AN INTEGRAL THEORY OF CONSCIOUSNESS

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Abstract: An extensive data search among various types of developmental and evolutionary sequences yielded a `four quadrant' model of consciousness and its development (the four quadrants being intentional, behavioural, cultural, and social). Each of these dimensions was found to unfold in a sequence of at least a dozen major stages or levels. Combining the four quadrants with the dozen or so major levels in each quadrant yields an integral theory of consciousness that is quite comprehensive in its nature and scope. This model is used to indicate how a general synthesis and integration of twelve of the most influential schools of consciousness studies can be effected, and to highlight some of the most significant areas of future research. The conclusion is that an `all-quadrant, all-level' approach is the minimum degree of sophistication that we need into order to secure anything resembling a genuinely integral theory of consciousness.

Introduction

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. My own approach to consciousness studies is based on the assumption 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* tends to view consciousness as anchored in functional schemas of the brain/mind, either in a simple representational fashion (such as Jackendoff's `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* (1995), the `stairway' being the hierarchy of emergents summating 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 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, neurotransmitters, and organic brain mechanisms. 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. Anchored in neuroscience more than computer science, it views consciousness as intrinsically residing in organic neural systems of sufficient complexity.

4. *Individual psychotherapy* uses introspective and interpretive psychology to treat distressing symptoms and emotional problems; 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 the relation of psychopathology, behavioural patterns, and psychopharmacology. For the last half century, psychiatry was largely anchored in a Freudian metapsychology, but the field increasingly tends to view 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 entity but as a developmentally unfolding process with a substantially different architecture at each of its stages of growth, and thus an understanding of consciousness demands an investigation of 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 inter-active with organic bodily processes, evidenced in such fields as psychoneuro- immunology and biofeedback. In its more avant-garde forms, this approach includes consciousness and miraculous healing, the effects of prayer on remarkable recoveries, 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 opinion in this area of research is that they also act as a `nonspecific amplifier of experience', and thus they can be instrumental in disclosing and amplifying aspects of consciousness that might otherwise go unstudied.

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 excep- tional potentials. Moreover, they all maintain that the essentials of consciousness itself can only be grasped in these higher, postformal, and nondual states of consciousness.

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 the many and various attempts to plug consciousness into the physical world according to various avant-garde physical theories (bootstrapping, hyperspace, strings).

12. *Subtle energies* research has postulated that there exist subtler types of bio- energies 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.

My own approach to consciousness 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* (Wilber *et al.*, 1986), *A Brief History of Everything* (1996d) and *The Eye of Spirit* (1997), which the interested reader can consult for detailed arguments and extensive references. But I believe the following summary is more than adequate for our present purposes.

The Four Corners of the Kosmos

Figure 1 (below) is a schematic summary of what I call `the four quadrants' of existence: intentional, behavioural, cultural and social. These four quadrants are a summary of a data search across various developmental and evolutionary fields. I examined over two hundred developmental sequences recognized by various branches of human knowledge -- ranging from stellar physics to molecular biology, from anthropology to linguistics, from developmental psychology to ethical orientations, from cultural hermeneutics to contemplative endeavours -- taken from both Eastern and Western disciplines, and including premodern, modern, and postmodern sources (Wilber 1995b, 1996d). I noticed that these various developmental sequences all fell into one of four major classes -- the four quadrants -- and further, that 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 *a priori* assumption.

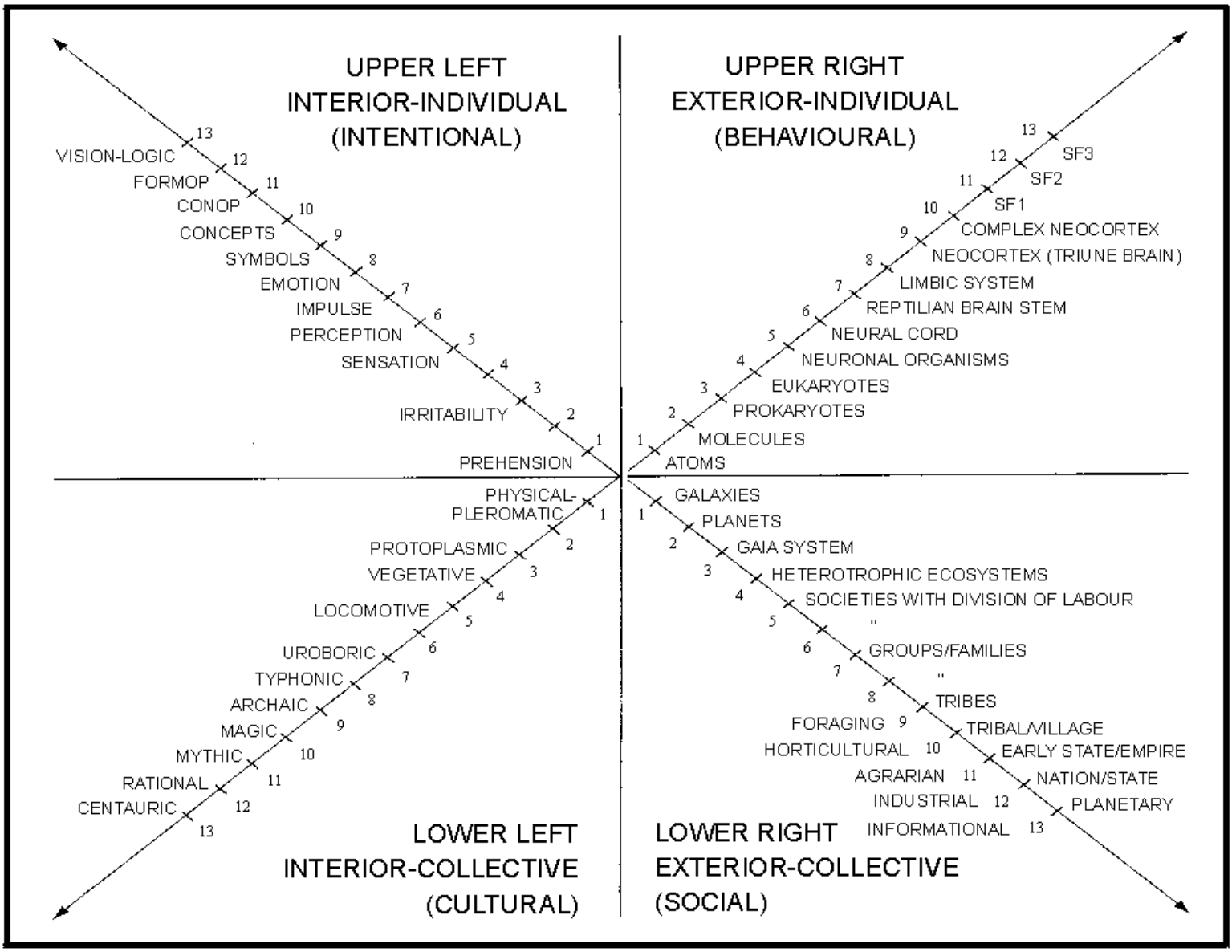

Figure 1: The Four Quadrants

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.

The Upper Right 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 I 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.

But individual holons always exist in communities of similar holons. In fact, the very existence of individual holons in many ways depends upon communities of other holons that, if nothing else, provide the background fields in which individual holons can exist. Erich Jantsch, in his pioneering book *The Self-Organizing Universe* (1980), 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 prokaryotes, 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 being 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 I have summarized as: evolution produces greater depth, less span (Wilber, 1995b).

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 inter-objective realities; they are what individual and communal holons look like from the outside, in an exterior and objectifying fashion.

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, which I have simply 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'; these correspond with structure-functions in the brain that I have simply labeled SF1, SF2, and SF3 in the Upper Right). The existence of most of those emergent properties are, as I said, largely uncontested by specialists in the field, and the holons I have 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 pushes it all the way down, to the atoms of existence (actual occasions), while most scientists find this a bit much. My own sense is that, since holons are `bottomless', how much `consciousness'

each of them possesses is an entirely relative affair. I don't think we need to draw a bold line in the existential sand and say, on this side of the line, consciousness; on that side, utter darkness. Indeed, the whole point of the hierarchy of evolutionary emergents of apprehension is that consciousness is almost infinitely graded, with each emergent holon possessing a little more depth and thus a bit more apprehension. However much `consciousness' or `awareness' or `sensitivity' or `responsiveness' a tree might have, a cow has more; an ape has more than that, and so on. How far down you actually push some form of prehension is up to you (and won't substantially alter my main points). As for myself, I always found Teilhard de Chardin's (1964) conclusion 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.'

That is the Upper Left quadrant, and it represents the interior of individual holons; but, 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 various worldspaces or worldviews or communally-shared sensitivity (from flocks of geese to human *zeitgeis*t). These various cultural or communal interiors are summarized in the Lower Left quadrant.

Again, how far down you push a cultural background (or collective prehension) depends upon how far down you are willing to push individual prehension. I believe it shades all the way down, simply because exteriors don't make sense without interiors, and agency is always agency-in-communion. Nonetheless, my main points concern human consciousness, and we can all probably agree that humans possess not only a subjective space (the Upper Left) but also certain *intersubjective* spaces (the Lower Left). Those who have carefully investigated the *historical evolution of cultural worldviews* include researchers from Jean Gebser to Michel Foucault to J<129>rgen Habermas; I have outlined this research in the book *Up from Eden* (1996b) and summarized it 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); and `centauric' means a bodymind integration and cognitive synthesizing activity (which some researchers, including Gebser and Habermas, see starting to emerge at this time).

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 behavioural), interior-individual (or intentional), exterior- collective (or social), and interior-collective (or cultural) -- a grid of subjective, objective, intersubjective, and interobjective realities. Exactly what these various grids mean will continue to unfold with the discussion.

As I said, the holons in each of those four quadrants were not postulated in any sort of *a priori* or `metaphysical' fashion; they were rather suggested by an *a posteriori* data search across several hundred disciplines. I noticed that the developmental or dimensional analyses they described all fell into one of these four broad types of sequences, which, it soon became obvious, simply referred to the *interior* and the *exterior* of the *singular* and the *collective*. This makes a certain amount of intuitive sense; after all, some of the simplest distinctions we can make are between singular and plural, inside and outside, and it seems that evolution makes those distinctions as well, because it appears that development occurs in all four of those dimensions, and the four quadrants are a simple and very general summary of those evolutionary developments. The holons listed in each of the quadrants represent a great deal of empirical and phenomenological evidence, and, within the various disciplines addressing them, their existence is largely undisputed by serious scholars.

Unfortunately, as we will see, because many researchers specialize in one quadrant only, they tend to ignore or even 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. When I say that the holons presented in each quadrant are largely uncontested, I mean specifically by those who actually study that quadrant in its own terms.

Although the existence of each of the quadrants themselves is largely uncontested by experts in the various fields, once we put these four quadrants together, a sur- prising set of further conclusions rather startlingly announce themselves, and these conclusions are crucial, I believe, to grasping the overall nature of consciousness.

The Contours of Consciousness

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 `three worlds' (subjective, cultural, and objective); Plato's 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' 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 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*).

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 mapmaker 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. I have summarized these validity claims (and their different languages) in Figure 2.

	INTERIOR Left Hand Paths *SUBJECTIVE* *truthfulness* sincerity integrity trustworthiness **I**	EXTERIOR Right Hand Paths *OBJECTIVE* *truth* correspondence representation propositional **it**
INDIVIDUAL		
COLLECTIVE	**we** *justness* cultural fit mutual understanding rightness **INTERSUBJECTIVE**	**it** *functional fit* systems theory web structural-functionalism social systems mesh **INTEROBJECTIVE**

Figure 2. Validity Claims

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 -- I believe we find the following (Wilber, 1996c; 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 pointed out, an actual *practice*, not a mere concept. If you want to know if it is raining outside, go to the window and look. If you want to know if a cell has a nucleus, then learn to take histological sections, learn how to stain cells, put them under a microscope, and look. If you want to know the meaning of *Hamlet*, learn to read English, get the play, read it, and see for yourself.

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, behavioural, cultural, and social), each of which is accessed by a different type of truth or validity claim (objective truth, subjective truthfulness, intersubjective justness, and inter- objective 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).

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, behavioural, 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 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.

Notice that accessing the Left Hand quadrants all depend upon *interpretation* to some extent, whereas the Right Hand quadrants are all, more or less, *empirical* events. Objective exteriors can be *seen*, but all depth requires *interpretation*. My dog can see these physical words written on this page, because the signifiers exist in the sensorimotor worldspace; but you and I are trying to understand the signified meanings, which are not merely empirical and cannot be seen solely with the eye of flesh, but rather are partly intentional and thus can be seen only with the mind's interior apprehension: you must *interpret* the meaning of this sentence. What does he *mean* by that? You can see my behaviour for yourself (with the monological gaze); but you can access my intentionality only by talking to me, and this dialogical exchange requires constant interpretation guided by mutual understanding in the hermeneutic circle.

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 perhaps 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 being that both are indispensable, and that we should not attempt to go one-handed into that dark strange world known as ourselves.

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? 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 of consciousness that I summarized in the Introduction are predicated on the fact that consciousness evolution seems to show evidence of higher or postformal (or `post-postconventional') stages of growth. There appear to be, in other words, several higher stages in the Upper Left quadrant.

The school of transpersonal psychology, in particular, has begun to investigate these higher stages. Substantial crosscultural evidence already 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 also see different brain states associated with these postformal states, as well as different microcommunities or `sanghas', the details of which are outside the scope of the present paper. See Wilber [1995b; 1997] for further discussion.)

The precise definitions of those four postformal stages need not concern us; interested readers can consult the appropriate authorities (e.g. 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, 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.

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 (falsi- fiability). 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]

From these types of experimental, phenomenological, Left-Hand paths of knowledge acquisition, transpersonal researchers have concluded, as I said, that there exist at least four higher stages of postformal development available to men and women 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 and Sri Aurobindo, 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).

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. The Great Chain of Being and Consciousness

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.

Now that is simply another way to say that *each of the quadrants consists of several different levels or dimensions*, as can be readily seen in Figure 1. Moreover, these levels or dimensions have, for the most part, evolved or unfolded over time, linked by an evolutionary logic apparently pandemic in its operation (Dennett, 1995; Habermas, 1979; Wilber, 1995b).

Thus, you can perhaps start to see why I maintain that an `all-quadrant, all-level' approach is the minimum degree of sophistication that we need into order to secure anything resembling a genuinely integral theory of consciousness. And remember, all of this is suggested, not by metaphysical foundations and speculations, but by a rigorous data search on evidence already available and already largely uncontested.

That being so, let us continue drawing conclusions from this `all-quadrant, all-level' data base.

Consciousness Distributed

If we now return to the dozen theories of consciousness that I outlined in the Introduction, we can perhaps start to see why all of them have proven to be 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 I strongly maintain that all of those approaches are equally 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, which I will explain in detail in a moment.

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, and distributed across, all of the quadrants -- intentional, behavioural, 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 fully anchored in cultural meaning (the intersubjective chains of cultural signifieds), without which there is simply no individuated consciousness at all. 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 can you generate it 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 these 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 (subtle 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' stunning conclusion was that subjective 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. `Thus, a complete theory will have two components: physical laws, telling us about the behavior of physical systems from the infinitesimal to the cosmological, and what we might call psychophysical laws, telling us how some of those systems are associated with conscious experience. These two components will constitute a true theory of everything' (p. 83).

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. My view, of course, is that all holons have not just those two, but rather four, fundamental and irreducible aspects, so that every `information state' actually and simultaneously has an intentional, behavioural, 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 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. The funny thing is, all of the physicalist scientists who are sitting there and reading Chalmers' essay are already fully in touch with the mystery: they are already directly in touch with their lived experience, immediate awareness, and basic consciousness. But instead of directly investigating that stream (with, say, *vipassana* meditation [Varela *et al.*, 1993]), they sit there, reading Chalmers' essay, and attempt to understand their own consciousness by objectifying it in terms of digital bits in neuronal networks, or connectionist pathways hierarchically summating in the joy of seeing a sunrise -- and when none of those really seem to explain anything, they scratch their heads and wonder why the mystery of consciousness just refuses to be solved.

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 *Mind in Science* (1982), `Seeing is broken down into component processes: *light*, which is physical; excitation in the neural network of eye and brain, which is also physical; *sensation*, which is subjective and resists analysis in strictly physical terms; and *perception*, which involves cognitive inference from sensation and is thus even less susceptible to strictly physical analysis.' Gregory himself poses the question, `How is sensation related to neural activity?' and then summarizes the precise state-of-the-art knowledge in this area: `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 impassable gulf: you see the physical world right now, so the gulf is bridged. The question is, how? And the answer, as I suggested in *Eye to Eye*, only discloses itself to postformal awareness. The `impassable gulf' is simply another name for the subject/object dualism, which is the hallmark, not of Descartes' 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 (I 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 I believe that an `all-quadrant, all-level' approach to consciousness is very 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 need to include two broad wings: the first is the simultaneous tracking of the various levels and lines in each of the quadrants, and then noting their correlations, each to all the others, and in no way trying to reduce any to the others.

The second is the *interior transformation of the researchers themselves*. This is the real reason, I suspect, that 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 100 per cent of quantum physics without transforming consciousness; but you cannot in any fashion master Zen without doing so. You do not have to transform to understand Dennett's *Consciousness Explained*; you merely translate. But you must transform to actually understand Plotinus' *Enneads*. You are already adequate to Dennett, because you both have already transformed to rationality, and thus the *referents* of Dennett's sentences can be easily seen by you (whether or not you agree, you can at least see what he is referring to, because his referents exist in the rational worldspace, plain as day). 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' sentences. 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' 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 two wings -- the nonreductionistic `simultracking' of all quadrants and the transformation of researchers themselves -- are both necessary for an integral approach to consciousness, in my opinion. Thus, I do not mean for an integral theory of consciousness to be an eclecticism of the dozen major approaches I 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 instrumental, data, fallibilism). These three strands operate in the generation of all valid knowledge --

on any level, in any quadrant, or so I maintain.

- 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 (ranging from the eye of flesh to the eye of mind to the eye of contemplation), 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.

I'll quickly run through the major schools of consciousness studies outlined in the Introduction and indicate exactly what is involved 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).

Thus, Scott presents a standard Upper Right hierarchy, which he gives as atoms, molecules, biochemical structures, nerve impulses, neurons, assemblies of neurons, brain. Then, and only then, out pops `consciousness and culture,' his two highest levels. But, of course, consciousness and culture are not levels in the Upper Right quadrant, but important quadrants themselves, each of which has a correlative hierarchy of its own developmental unfolding (and each of which is intimately interwoven with the Upper Right, but can in no way be reduced to or solely explained by the Upper Right).

So in an integral theory of consciousness, we would certainly include the Upper Right hierarchy and those aspects of the emergent/connectionist 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 various schools of *introspectionism* take as their basic referent the interior intentionality of consciousness, the immediate lived experience and lifeworld of the individual (the Upper Left quadrant). This means that, in these approaches, the three strands of valid knowledge will be applied to the data of immediate consciousness, under the auspices of the validity claim of truthfulness (because interior reporting requires sincere reports: there is no other way to get at the interiors). Introspectionism is intimately related to interpretation (hermeneutics), because most of the contents of consciousness are referential and intentional, and thus their meaning requires and demands interpretation: What is the meaning of this sentence? of last night's dream? of *War and Peace*?

As we have seen, all valid interpretation follows the three strands (injunction, apprehension, confirmation). In this case, the three strands are being applied to symbolic/referential occasions and not merely to sensorimotor occasions (which would yield only empiric-analytic knowledge). As everybody knows, this interpretive and dialogical knowledge is trickier, more delicate, and more subtle than the head-banging obviousness of the monological gaze, but that doesn't mean it is less important (in fact, it means it is more significant).

The introspective/interpretative approaches thus 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, and 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.

Developmental psychology goes one step further and inspects the actual stages of the unfolding of this individual consciousness. Since it usually aspires to a more scientific status, developmental psychology often combines an examination of the interior or Left Hand reports of experience (the *semantics* of consciousness, guided by interpretative truthfulness and intersubjective understanding) with a Right Hand or objective analysis of the *structures* of consciousness (the *syntax* of consciousness, guided by propositional truth and functional fit). This *developmental structuralism* traces most of its lineage to the Piagetian revolution; it is an indispensable tool in the elucidation of consciousness and a crucial aspect of any integral approach. (It is rare, however, that any of these approaches clearly combine, via pragmatics, both the semantics and the syntax of the stages of consciousness development, which is an integration I am especially attempting to include.)

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 post-postconventional. In Zen, as we saw, we have a primary injunction or paradigm (*zazen*, sitting meditation), which yields direct experiential data (*kensho, satori*), which are then thrown against the community of those who have completed the first two strands and tested for validity. Bad data are soundly rejected, and all of this is open to ongoing review and revision in light of subsequent experience and further communally generated data.

Those approaches are quite right: no theory of consciousness can hope to be complete that ignores the data from the higher or postformal dimensions of consciousness itself, and this exploration of the further reaches of the Upper Left quadrant is surely a central aspect of an integral theory of consciousness. Moreover, this demands that, at some point, the researchers themselves 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, which is actually the precondition of a truly objective (or nonbiased) understanding of any data. In this case, the data is postformal, and so therefore is the injunction.

Advocates of *subtle energies* (*prana*, bioenergy) bring an important piece of the puzzle to this investigation, but they often seem to believe that these subtle energies are the central or even sole aspect of consciousness, whereas they are 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, and in a sense I believe that is true enough. But 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: protoemotions; objective: limbic system; intersubjective: magical; interobjective: tribal). What is not helpful, however, is to claim that these energies alone hold the key to consciousness. Likewise with the *psi approaches*, which are clearly some of the more controversial aspects of consciousness studies (telepathy, precognition, psychokinesis, clairvoyance). I believe that the existence of some types of psychic phenomena is quite likely, and various meta-analyses of legitimate

psychic research have concluded that something real is afoot. I have discussed this in the book *Eye to Eye* and won't repeat my observations here. I would simply like to emphasize that, once it is realized that the sensorimotor worldspace is merely one of at least ten worldspaces, we are released from the insanity of trying to account for all phenomena on the basis of empirical occasions alone. At the same time, precisely because the sensorimotor worldspace is the anchor of the worldview of scientific materialism, as soon as some sort of proof of non-sensorimotor occasions (such as psi) is found, it can be excitedly blown all out of proportion. Psi events indeed cannot be unequivocally located in the sensorimotor worldspace, but then neither can logic, mathematics, poetry, history, meaning, value, or morals, and so what? 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 very small slice of a very big pie.

Of the dozen major approaches to consciousness studies that I listed in the Introduction, the *quantum approaches* are the only ones that I believe lack substantial evidence at this time, and when I say that they can be included in an integral theory of consciousness, I am generously holding open the possibility that they may eventually prove worthwhile. In *Eye to Eye* I review the various interpretations of quantum mechanics and its possible role in consciousness studies, and I will not repeat that discussion, except to say that to date the theoretical conclusions (such as that intentionality collapses the Schr<148>dinger wave function) are based on extremely speculative notions that most physicists themselves find quite dubious.

The central problem with these quantum approaches, as I see it, is that they are trying to solve the subject/object dualism on a level at which it cannot be solved; as I suggested above, that problem is (dis)solved only in *postformal* development, and no amount of *formal* propositions will come anywhere near the solution. Nonetheless, this is still a fruitful line of research, if for no other reason than what it demonstrates in its failures; and more positively, it might help to elucidate some of the interactions between biological intentionality and matter.

All of those approaches centre 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 radically autonomous consciousness. The very words we are both now sharing were not invented by you or me, were not created by you or me, do not come solely from my consciousness or from yours. Rather, you and I 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 your consciousness and of mine, 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 you and I 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]

Such are some of the very important (if partial) truths of cultural hermeneutics for individual consciousness. Likewise for the *social sciences*, which deal not so much with interior worldviews and interpretations, but with the exterior and objective and empirical aspects of social systems. Cultural hermeneutics (Lower Left) is a type of `interior holism' that constantly asks, `What does it *mean*?', whereas the social sciences (Lower Right) are a type of `exterior holism' that are constantly asking instead, `What does it *do*?' -- in other words, mutual understanding versus functional fit. But both of these approaches tell us something very important about the collectivities in which individual consciousness is thoroughly embedded.

As for the social sciences: the materialities of communication, the techno-economic base, and the social system in the objective sense reach deep into the contours of consciousness to mould 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); but 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. Such an understanding would take its rightful place alongside the dozen or so other significant approaches to the study of consciousness.

Summary and Conclusion

I hope that this outline, abbreviated as it is, is nonetheless enough to indicate the broad contours of the methodology of an integral theory of consciousness, and that it sufficiently indicates the inadequacy of any 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 phenomenologically and 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 which 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. You cannot vote on the truth of the Pythagorean Theorem if you do not learn geometry (the injunction); likewise, you cannot vote on the truth of Buddha Nature if you do not learn meditation. All valid knowledge has injunction, apprehension, and confirmation; the injunctions are all of the form, `If you want to know this, you must do this' -- and thus, when it comes to consciousness studies itself, the utterly obvious but much-resisted conclusion is that certain interior injunctions will have to be followed by researchers themselves. 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*. That is, continue to refine our understanding of the many pieces of the puzzle of consciousness. The twelve approaches I briefly outlined are twelve significant pieces to this extraordinary enigma; each is profoundly important; each deserves continued and vigorous research and development.

Why should we include all twelve of these approaches? Aren't some of them a little `spooky' and `far out'? And perhaps shouldn't we exclude some of those? At this early stage in integral studies, I believe we need to err on the side of generosity, if only because reality itself is so consistently weird.

No human mind, I believe, is capable of producing 100 per cent error. We might say, nobody is smart enough to be wrong all the time. And that means that each of the dozen approaches almost certainly has some sort of important (if limited) truth to contribute; and, particularly at the beginning of our integral quest, I believe we should throw our net as wide as we possibly can.

2. *Confront the simple fact that, in some cases, a change in consciousness on the part of researchers themselves is mandatory for the investigation of consciousness itself.* As numerous approaches (e.g. 7, 9, 10) have pointed out, the higher or postformal stages of consciousness development can only be adequately accessed by those who have themselves developed to a postformal level. If we are investigating postformal domains, postformal injunctions are mandatory. Failure to do so does not insure `objectivity' in postformal studies: it insures failure to grasp the data at the very start.

3. *Continue to grope our way toward a genuinely integral theory of consciousness itself*. Because the twelve approaches have tended to remain separate (and sometimes antagonistic) branches of human inquiry, it does indeed appear that they are in some ways working with different data domains, and these differences are not to be casually denied or dismissed. At the same time, I take it as plainly obvious that the universe hangs together, and thus an equally legitimate endeavour is to investigate, both theoretically and methodologically, the ways that these various elements are *intrinsically* hooked together as aspects of the unbroken Kosmos. The fact that, for the most part, each approach has stayed in its own cage does not change the fact that reality itself leaps those cages all the time. To grope our way toward an integral approach means that we should attempt to follow reality and make those leaps as well.

This includes the actual *methodology* of `simultracking' the various phenomena in each level-quadrant and noting their actual interrelations and correlations (the simultracking of events in `all-quadrant, all-level' space). The quadrants and levels are in some sense quite different, but they are different aspects *of the Kosmos*, which means that they also *intrinsically* touch each other in profound ways. Let us note the ways in which they touch, and thus attempt *theoretically* to elucidate this wonderfully rich and interwoven tapestry.

Thus, each of the dozen approaches finds an important and indispensable place, not as an eclecticism, but as an intrinsic aspect of the holonic Kosmos. 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. Rather, an `all-quadrant, all-level' approach holds the only chance of an authentic and integral theory of consciousness, if such indeed exists.

Footnotes

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 co- evolutionary interactions between individual and social. Thus, in the physiosphere, Jantsch traces microevolution across photons, leptons, baryons, light nuclei, light atoms, heavy atoms and molecules; with their corresponding macroevolution (or collective/social forms) moving across superclusters, clusters of galaxies, galaxies, stellar clusters, stars, planets and rock formations. Likewise, in the biosphere, he traces microevolution across dissipative structures, prokaryotes, eukaryotes, multicellular organisms and complex animals; with their corresponding macroevolution across planetary chemodynamics, Gaia system, heterotrophic ecosystems, societies with division of labour, and groups/families. All of these are simply and crudely summarized and condensed for Figure 1, which is meant to be nothing more than a simple outline. I have discussed these issues in greater detail in Wilber 1995b.

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' is basically a set of deceptions, concealments, or lies about the contours of my own interior space, and `therapy' is essentially learning ways to be more honest and truthful in 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 endeavour -- 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: by any other name, hypocrisy. As I have suggested elsewhere (Wilber, 1995a, 1997), 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. 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.

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[A more complete bibliography of the various approaches can be found in Wilber 1995b]

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