be the Churchmen refusing Galileo's injunction: look through this telescope and tell me what you see.

Thus, an integral approach to consciousness might include the following agendas:

1. Continue research on the various particular approaches. Each of the thirteen approaches almost certainly has some sort of important (if limited) truth to contribute.
2. Confront the simple fact that, in some cases, a change in consciousness on the part of the researchers themselves is mandatory for the investigation of consciousness itself.
3. Continue to grope our way toward a genuinely integral theory of consciousness itself. This includes the actual methodology of "simultracking" the various phenomena in each level-quadrant and noting their actual interrelations (the "simultracking" of events in "all-quadrant, all-level" space).

Thus, each of the thirteen approaches finds an important and indispensable place, not as an eclecticism, but as an intrinsic aspect of the holonic Kosmos. Put simply, an integral theory would attempt to seamlessly include and integrate first-, second-, and third-person approaches. The analysis presented here suggests that every first-person experience is embedded in second-person structures with third-person correlates, and all can, and should, be investigated simultaneously. Subjective awareness is correlated with objective forms, and both arise only in the clearing created by intersubjective structures, such that all three domains (or more specifically, all four quadrants) are mutually caused and causing: the 1-2-3 of consciousness studies.

The methodologies that purport to give us a "theory of consciousness," but which investigate only one quadrant (not to mention only one level in one quadrant) are clearly not giving us an adequate account of consciousness at all.

However, an "all-quadrant, all-level" approach holds a chance of an authentic and integral theory of consciousness, if such indeed exists.

Notes

1. See Jantsch (1980) for an extended discussion of this theme. Jantsch correlates "microevolution" (of individual holons) with "macroevolution" (their collective/social forms), pointing out the coevolutionary interactions between individual and social.

2. This becomes extremely important in individual psychotherapy and depth psychology, because those disciplines have fundamentally exposed the ways in which I might be untruthful to myself about my own interior status. "Repression" and other defences are deceptions, concealment, or lies about the contours of my own interior space, and "therapy" (or at least insight oriented therapy) is essentially learning ways to be more honest and truthful when interpreting my interior texts. Therapy is the sustained application of the validity criterion of truthfulness to one's own estate.
3. Of course, not everybody who takes up Zen — or any contemplative endeavor — ends up fully mastering the discipline, just as not everybody who takes up quantum physics ends up fully comprehending it. But those who do succeed — in both contemplation and physics, and indeed, in any legitimate knowledge quest — constitute the circle of competence against which validity claims are struck, and Zen is no exception in this regard.
4. The fact that we all exist in cultural worldspaces that are governed largely by interpretive and not merely empirical realities, and the fact that these cultural interpretations are partially constructed and relative, has been blown all out of proportion by the postmodern poststructuralists, who in effect claim this quadrant is the only quadrant in existence. They thus attempt to reduce all truth and all validity claims to nothing but arbitrary cultural construction driven only by power or prejudice or race or gender. This cultural constructivist stance thus lands itself in a welter of performative self-contradictions: it claims that it is true that there is no such thing as truth; it claims that it is universally the case that only relativities are real; it claims that it is the unbiased truth that all truth is biased; and thus, in all ways, it exempts its own truth claims from the restrictions it places on everybody else's. Whenever the other quadrants are denied reality, they in effect sneak back into one's system in the form of internal self-contradictions — the banished and denied validity claims reassert themselves in internal ruptures (Wilber 1995, 1997).
Thus the extreme cultural constructivists implicitly claim objective and universal truth for their own stance, a stance which explicitly denies the existence of both universality and truth. Hence John Searle (1995) had to beat this approach back in his wonderful *The Construction of Social Reality*, as opposed to "the social construction of reality," the idea being that cultural realities are constructed on a base of correspondence truth which grounds the construction itself, without which no construction at all could get under way in the first place. Once again, we can accept the partial truths of a given quadrant — many cultural meanings are indeed constructed and relative — without going overboard and attempting to reduce all other quadrants and all other truths to that partial glimpse.

References

- Alexander, C., Langer, E., Newman, R., Chandler, H. & Davies, J. 1989. Transcendental Meditation, mindfulness and longevity: An experimental study with the elderly. *Journal of Personality and Social Psychology*, 57, 950-964.
- Alexander, C., Rainforth, M. & Gelderloos, P. 1991. Transcendental Meditation, self actualization, and psychological health: A conceptual overview and statistical meta-analysis. *Journal of Social Behavior and Personality* 6, 189-247.

- Alexander, F., French, T. & Bacon, C. 1946. *Psychoanalytic therapy: Principles and application*. New Jersey: Ronald Press.
- Allport, G. 1964. The fruits of eclecticism: Bitter or sweet? *Acta Psychologica*, 23, 27-44.
- Arlow, J. 1995. Psychoanalysis. In R. Corsini & D. Wedding (Eds.), *Current Psychotherapies* (5th ed., pp. 15-50). Itasca, IL: F.E. Peacock.
- Barkow, J.H., Cosmides, L. & Tooby, J. 1992. The adapted mind: Evolutionary psychology and the generation of culture. Oxford: Oxford University Press.
- Boss, M. 1963. *A psychiatrist discovers India*. New York: Basic Books.
- Brown, D., Forte, M., & Dysart, M. 1984. Differences in visual sensitivity among mindfulness meditators and non-meditators. *Perceptual and Motor Skills*, 58, 727-733.
- Byrom, T. 1976. *The dhammapada: The sayings of the Buddha*. New York: Vintage.
- Chan, W. (Ed.). 1963. *A sourcebook in Chinese philosophy*. Princeton, NJ: Princeton University Press.
- Cree, H. 1953. *Chinese thought from Confucius to Mao Tse-tung*. Chicago: University of Chicago Press.
- Engler, J. 1983. Vicissitudes of the self according to psychoanalysis and Buddhism: A spectrum model of objects relations development. *Psychoanalysis and Contemporary Thought* 6, 29-72.
- Feng, G. & English, J. (Trans.). 1974. *Chuang Tsu: Inner Chapters*. New York: Vintage.
- Feuerstein, G. 1996. *The Shambhala guide to yoga*. Boston: Shambhala.
- Freud, S. 1962. *A general introduction to psychoanalysis* (J. Riviere, Trans.). Garden City, N.J.: Garden City Publishing. (Original work published 1935).
- Freud, S. 1933/1965. *New introduction lectures* (J. Strachey, Trans.). New York: Norton.
- Gabbard, G. 1995. Psychoanalysis. In H. Kaplan & B. Saddock (Eds.), *Comprehensive textbook of psychiatry*. 6th ed., Vol. 1. (pp. 431-478). Baltimore, M.D.: Williams & Wilkins.
- Gampopa 1971. *The jewel ornament of liberation* (H. Guenther, Trans.). Boston: Shambhala.
- Goldstein, J. 1983. *The experience of insight*. Boston, MA.: Shambhala Press.
- Goleman, D. 1988. *The meditative mind*. Los Angeles: J.P. Tarcher
- Goleman, D. 1995. *Emotional intelligence*. N.Y.: Bantam
- Grof, S. 1998. *The cosmic game*. Albany, N.Y.: SUNY Press.
- Ishiyama, F. 1988. Current status of Morita Therapy research. *International Bulletin of Morita Therapy* 1, 58-83.
- Jackendoff, R. 1987. *Consciousness and the computational mind*. Cambridge, Mass: MIT Press.
- James, W. 1910/1950. *The principles of psychology*. New York: Dover.
- James, W. 1958. *The varieties of religious experience*. New York: New American Library.
- James, W. 1960. *William James on psychological research*. G. Murphy & R. Ballou, (Eds.). New York: Viking.
- Jung, C. 1955. *Mysterium conjunctionis: Collected works of Carl Jung (Vol. 14)*. Princeton, N.J.: Princeton University Press.
- Jung, C. 1968. *The psychology of the child archetype, in collected works of C.J. Jung (Vol. 9, Part I), Bollingen Series XX (2nd ed.)*. Princeton, N.J.: Princeton University.
- Jung, C. 1973. *Letters*. Adler, G. (Ed.). Princeton, NJ: Princeton University Press.
- Kabat-Zinn, J. 1990. *Full catastrophe living*. New York: Delacorte.

- Kabat-Zinn, J., Wheeler, E., Light, T., Skillings, A., Scharf, M., Cropley, T., Hosmer, D. & Bernhard, J. 1998. Influence of a mindfulness meditation-based stress reduction intervention on rates of skin clearing in patients with moderate to severe psoriasis undergoing phototherapy (UVB) and photochemotherapy (PUVA). *Psychosomatic Medicine* 60, 625–632.
- Kegan, R. 1982. *The evolving self*. Cambridge, MA.: Harvard University Press.
- Kohlberg, L. 1981. *Essays on moral development: Vol. I. The philosophy of moral development*. New York: Harper and Row.
- Kornfield, J. 1993. *A path with heart*. New York, N.Y.: Bantam Books.
- Kornfield, J. 1995. *Living dharma teachings of twelve Buddhist masters*. Boston: Shambhala.
- Kristeller, J. & Hallett, B. 1999. An exploratory study of a meditation-based intervention for binge eating disorder. *Journal of Health Psychology*. (In press).
- LaBerge, S. 1985. *Lucid dreaming*. Los Angeles: J.P. Tarcher.
- Lau, D. (Trans.) 1979. *Confucius: The analects*. New York: Penguin.
- Lazarus, A. 1995. Multimodal therapy. In R. Corsini & D. Wedding (eds.) *Current psychotherapies* (5th. Ed., pp. 322–355). Itasca, IL.: Peacock.
- Maslow, A. 1967. Self-actualization and beyond. In J. Bugental (Ed.). *Challenges of humanistic psychology* (pp 279–286). New York: McGraw-Hill.
- Maslow, A. 1968. *Towards a psychology of being* (2nd ed.). Princeton: Van Nostrand.
- Maslow, A. 1970. *Religions, values and peak experiences*. New York: Viking.
- Maslow, A. 1971. *The farther reaches of human nature*. New York: Viking.
- Murphy, M. & Donovan, S. 1997. *The physical and psychological effects of meditation*. Sausalito, CA: Institute of Noetic Sciences.
- Myers, D. 1992. *The pursuit of happiness*. New York: Avon.
- Needleman, J. 1984. *The heart of philosophy*. New York: Bantam.
- Nisagadatta, Sri 1973. *I am that: Conversations with Sri Nisargadatta Maharaj*. Vol. 1. (M. Friedman, Trans.). Bombay: Chetana.
- Nyanaponika 1976. *Abhidharma studies*. Kandy, Sri Lanka: Buddhist Publication Society.
- Ornish, D. 1990. *Dr. Dean Ornish's program for reversing heart disease*. New York: Ballantine Books.
- Perls, F. 1969. *Gestalt therapy verbatim*. Lafayette, CA: Real People Press.
- Perry, W. (Ed.) 1981. *The treasury of traditional wisdom*. Pates Middlesex, UK: Perennial Books.
- Prabhavananda, S. & Isherwood, C. (Trans.). 1972. *The song of God: Bhagavad Gita* (3rd ed.). Hollywood: Vedanta Society.
- Prabhavananda, S. & Isherwood, C. (Trans.) 1978. *Shankara's crest-jewel of discrimination*. Hollywood: Vedanta Press.
- Raskin, N. & Rogers, C. 1995. Person-centered therapy. In R. Corsini & D. Wedding (Eds.), *Current psychotherapies* (5th ed., pp. 128–161). Itasca: IL: F.E. Peacock.
- Reynolds, D. 1981. Naikan psychotherapy. In R. J. Corsini (Ed.), *Handbook of innovative psychotherapies* (pp 544–553). New York: John Wiley.
- Rogers, C. 1959. A theory of therapy, personality and interpersonal relationships as developed in the client centered framework. In S. Koch (Ed.), *Psychology: The study of a science* (Vol 3., pp. 184–256). New York: McGraw Hill.
- Schumacher, E. 1973. *Small is beautiful: Economics as if people mattered*. New York: Harper and Row.

- Sengstan 1975. *Verses on the faith mind* (R. Clarke, Trans.). Sharon Springs, NY: Zen Center.
- Shapiro, D.H. 1980. *Meditation: Self regulation strategy and altered state of consciousness*. New York: Aldine.
- Shapiro, D. & Astin, J. 1998. *Control therapy*. N.Y.: John Wiley
- Shapiro, D. & Walsh, R. (Eds.). 1984. *Meditation: Classic and contemporary perspectives*. New York: Aldine.
- Shapiro, S., Schwartz, G & Bonner, G. 1999. Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine* 21, 581–599.
- Shearer, P. (Trans.). 1982. *Effortless being: The Yoga Sutras of Patanjali*. London: Wildwood House.
- Tart, C. 1986. *Waking up: Overcoming the obstacles to human potential*. Boston: New Science Library/Shambhala.
- Walsh, R. 1989. Can Western philosophers understand Asian philosophies? *Crosscurrents*, XXXIX, 281–299 (Reprinted in J. Ogilvy (Ed.) *Revisoning Philosophy*. Albany, N.Y.: SUNY Press).
- Walsh, R. 1990. *The spirit of shamanism*. Los Angeles: J. Tarcher.
- Walsh, R. 1999. *Essential spirituality: The seven central practices to awaken heart and mind*. New York: John Wiley.
- Walsh, R. & Shapiro, D.H. (Eds.). 1983. *Beyond health and normality: Explorations of exceptional psychological wellbeing*. New York: Van Nostrand Reinhold.
- Walsh, R. & Vaughan, F. (Eds.). 1993. *Paths beyond ego: The transpersonal vision*. Los Angeles: J. Tarcher.
- West, M. (Ed.). 1987. *The psychology of meditation*. Oxford: Clarendon Press.
- Whitmont, E. 1969. *The symbolic quest*. Princeton: Princeton University Press.
- Wilber, K. 1980. *The Atman project*. Wheaton, IL: Quest.
- Wilber, K. 1981. *No boundary*. Boston, MA: New Science Library/ Shambhala.
- Wilber, K. 1995. *Sex, ecology, spirituality*. Boston: Shambhala.
- Wilber, K. 1996. *A brief history of everything*. Boston, MA: Shambhala.
- Wilber, K. 1997. *The eye of spirit*. Boston: Shambhala.
- Wilber, K. 1999a. *One taste: The journals of Ken Wilber*. Boston: Shambhala.
- Wilber, K. 1999b. *The collected works of Ken Wilber (5 Vols.)*. Boston: Shambhala.
- Wilber, K., Engler, J. & Brown, D. (Eds.). 1986. *Transformations of consciousness: Conventional and contemplative perspectives on development*. Boston: New Science Library/Shambhala.
- Yalom, I. 1980. *Existential psychotherapy*. New York: Basic Books.
- Yu-Lan, Fung. 1948. *A short history of Chinese philosophy*. (D. Bodde, trans.). N.Y.: Free Press/MacMillan.