Reuniting Psyche and Nature

DAVID KIDNER

Introduction: The Embodied and the Virtual

Herbert Simon, the great information theorist, stated in his "Travel Theorem" that "anything that can be learned by a normal American adult on a trip to a foreign country … can be learned more quickly, cheaply, and easily by visiting the San Diego Public Library." Elaborating on this, he claimed that it

> is well known that one can circumnavigate the globe, penetrating deserts and jungles along the way, without ever venturing outside one's own Western, industrialized, air-conditioned culture, or learning that there is anything different from it. I have had a thrilling view of Ulan Bator and the Gobi Desert from 30,000 feet, in the business-class comfort of a B747.

Travelling to Europe with his wife in 1965, he visited many of the places depicted in Cezanne's paintings. However, they "learned nothing new; we had already seen the paintings."[1]

After a few years working as a chemical engineer in the petroleum industry, David Kidner moved into the social sciences with a Ph.D. in experimental personality research at London University. For the past three decades he has taught psychology, sociology, and environmental philosophy in England and the USA, and is currently at Nottingham Trent University. He is the author of *Nature and Psyche: Radical Environmentalism and the Politics of Subjectivity* (SUNY Press, 2001).

Edward Abbey provides an example of a fundamentally different kind of American pioneer. Lambasting those who would see the world only from behind a window, he argued that

> … you can't see anything from a car; you've got to get out of the goddamned contraption and walk, better yet crawl, on hands and knees, over the sandstone and through the thornbush and cactus. When traces of blood begin to mark your trail you'll see something, maybe.[2]

These two accounts encapsulate a powerful, covert tension between an embodied, sensual perspective that is becoming an endangered species in the industrial world and a perspective based on cognition, language, and visual representation—almost a virtual world—that is in the ascendancy. In historical terms, the divergence between these perspectives reflects the underlying polarization between idealism and materialism which has plagued philosophy since Plato and Aristotle; and only rarely have social philosophers tried to understand us both as embodied creatures who participate in natural processes and as cultural beings who inhabit a symbolic realm. The same virulent trend can also be seen in our everyday lives, and is reflected in the increasing commodification of forms of individual subjectivity—often electronically amplified and manipulated by advertising—that are unanchored to external reality. The ethnobotanist Gary Nabhan has found that even indigenous children on the American continent "had seen more animals on television and in the movies than they had personally seen in the wild," and that direct knowledge of the natural world is rapidly being lost even among native groups such as the O'odham.[3] In this paper, I will argue that analytical psychology is, among other things, an attempt to address this tension, albeit one that is to some extent frustrated by the epistemological conditions of its birth. In particular, I will argue that analytical psychology and ecology are not two mutually incomprehensible realms, and that there are fruitful parallels and complementarities between them.

Jung, an enthusiastic traveller himself, was well aware of European philosophy's idealist slant. For example, in his discussion of the Mother archetype, he points out that with the Catholic doctrine of the assumption of the Virgin Mary, "the Mother of God was divested of all the essential qualities of materiality, [and] matter became completely

de-souled."[4] Nevertheless, he was not immune to the same polarization of matter and spirit, and inconsistencies in his work are often symptomatic of a struggle between a view of the psyche which is rooted in a realm of pure human meaning and one in which meaning arises out of our embodiment and, ultimately, out of the earth. As Roger Brooke has noted, Jung's vacillation may have been partly due to the incompatibility between his insights and the available forms of language; and as a result his "intuitive understanding of psychological life far surpassed most of his theoretical formulations."[5] His view that there was a continuity between psyche and the biological world was one of his central "intuitive understandings," albeit one which is difficult to express given the reductionist and individualist connotations of the term "biology." Consequently, when Jung describes archetypes as "patterns of instinctual behaviour,"[6] he is not reverting to the reductive biologism of his day which viewed behavior as due to an array of internal "drives," expressed within a passive, featureless world. "Instinct," for Jung, is a far more flexible, intelligent, and structured entity than it is, say, for Freud.

Jung never entirely escaped the Cartesian emphasis on thought as the source of structure, however, and both his references to "withdrawing projections" from the world and his return to Europe following his visit to Mount Elgon can be viewed as strategic retreats back into the safety of prevailing assumptions.[7] But why were the Kenyan plains so captivating to Jung; and equally, why were they so threatening? I will argue that the absence of a dynamic conception of the world was the insuperable obstacle which made Jung's movement towards an embodied conception of psyche a dangerous one.

Vanishing Resonance

Is our only choice between a self defined through its safely dualistic separation from the world, on the one hand, and one in which we become so merged with the world within a larger psychic field that we lose all autonomy? Of course, both these types of experience are commonplace: we have all "withdrawn into ourselves" from time to time, and we have all "lost ourselves" in some larger field such as music, spiritual experience, or a natural landscape. But these experiences are not irreversible epistemological decisions which determine our character thereafter, but part of the ebb-and-flow of subjective experience, the

spontaneous variation in resonance with whatever is outside ourselves. Like the homecoming traveller, we can return to our "individual" psychological boundaries, giving us the confidence to momentarily extend ourselves into the world as we empathize with another, whether human or non-human, or "lose ourselves" in a magnificent natural setting, or give ourselves to some cause; and it is this dynamic capacity of subjectivity to reach out into the world which is denied by most psychology. It is a capacity which is particularly endangered in a society which has become narcissistic through the cultivation of the individual, the loss of integrative cultural structures, and the shrivelling of our belief in a world which transcends our own lifetimes, individual powers, and spiritual capabilities.

Just as the self becomes ossified into the "individual" through this stilling of resonant relations with the outside world, something very similar happens to the world itself through our identification of "separate" items which are, in Alfred North Whitehead's terms, "fully describable apart from any reference to any other portion of matter." In the same way that the freezing of experiential spontaneity results from our definition as individuals, dynamism and structural spontaneity are drained from the world by its reduction to ecological fragments having only mechanical relations to each other. Whitehead goes on to note that this freezing of dynamism also applies to time: a stone, he remarks, is generally described "without any reference to past or future."[8] Tim Ingold's summary of the effects of such mappings of the world captures this well:

> … all is still and silent. There is neither sunlight nor moonlight; there are no variations of light or shade; no clouds, no shadows or reflections. The wind does not blow, neither disturbing the trees nor whipping the water into waves. No birds fly in the sky, or sing in the woods; forests and pastures are devoid of animal life; houses and streets are empty of people and traffic. To dismiss all this … is perverse, to say the least. For it is no less than the stuff of life itself … .[9]

For present purposes, the main consequence of this dual freezing of self and world is that both can be "pinned down" and defined without reference to the other, fitting neatly into the industrialist conception of masterful, autonomous individuals acting within a world that is passive and devoid of spirit. Jung struggled against this

conception; but his theory has nevertheless been portrayed in ways that he would be uneasy with. In various undergraduate texts, for example, I have seen the Jungian model of the personality portrayed in diagrammatic terms with consciousness at the top, "above" the personal unconscious, which is itself "above" a collective unconscious which spreads out into the earth. And of course such representations are not without a certain truth-value. However, what we gain in clarity and constancy through representing the psyche in such "geological" terms has to be balanced against the veiling of a sort of dynamic interpenetration which is as much a part of the world as any static structure.

Such resonant extensions of self are precisely what are lost in assumptions of "scientific objectivity" and in our everyday, common-sense experience of the urban, largely manufactured, "environments" we inhabit. This is a sort of vicious circle: in defining the self individualistically, we exclude the resonances that bring the world to life; and in constructing an environment with which resonance is difficult, we bring into being a psychically dead world. As a result, any other psychic organization than that of the contemporary narcissistic individual is extinguished, its possibility reawakened only by historical or anthropological accounts of ecstatic self-transcendence. So it is that we lose those properties of the world that have been seen as spiritual or even beautiful—or, in more prosaic ecosystemic terms, as emergent. For example, Nabhan recognizes that ecological relations are not *just* ecological, as the term is commonly used, but also imply something more ineffable. In pointing to the relation between the dwindling numbers of a desert flower, Kearney's Blue Star, in southern Arizona and the plummeting population of the species of bee that pollinates them, he remarks that "it was as if the Blue Stars' bodies were there, but their spirits had flown away."[10] One wonders whether something similar could be said about us: if, as Roger Brooke argues, we become spiritual beings not through the discovery of some capacity within ourselves, but through "the world's revelation as a temple,"[11] then the fragmentation and destruction of the natural world becomes a spiritual loss and, indeed, the loss of an essential dimension of humanity.

Representing the Resonant Self

Despite his cultural background, Jung clearly saw that psychic organization taps into the past and into the world itself, and he struggled throughout his life to represent this embeddedness. As he put it,

> the archetypes are as it were hidden foundations of the conscious mind, or, to use another comparison, the roots which the psyche has sunk not only in the earth in the narrower sense but in the world in general. …[archetypes are that portion of the psyche] through which the psyche is attached to nature.[12]

But as he recognized, this metaphor of rootedness fails adequately to represent the *dynamism* of our relation to the rest of nature, as does his alternative image of a building with multiple floors, including a cellar and beneath the cellar "a choked-up cave with neolithic tools in the upper layer and remnants of fauna from the same period in the lower layers."[13] Pointing to the limitations of this metaphor, Jung argues that "[e]verything is alive, and our upper story, consciousness, is continually influenced by its living and active foundations."[14] Two decades later, he would suggest that "[i]ndividual consciousness is only the flower and the fruit of a season, sprung from the perennial rhizome beneath the earth."[15] Other remarks of his make it clear that he is striving toward a biology that is ahead of its time—one that is intelligent, self-organizing, and imbued with potentialities that transcend their present particular manifestations and the historically contingent splits between what is embodied and what is psychic. As Jung puts it, in "the world of the archetypes [we are] still a part of nature."[16]

In trying to express the dynamic spontaneous variations and fleeting mutual engagements of self and world, Jung converted *temporal* differences—in which the resonance of self with world varies from moment to moment—into *structural* differences between the conscious, egoic aspects of self and those which are collective and unconscious. If, during the course of our day, we are at times self-sufficient, self-absorbed, and inward looking, at other times empathic, engrossed in something outside ourselves, temporarily "forgetting ourselves," then we are both individual and transcendent of our individuality. These individual and self-transcendent moments are not easy to represent within a single model, and portraying the latter as "more deeply buried" inadequately conveys their *momentary* impact on some present situation. In other words, while the collective aspects of self are often represented as "older" or "deeper," they may also be expressed in terms of a fundamental resonance with the natural world, albeit one which is diminished today for reasons I have tried to express above. This "resonant" model better represents our collective aspects' continual influence on present functioning and avoids the implication that resonance with the natural world is somehow an outdated aspect of psychic functioning rather than an ever-present potentiality that is frustrated by the current political context.

The Order of Nature

"The symbols of the self arise in the depths of the body and they express its materiality every bit as much as the structure of the perceiving consciousness," says Jung.[17] The "depths" Jung refers to are those of "chemical substances," since in his day there was little awareness of ecosystems or of the self-organizing tendencies of inorganic matter. It is surely likely that if Jung had had access to the ecological and biological knowledge we have today, he would have seen a relation between ecosystemic and psychological patterns.

As we have seen, Jung chose an image from the natural world—that of the rhizome—to illustrate certain properties of the psyche, since "both" realms embody temporal relations that are not simply linear and cannot be understood according to straightforward cause-effect paradigms, but rather contain circular and even more complex forms of relation.[18] According to this image, the past remains an active influence on the present, rather than simply "what happened before" and is now left behind. For example, ecological restorationists have found that simply reconstituting a system by bringing together the species that were originally present can result in any one of a variety of communities,[19] and that

> the order in which species attempt colonization tremendously influences final community composition and richness … It is not possible to reassemble a particular community composition using only the species present in the final steady-state community.[20]

Furthermore, some ecosystems may be impossible to reproduce, since certain extinct ("ghost") species, while not part of the final, desired system, are vital to the evolution of the desired succession.[21] The *history* of an ecosystem, then, is an essential ingredient in its *current* functioning, as is the case with *psychological* functioning.

These dynamics are echoed in the cultures of many tribal peoples for whom the ancestors are living influences and presences rather than being cognitively relegated to the "past." In recognizing this, Ingold, like Jung, uses the image of the rhizome to convey relationships between thought and nature in terms of a "dense and tangled cluster of interlaced threads or filaments, any point in which can be connected to any other"[22] — a model that aims to "return [thinking] to the contexts of lived experience."[23]

There is thus a commonality between the analytical psychologist's awareness that the past is still a living influence on the present and the ecologist's recognition that the present state of an ecosystem depends on and embodies its history—that is, the order and pattern of its development, as well as its present constituents, affect its dynamics.[24] Clearly, human life is embedded in recursive natural patterns such as the orbit of the earth round the sun, the lunar phases, and so on; but there are more complex patterns than this in nature, such as the sometimes chaotic relations between predator and prey, most famously that of the Canadian lynx/snowshoe hare system.[25] The main characteristic of these chaotic systems is that they move between states in a deterministic and somewhat regular way, but never exactly reproduce the same conditions; and since tiny differences in initial conditions can result in major divergences a few cycles down the line, they are inherently unpredictable and cognitively opaque. Even apparently simple natural systems—such as the way a leaf floats to the ground, the behavior of eddies by a riverbank, or variations in a species' population can be dynamically and enormously complex. There are even more rudimentary astronomical systems, exemplified by the "three body problem," which involves the behavior of three gravitationally-attracted bodies of roughly equivalent mass, which are also extraordinarily difficult to predict. Such cases alert us to the existence of patterns in the natural world which appear simple enough, but which cognition finds difficult to recognize or understand. As Jung argued, we refer to such things as "complicated, when in reality they

are very simple and know nothing of our intellectual problems."[26] After all, the three bodies—supposedly made of "extended matter" and cognitively incapable, show no hesitation in deciding where to position themselves!

The lesson here—a very basic one which is usually evaded, since it directly challenges pivotal assumptions of industrial society—is that nature, like psyche, contains types of order and intelligence which are cognitively unmanageable, and that the varieties of order we are capable of conceptualizing are therefore a subset of natural orders. This lesson has been obscured by the view, particularly prevalent since Kant and now given added impetus by postmodernism, that cognition does not discover or recognize order *in* the world, but instead imposes its own order *on* the world—a view unfortunately echoed in Jung's statement that "it is my mind, with its store of images, that gives the world colour and sound."[27] In this way, the mind's incapacity to register the wholeness of nature is taken not as an indication of the limitations of cognition, but as an excuse to portray the world as structureless, as a blank screen onto which we project our mind-ful ideas and explanations and impose our industrialist structures. This in turn distances the (supposedly active) mind from the (supposedly passive) world.

While there is a certain amount of ironic truth in such a view, given our ongoing destruction of natural order and the emergence of a grossly simplified and artificial environment out of the resulting debris, this process needs to be understood in the historical context of our growing alienation from the natural order. We cannot take the industrially constructed world, including agriculture, simply as "reality," even—or particularly—if there is a close match between it and cognitive "rationality." Rather, what passes for "reality" in the contemporary world should be viewed as a special and reduced actuality compared to the diversity and multiple potentialities which are present in nature and which we can still sometimes sense through our embodied being; and equally, the "normal individual" should be viewed as a potentially whole person shorn of those resonant faculties that could bring both us and the world to life.

Embodied Ecologies

Although cognition finds it difficult to recognize and respond to the complexities of nature, our bodies are often better equipped in

this respect. Such taken-for-granted activities as walking, throwing a tennis ball, breathing, or maintaining a constant bodily temperature would overwhelm our cognitive faculties if they had to carry out all the necessary calculations. Non-human organisms, although lacking our cognitive equipment, are in many ways equally proficient. A tree "knows" how best to distribute its roots in order to ensure stability; and a prairie flower "knows" what colors will attract pollinators. These ecologically embedded forms of natural intelligence are usually ignored because of cognition's preoccupation with its own particular, abstract varieties of order.

Not all societies regard intelligence as necessarily disembodied. In a study of three Guatemalan forest dwelling groups, for example, Scott Atran found that although the Itzaj of the Petén Maya lowlands are better conservationists than other groups, they have little in the way of social organization that would encourage conservation, and seem rather individualistic. But a more intimate understanding of the Itzaj reveals that they embody an "emergent knowledge structure." As Atran explains,

> an emergent knowledge structure is not a set body of knowledge or tradition that is taught or learned as shared content. … The general idea is that one's cultural upbringing primes one to pay attention to certain observable relationships … [For Itzaj,] there is no 'principle of reciprocity' applied to forest entities, no 'rules for appropriate conduct' in the forest, and no 'controlled experimental determinations' of the fitness of ecological relationships. Yet reciprocity is all pervasive and fitness enduring.[28]

In other words, the Itzaj do not rely on conscious, rational algorithms in determining their behavior towards the forest. Rather, they exemplify Tim Ingold's view that among such indigenous peoples

> it is as entire persons, not as disembodied minds, that human beings engage with one another and, moreover, with non-human beings as well. They do so as beings in a world, not as minds which, excluded from a given reality, find themselves … having to make sense of it.[29]

Such peoples illustrate Jung's view that "'at bottom,' psyche is simply 'world.'"[30] For example, *sila* is the root form of various Inuit words implying "intelligence;" and significantly, these words refer both

to individual intelligence and intelligence that is "out there in the world."[31] Similarly, the language of the White Mountain Apache contains the root word *ni,'* which refers to both mind and land.[32] What such linguistic forms suggest is that for many indigenous groups, mind is in the world or—better—*mind is the world*; and that the landscape is also a *mindscape*. It is becoming increasingly difficult to dismiss such ecologically embedded epistemologies as involving "projection:" there is a wealth of anthropological material to counter such interpretations; and, in any case, in an environment such as the northern Greenland Arctic, mis-characterizing the natural environment is likely to result in an immediate and dire reduction in one's life expectancy.

The fact that such indigenous groups often have the utmost difficulty expressing their world-relatedness through language is only a problem for those who place the structures of language above those of the world and who are unsympathetic to Jung's recognition that "a great many archetypal images and associations are … absolutely incommunicable through language."[33] The questionable assumption we often make is that in order to "solve" a "problem," we first have to recode it into a form that can be consciously understood and communicated—a conceptual tyranny that has hampered the development of a grounded understanding of our relations with the earth. Conscious rationality is indeed a highly effective tool for certain purposes; but it is not effective for everything, and in particular it is not effective for grappling with environmental problems which, by their very nature, reflect the systemic types of interaction which consciousness finds difficult to recognize.

In industrial society, the polarization between a mentalistic realm and a physical realm of mere "matter" carries with it a tendency for entities to be ascribed to one or other of these realms. Some entities, however, are particularly difficult to fit into this dualistic scheme; and the "ecosystem" is one such entity. Some would claim that ecosystems have no existence outside thought, and that they are conceptual conveniences that bear no discernable relation to any physically-existing reality.[34] Others would claim that in talking about ecosystems, we are referring to objectively recognizable systems of trophic exchanges and physical interactions.[35] Like archetypes, ecosystems therefore belong to that class of epistemologically subversive entities which resist being

viewed *either* as products of the human intellect *or* as pre-existing features of the world. In a society which seems to be rapidly abandoning the natural realm in favor of a manufactured world that is the product of human intelligence, the unsurprising notion that the fundamentals of our psychological and physiological functioning are rooted in the natural order is not a welcome one. To a greater extent than most societies, we rely on abstract systems of understanding which are only distantly related—if at all—to ecological and phenomenological realities and which are *imposed on* the world. This is in stark contrast to the many culturally and geographically diverse systems of understanding which are based on phenomenal *experience of* the world.[36] For those us who inhabit a largely domesticated environment, the notion that the world is an amorphous cornucopia of "natural resources" is not obviously erroneous; but among peoples whose lives are more closely integrated with natural rhythms and processes, such a notion would seem baffling and unintelligent.

For example, the spawning behavior of fish in the Palau area of Micronesia is intricately related to the phases of the moon, and an understanding of the lunar calendar therefore becomes essential for survival in this fish-dependent society.[37] If the Palauans instead used the Western calendar, the behavior of fish would appear to vary unpredictably from year to year, and fishing would become more of a hit-or-miss affair. In assuming that nature has no structure, we *cover up* its structure beneath our imposed conceptual patterns, thereby furthering our alienation and blurring our awareness of natural patterns. While the fishermen of Palau, like the fish they catch, are embedded within natural processes, we often distance ourselves from these processes, from the other creatures that embody and express them, and from our own archetypal wisdom. Human behavior, we believe, is the outcome of cognitive calculation, and so is not comparable with "animal" behavior, which is supposedly lacking in rationality and more mechanistically determined. For example, Tim Ingold points out that while human tracking behavior tends to be viewed in terms of "cognitive strategies," almost identical tracking behavior among non-human species is seen as reflecting the mindless operation of "instinct."[38] As Jung noted, what we denigrate as "instinctual" may reflect patterns that are "common to man and animals alike."[39]

Mathematics, too, is frequently understood as a purely human pursuit; and yet it is often embodied in the behavior of other creatures. For example, cicadas emerge at intervals governed by prime numbers, thus minimizing the opportunities for attack by predators.[40] The arrangement of leaves and petals on plants, the shapes of shells, often reflect the Fibonacci series, in which each term is the sum of the previous two terms. As Darwin showed, even the humble earthworm behaves in an intelligent way that is not reducible to instinct.[41] And the hunting capacities of the kingfisher or the hawk, and the navigational skills of the crane are highly sophisticated. Because these abilities are embodied rather than abstract, however, they tend to be excluded from our conception of "intelligence," thus fortifying our supposedly unique position in the animal kingdom at the price of denying part of our own identity and nature.

The Disembodied Society

Although the notion that physical being contains its own intelligence and order has often been dismissed as "mysticism," there is now a good deal of evidence to support this hypothesis, beginning with Stanley Miller's pioneering experiment demonstrating that under certain conditions resembling the early earth's atmosphere, basic components of living things such as amino acids spontaneously form from simple inorganic chemicals.[42] These and other results have been developed by biologists such as Stuart Kauffman to demonstrate that life is not due to some external (deistic or other) force imposing order on "extended matter," but rather that it stems from self-organizing qualities that are inherent in matter itself.[43] Such findings undermine the Cartesian attempt, which tacitly permeates much theorizing in the human sciences to abstract a realm of intelligence or spirit from the rest of the world, including the human body.

If we are to advance beyond such dualistic splits, we need to reject the idealist notion that cognition imposes order on an otherwise amorphous world and to recognize, with Jung, that our embodied senses have evolved to recognize order that is already present in the world. Currently, the dominant view is that of Herbert Simon: learning necessarily comes from human symbolic representations, and direct experience of the world is merely a distraction. Such assumptions are

often embodied in curriculum design and even in the physical infrastructure of learning: for example, in the academic institution where I teach, all the lecture theaters constructed in the past 20 years have been windowless and artificially lit so that no natural sound, sight, or smell is allowed to mingle with the information presented in lectures. The implied assumption is that learning involves shutting out the world rather than gaining access to it and that, as a recent postmodernist paper puts it, "language constitutes the human world and the human world constitutes the whole world."[44]

Not all Westerners, of course, commit this error. For example, Ted Strehlow, the important but largely ignored ethnographer of Australian aboriginal life, moved during the course of his career from a critical condescension toward the absence of rapid cultural "development" among Australian natives towards a dawning realization that the natural world *was* their cultural context, and that there was no reason for it to "develop."[45] This view sits so uncomfortably with contemporary assumptions about our necessary "progress" toward a "post natural" society that Strehlow's work has been largely buried since the 1930's. If, contrary to current academic convention, one finds meaning already present in the world so that culture is grounded in this meaning, then there is no particular need to develop independent realms of symbolism. For example, Morris Berman, discussing anthropologists' earnest attempts to find cultural meaning in the annual migration of the Basseri, dares voice a heretical possibility: "what if the meaning of the migration were … the migration?"[46] All too often, the development of a complex symbolic realm is a first step towards the re-constitution of the world to accord with this realm, so that we forget the original world that the symbolism was supposed to be symbolic of.

As a child, I was puzzled why adults I knew were so captivated by paintings of landscapes or bowls of fruit. All I had to do was to look out of the window at the clouds or trees to see something incomparably more intricate and beautiful. Many indigenous peoples, too, value the natural over human representations, seeing the latter as expendable and temporary pointers to a more exalted realm. Karl Scheibe provides some examples:

> Alaskan Eskimo mask makers, … having created a mask out of some inner impulse, use it once and then burn it. Similarly, Japanese and Tibetan Buddhists create paintings and images that are not to be seen, and Navaho sand paintings are to be destroyed almost as soon as they are finished.[47]

In contrast, our fetishization of manufactured things confines us within a narcissistic world of our own desires which, far from extending us into other realms of spirit and intelligence, dissipates psyche by consuming the natural world which is its, and our, home.

Conclusion

I am not suggesting that we can simply equate the archetypal and physiological dimensions of reality, or that we should rush into simplistic analogies or crude equivalencies. Roger Brooke rightly cautions us that although there

> are indeed loose analogies between certain archetypal experiences and physiological responses … to situate one within the other is to confuse two radically different areas of discourse.[48]

Nevertheless, the radical difference to which Brooke refers is indeed a *discursive* one which does not reflect any corresponding divide in the natural world. "Psyche and body … are one and the same," says Jung;[49] in which case discourse should strive to express this continuity. A key difference between the study of life at the molecular and cellular levels, on the one hand, and the study of archetypes, on the other, has traditionally been in the reductionist slant of the former and the systemic complexity of the latter, merging into the realms of culture and mythology. These divergent methodologies seemed justified so long as the biological sciences could not articulate the organizational intricacies of life; but given the contemporary awareness of natural complexity and ecological interactions, these divergences are much less justifiable today. Edward O. Wilson argues that our long experience of other creatures such as snakes inevitably led to their incorporation within culture:

> How could it be otherwise? The brain evolved into its present form over a period of about two million years … during which people existed in hunter-gatherer bands in intimate contact with the natural environment. Snakes mattered. The smell of water, the hum of a bee, the directional bend of a plant stalk mattered. The naturalist's trance was adaptive: the glimpse of one small animal hidden in the grass could make the difference between

> eating and going hungry in the evening. And a sweet sense of horror, the shivery fascination with monsters and creeping forms that so delight us today even in the sterile hearts of the cities, could see you through to the next morning. Organisms are the natural stuff of metaphor and ritual … We stay alert and alive in the vanished forests of the world.[50]

Is it surprising, then, that our sense of otherness, even within ourselves, resonates with our long experience of other natural beings? Or that the "anima also has affinities with animals, which symbolize her characteristics?"[51] Or that our own mothers carry "for us that inborn image of the *mater natura* and *mater spiritualis*, of the totality of life of which we are a small and helpless part?"[52] If, in "the world of the archetypes, [man] is still a part of Nature and is connected with his own roots,"[53] how can we justify the absence of a discourse which articulates rather than obscures the unity of psyche and nature?

Of course, any single discourse or methodology will be unable to capture the entirety of any natural structure; and so it is quite justifiable that different discourses are used to describe the psychic and ecological aspects of nature. The danger, however, is that the idealist and the materialist, in developing their own paradigms and languages, gradually lose touch with and suppress what they unknowingly share —the unity of life—leading to the mistaken belief that these *discursive* differences reflect *differences in reality*. To avoid this pitfall, we *also* need to develop a connective language which articulates not the distinctions suggested by the terms psyche and nature, but the often unrecognized common realm to which they both refer.

NOTES

1. Herbert Simon, *Models of My Life* (San Francisco: Basic Books, 1991), 306, 308-9.

2. Edward Abbey, *Desert Solitaire* (New York: Ballantine, 1968), xii.

3. Gary Nabhan, "Cultural parallax in viewing North American habitats," in Michael E. Soulé and Gary Lease (eds.), *Reinventing Nature?: Responses to Postmodern Deconstruction* (Washington, DC: Island Press, 1995), 98.

4. C. G. Jung, *Collected Works of C. G. Jung,* Sir Herbert Read, Michael Fordham, and Gerhard Adler (eds.) (London: Routledge and Kegan Paul, 1959), vol. 9i § 108 [the *Collected Works* are hereinafter referenced as "*CW,*" followed by the volume number and the paragraph number.]

5. Medard Boss, quoted by Roger Brooke, *Jung and Phenomenology* (London: Routledge, 1991), 77.

6. Jung, *CW* 9i § 91.

7. Brooke, *Jung and Phenomenology,* chapter 4.

8 Alfred N. Whitehead, *Adventures of Ideas* (New York: Free Press, 1967 [1933]), 156.

9. Tim Ingold, *The Perception of the Environment* (London: Routledge, 2000), 242.

10. Gary P. Nabhan, *Cultures of Habitat: On Nature, Culture, and Story* (Washington DC: Counterpoint, 1997), 275.

11 Brooke, *Jung and Phenomenology,* 61.

12. Jung, *CW* 10 § 53.

13. Jung, *CW* 10 § 54.

14. Jung, *CW* 10 § 55.

15. Foreword to *Symbols of Transformation*, *CW* 5, p. xxiv.

16. Jung, *CW* 9i § 174.

17. Jung, *CW* 9i § 291.

18. See my "Industrialism and the fragmentation of temporal structure," *Environmental Ethics* 26(2), Summer 2004, 135–153.

19. E.g., J. Bastow Wilson, John B. Steel, Mike E. Dodd, Barbara J. Anderson, Isolde Ullman, and Peter Bannister, "Community reassembly using the exotic communities of New Zealand roadsides in comparison to British roadsides," *Journal of Ecology* 88 (2000), 757–764.

20. Julie L. Lockwood and Corey L. Samuels, "Assembly models and the practice of restoration," in Vicky M. Templeton, Richard J. Hobbs, Tim Nuttle, and Stefan Halle (eds.), *Assembly Rules and Restoration Ecology: Bridging the Gap between Theory and Practice* (Washington, DC: Island Press, 2004), 58.

21. H. K. Luh and S. L. Pimm, "The assembly of ecological communities: a minimalist approach," *Journal of Animal Ecology* 62 (1993): 749-765.

22. Ingold, *Perception of the Environment*, 140.

23. *Ibid*., 426, n 7.

24. Stuart Pimm, *The Balance of Nature?: Ecological Issues in the Conservation of Species and Communities* (Chicago: University of Chicago Press, 1991).

25. William M. Schaffer, "Stretching and folding in lynx returns: Evidence for a strange attractor in nature?," *American Naturalist* 124 (1984), No. 6, 798-820.

26. Jung, *CW* 8 § 269.

27. Jung, *CW* 8 § 623.

28. Scott Atran, "The vanishing landscape of the Petén Maya Lowlands," in Luisa Maffi (ed.), *On Biocultural Diversity* (Washington, DC: Smithsonian Institution Press, 2001), 166-7.

29. Ingold, *Perception of the Environment*, 47.

30. Jung, *CW* 9i § 291.

31. Edmund Carpenter, *Eskimo Realities* (New York: Holt, 1973), 44-45; Robert G. Williamson, "The Arctic habitat and the integrated self," in Michael Aleksiuk and Thomas Nelson (eds.), *Landscapes of the Heart* (Edmonton: NeWest Press, 2002), 177.

32. Jonathan Long, Aregai Tecle, and Benrita Burnette, "Cultural foundations for ecological restoration on the White Mountain Apache reservation,"*Conservation Ecology* 8(1), 2003: http://www.consecol.org/vol8/iss1/art4/

33. Jung, *CW* 9i § 136, footnote.

34. See, for example, John L. Harper, "The heuristic value of ecological restoration," in William R. Jordan III, Michael E. Gilpin, and John D. Aber (eds.), *Restoration Ecology: A Synthetic Approach to Ecological Research* (Cambridge: Cambridge University Press, 1987), 38.

35. Robert E. Ulanowicz, *Ecology: The Ascendent Perspective* (New York: Columbia University Press, 1997).

36. Michael E. Soulé, "The Social siege of nature," in Soulé and Lease (eds.), *Reinventing Nature?* A good example of this cultural divergence is that between modern systems of navigation based on satellite positioning and navigational systems based on observation of star positions, waves patterns, and the behavior of wildlife. See, for example, Thomas Gladwin, *East is a Big Bird: Navigation and Logic on Puluwat Atoll* (Cambridge, Mass.: Harvard University Press, 1970).

37. R. E. Johannes, *Words of the Lagoon: Fishing and Marine Lore in the Palau District of Micronesia* (Berkeley: University of California Press, 1992).

38. Tim Ingold, "The optimal forager and economic man," in Philippe Descola and Gísli Pálsson (eds.), *Nature and Society: Anthropological Perspectives* (London: Routledge, 1996), 26.

39. Jung, *CW* 9i § 291.

40. Eric Goles, Oliver Schulz, and Mario Markus, "A Biological Generator of Prime Numbers," *Nonlinear Phenomena in Complex Systems*, 3:2 (2000) 208–213.

41. Eileen Crist, "The inner life of earthworms: Darwin's argument and its implications," in Marc Bekoff, Colin Allen, and Gordon M. Burghardt (eds.), *The Cognitive Animal: Empirical and Theoretical Perspectives on Animal Cognition* (Cambridge, Mass., MIT Press, 2002).

42. Stanley Miller and G. Schlesinger, "Carbon and energy yields in prebiotic syntheses using atmospheres containing CH4, CO, and CO2," *Origins of Life* 14 (1984), 83–89.

43. Stuart A. Kauffman, *The Origins of Order: Self-Organisation and Selection in Evolution* (New York: Oxford University Press, 1993).

44. Steve De Shazer and I. K. Berg, "Doing therapy: A post-structural revision," *Journal of Marital and Family Therapy* 18 (1992), 73.

45. Ted G. H. Strehlow, *Songs of Central Australia* (Sydney: Angus and Robertson, 1971).

46. Morris Berman, *Wandering God: A Study in Nomadic Spirituality* (Albany: State University of New York Press, 2000), 168.

47. Karl E. Scheibe, "Replicas, imitations, and the question of authenticity," in Joseph de Rivera and Theodore R. Sarbin (eds.), *Believed-in Imaginings: The Narrative Construction of Reality* (Washington, DC: American Psychological Association, 1998), 59.

48. Brooke, *Jung and Phenomenology,* 68.

49. Jung, *CW* 7 § 194.

50. Edward O. Wilson, *Biophilia* (Cambridge, Mass.: Harvard University Press, 1984), 101.

51. Jung, *CW* 9i § 358.

52. Jung, *CW* 9i § 172.

53. Jung, *CW* 9i § 174.