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## Ecological neuroscientific inquest into the Jungian collective unconscious and shamanistic practices

**Abstract.** *Jungian concepts of the collective unconscious and archetypes endemic to humankind have been largely shunned by scientific academies. More recently, however, neuroscientific insights into Jungian psychology, complemented by anthropological inquests into diverse yet contiguous shamanistic cultural practices channeling the unconscious and altered states of consciousness, evoke skepticism as well as great interest. In this piece, I examine the interface of the collective unconscious as a source of knowledge, investigating altered states of consciousness, and contemporary neuroscientific findings. In so doing, I outline the need for responsible intradisciplinary inquiry among those traditional and ancient knowledge so often held as ignorant, and highlight points of entry into the furtherance of related contemporary ecologically-grounded research and its application to lived experience, and individual and collective well-being.*

**Keywords:** *ecological neuroscience, Jung, shamanism, collective unconscious, neurophenomenology*

The psychic unity of embodied selves, individual and collective, has been ruptured. Holistic ecological accounts of human nature, split apart by Anthropocentric modernization and tangled complexes of urbanization and Globalization, sired in part from the mechanistic Cartesian mind-body dualism and Newtonian physics, additionally result in fractured academic traditions and scientific research. Transpersonal, cultural, anthropological, clinical and non-clinical work, and artistic/

expressive therapeutics have likewise been unceremoniously divided and largely separated from (neuro-)scientific activities, and in some cases, without the knowledgeable rigour befitting systematic inquiry. Over-and-above the delimiting calls for randomized control trials, for one, there does exist responsible best-practice in both spiritual and scientific realms, whether in addressing environmental or human systems, partitioning the scientific from the pseudo-scientific, or the effective from the idiopathic or placeboic.<sup>1</sup>

On the contrary, scholarly research is widely held as irrelevant to the lived experience and existential longings of everyday people. Consideration of just how to source and trace out the combined integrity of scholastic undertakings paired alongside individual's embodied yearnings and core needs captured through ecological, integral or holarchic<sup>2</sup> models have been taken up by so-called 'lay folk,' empirically-minded individuals, scholars, and mystics alike, the world over. Primary among them stands Carl Gustav Jung, who some have regarded as a Western Mystic or Shaman (e.g., Edinger, 1984; Groesbeck 1989; Smith, 2007). In reference to the emptiness charged against modern life, Jung writes, "Heaven has become for us the cosmic space of the physicists... But 'the heart glows,' and a secret unrest gnaws at the roots of our being." Insight by way of scientific and sacred spiritual enlightenment might seem at face value counter-intuitive, yet the depth of the soul and true nature of the self ought not to be relegated to the realm of fortune tellers nor hard-line reductivists.

With the advance of neuroscientific research on the unconscious and neurotheology as a discipline,<sup>3</sup> and practitioners' and scientists' increasing reception to traditional and cultural forms of knowledge, the bridging efforts across the epistemological continuum (Manson) proffer an unparalleled opportunity to close the explanatory gaps on the 'problems' of consciousness and well-being, personal and collective. Such collaborative partnerships conscribe the pluralistic integration<sup>4</sup> of multiple forms of knowing and sources of knowledge with a methodical diligence toward identifying synthesizing models,<sup>5</sup> new directions, processes, and understandings (Hillman, 1992; Romanyshyn & Anderson, 2007) for the adaptive emergence<sup>6</sup> of holistic well-being.

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<sup>1</sup> See the work on alternative medicines and placebos by Ted Kaptchuk.

<sup>2</sup> See Arthur Koestler's writings on the concept of holarchy, or likewise, Michael Washburn's.

<sup>3</sup> See Michael Winkelman's corpus on neurotheology, particularly with regards to the persistence and revitalization of shamanism and the neural ecology of consciousness and healing.

<sup>4</sup> See Sandra Mitchell's (2004) article on complex systems.

<sup>5</sup> See Gregory Bateson, Charles Hampden-Turner, Gerry Gershon, Ken Wilbur, among others for work on this pursuit.

<sup>6</sup> See the volume *Complexity Perspectives on Language, Communication and Society* (eds Angels Massip-Bonet & Albert Bastardas-Boasa), particularly Carlos Gershenon's *Facing Complexity: Prediction vs. Adaptation*.

The following work draws widely upon the existing plinths offered by the Jungian and depth psychology<sup>7</sup> and its proponents; the Greek notion of Psyche (Hampden-Turner); Shamanism and neo-/modern Shamanism (Harner, Some), and related yet distinguishable conceptions of shamanhood or shamanship (see Townsend, 2004); anthropology and neurotheology (Winkelman); and ecological systems and complexity conceptualizations (Meadows, Mitchell). As such, it serves as a brief update and entry into the state of neuroscientific research on Jungian and shamanistic notions of the collective unconscious, and so begins to pull in common themes and strands in a furtherance of our combined wisdoms of body and mind. In so doing, it attempts to speak to the psychology of the self and soul, the embodied nature and experience of being, thus, coaxing the unconscious into consciousness, acknowledging chaos (meaning, gaping void or chasm), closing the schism between our splintered selves,<sup>8</sup> repairing and extenuating the escalating tendencies of schismogenesis (Bateson).

In adopting a neurotheological approach (Winkelman) to the Jungian collective unconscious and so too to the whole beings rooted in our combined ecologies which we now purposefully alter en masse in unparalleled ways<sup>9</sup> (Zalasiewicz et al., 2011), we may embrace all our parts and diversities in an actualizing salve of co-integration. Though undeniably complex and challenging, we might individually and collectively atone for – and transcend – in Jung’s words, “man’s worst sin”: ‘unconscious’ willful ignorance.

## 1. Introducing Jung’s organic unities

Carl Gustav Jung, a medically-trained doctor, constructed the concept of the collective unconscious whilst providing his analytic services at the Burghoeltzli Mental Hospital in Zurich, Switzerland. Jung took notice that the ideas and apparitions of patients seemed to bear a striking resemblance to those of mythic figures and themes from cultures the world over. As it seemed unlikely that these individuals had direct experience of these disparate cultures themselves, Jung then posited that the human psyche possessed an underlying symbolic structure born from common histories.

Such mythological patterns can indeed be adduced to distinct cultural groups across time and place and take primary residence in our unconscious (Hillman). Further, “Jung borrowed from Freud the conception of conscious and unconscious spheres of a mind mediated by a defended ego, a source of psychic energy called the libido, and a mission to reclaim territory from the unconscious” (Hampden-Turner, 1981, p. 44). In following with much culturally-diverse Shamanic knowledge and

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<sup>7</sup> See Jung’s (2009) *The Red Book*.

<sup>8</sup> See, for instance, Herbert Marcuse’s *One-dimensional man*.

<sup>9</sup> See Paul Crutzen’s concept of the Anthropocene.

holistic conceptions of the interrelationships of all things (i.e., reproductions of mandala, meaning ‘circle’ in Sanskrit), Jung’s globular depiction encompassed pieces such as abstract patterned images situated in wholes and the very animate, organic nature of the mind itself, as it seeks resolution and, so, expansion.

In Jung’s visioning, as explicated in Hampden-Turner’s (1981) synthesizing map of the mind, maturation was related to the achievement of insight, wholeness, and spiritual depth. “The rounding out of the psyche followed the ‘inner way’ of the T’ai Chi, from thinking to intuition to sensing to feeling, [...] to the very depth of the unconscious where lies knowledge of good and evil” (44). Jung’s concept of the unconscious built on and surpassed Freud’s in its vibrant complexities. There was a *personal unconscious* of individual memories, experiences, and repressed materials, as well as a deeper level *collective unconscious*, evidenced by emotions and visions with an unknowable abyss. He describes the collective unconscious as, “the inherited possibility of psychical functioning,” thereby predicating a fundamental rejection of the constructivist blank slate view of human nature. Jung’s unconscious had a primordial structure and coherence with archetypal patterns, symbolic images, and mythological elements mirroring the ancient mystical and mythological claims to principle ideas and arching storylines of human cultures (Hampden-Turner, 1981; Propp, 1928).

Jung further contended that our evolutionary subterranean history had shaped our brains over many millennia, allowing us to bring forth universally shared images of life’s course-ingrained themes in the form of archetypes. The following passage sums up this conception:

A more or less superficial layer of the unconscious is undoubtedly personal... But this layer rests upon a deeper layer, which does not derive from personal experience and is not a personal acquisition but is inborn. This deeper layer I call the “collective unconscious.” I have chosen the term “collective” because this part of the unconscious is not individual but universal; in contrast to the personal psyche, it has contents and modes of behaviour that are more or less the same everywhere and in all individuals. (1934/1954/1968, 3–4).

This basic yet influential discovery of the collective unconscious or archetypal psyche gives credence to pre-personal, perinatal or transpersonal dimensions, manifested and made evident in universal patterned imagery and attachments (Edinger; Hewlett & Lamb, 2005; Schore, 2003). Archetypes are the symbolic ‘primordial images’ of the content of the collective unconscious depicted in religious, spiritual, and mythical traditions the world over (Campbell, 2008; Propp, 1928). In bringing together a coherent concept of a central archetypal psyche or archetype of wholeness, with its ordering function for the contained constituent archetypes, Jung envisioned the Self as the structuring nucleus of the entire psyche. Here, the Self was viewed as the seat of *objective* identity, whilst the ego constituted the *subjective* (Edinger, 1972). Indeed, evidence of the power of the unconscious in

multitudinous research on, for instance, decision-making (Soon et al., 2008), to individuals' assessments of their core constitutive components of Self (Strohming & Nichols, 2014), to therapeutic, clinical, and self-rehabilitation, points to the underlying power of the organizing, actualizing capacity of the Self, operating often largely outside the realms of conscious awareness or effortful cognition (see, for instance, Kahneman, 2003; Wilson, 2002).

## 2. Jung's Shamanistic groundings

In this way, Jungian notions of the collective unconscious, Self, and their transcendent, transpersonal potentials map widely onto shamanism and its successors, like that of Tibetan Buddhism. Anthropologist Michael Winkelman has written at length on shamanism and its conceptions as the original neurotheology, linking scientific and religious perspectives. Winkelman contends that the shamanic paradigm offers a reconciliation of the two by providing a universalistic biopsychosocial framework which explicates the biological underpinnings of spiritual experiences and practices, representing the foundations of human cognitive evolution and spiritual experience. Innate representational models such as Jung's archetypes, and shamanic experiences and ritual activities, involve fundamental structures of cognition and consciousness and representations of the psyche, the ego vs. self, and others, involving social adaptation that enlists the biological capacities provided by integrative altered states of consciousness (ASC) to facilitate holistic community integration and individual development. Such processes intensify connections between the limbic system, subcortical structures, and associated neurotransmitter networks (Moll et al., 2009), and project synchronous integrative slow wave (theta) influences into the frontal brain (i.e., prefrontal cortex). These integrative dynamics enhance attention, self-awareness, learning, and memory, and elicit mechanisms that mediate the self, attachment, motives, and feelings of conviction (Winkelman).

Shamanic ritual further provides integrative therapeutic effects through mechanisms derived from the psychobiological dynamics of ASC, the relaxation response, the effects upon serotonergic action and endogenous opioid release, and the activation of the paleomammalian brain (Winkelman). Furthering Maclean's Triune Brain theory, Narvaez's (2005) Triune Ethics Theory positions the co-integration of the three core constitutive neurobiological systems as key in human lifelong propensities toward wellness, including moral engagement and identity (Narvaez & Lapsley, 2009). It is the author's view that greater appraisal into the overlapping and divergence of human and diverse species' nature through such ecologically respectful and cognizant, affective practices as those employed in shamanistic and Jungian depth, work so that full (ethical) development might be realized. In following Jungian and neo-Jungian perspectives, such drives toward realization

operate not only within the individual but also transpersonally. In a similar manner, shamanism influences the positive development of basic emotions, attachments, social bonding, sense of self, and identity, constructing a primordial adaptive expansion of the consciousness that constituted the earliest manifestations of modern humans living on the whole in concert with their environs (Winkelman).

However, recent works on comparative neurobiology contest the triune model with charges of oversimplification and negation of the cognitive complexity and sophistication of alternate species (e.g., Jarvis et al., 2005). Moreover, in citing de Quincey, Randrup holds that “a panpsychic view (called panexperientialism or radical naturalism)” (2004, p. 42), similar to Jewish mysticism, among other deep-rooted spiritual traditions, proves fruitful to furthering not only our idea of the collective unconscious mind but some form of collective conscious (see Bernstein, 1992) across species’ boundaries. The development of this line of thought is beyond the present article, though the reader may find Washburn (1994) and Goddard’s (2009) writings on humanity’s developmental ecological meta-narratives and projected trajectories of interest.

In this way, we can begin to stake a claim on ‘reconciling the third,’ the movement toward the ‘Higher Self’ in an immanent and transcendent manner. Despite the violent swing toward relativism and ‘the loss of the self’ or notions of autonomous agency and an individual’s sanctity, recent work underscores the primacy of a true core self, with its constitutive and emanating morals, values, temperaments, and beliefs – largely in that order (Strohming & Nichols, 2014). More current investigations on situated moral selves originating from pre-natal states to lifelong trajectories abound, with neuroscientific (e.g., Fehr & Camerer, 2007) and evolutionary anthropological (Hewett & Lamb, 2005; Narvaez & Lapsley, 2009) insights.

Jung anticipated such neuroscientific findings, elucidating the dialectical constructive synthesizing nature of the various realms of consciousness: “There can be no resolution, only patient endurance of the opposites, which ultimately spring from your own nature,” he writes in his common epistolary form. “You yourself are a conflict that rages in and against itself in order to melt its incompatible substances, the male and the female, in the fire of suffering and thus create that fixed and unalterable form which is the goal of life... We are crucified between the opposites and delivered up to the torture until the reconciling third takes shape.”

In this way, Jung envisions a path toward wholeness whereby conflict and ‘contraries’ or polarities, endemic to human nature, are dialectically synthesized, just as they are rife in the natural world<sup>10</sup>. Jung drinks from the chalice of German theologian Rudolf Otto’s concept of the “numinous,”<sup>11</sup> whereby attainment to the Higher Self or Oversoul, (recall the reconciling third), conscripts the “approach to the numinous.” It is here that a large overlap and commonality can be traced

<sup>10</sup> See Koestler’s conceptualization of bisociative processes.

<sup>11</sup> See Das Heilige (1917).

between Jung's approach to therapeutic healing and an individual's holistic health and multiple cultures' shamanistic-type traditions. As notes Ross-Macusin, "Out of the shamanic depth of his personal experience, grounded in science and scholarship and the practice of counseling, Jung crafted a depth psychology (in which dreams are central)." It is through dreaming, memory recollection, and other practices, that individuals recognize and integrate among the levels of the individual and collective consciousness. This psychological process of individuation, involves integrating opposites (i.e., the conscious and unconscious) whilst retaining their relative autonomy, a requisite for becoming a whole and fully integrated person.

Through Freudian free association, Jungian active imagination, dreaming, and other expressive integrative processes like therapeutic artistic creation (e.g., Malchiodi, 2003; Landgarten, 2013), the individuation's transformatory process of bringing the unconscious into the conscious integrates parts into a whole. Such assimilation allows for full holistic health of the mind and body, and for individuals to become harmonious, mature, and responsible, embodying values and morals of freedom and justice, the natural world and human understanding. In contrast to utilitarian 'means as ends' views, associated with prefrontal cortical functioning (e.g., Koenigs et al., 2007), ecological notions of self honour and the intrinsic are above the instrumental value of nature and the other. As the Sioux Chief, Luther Standing Bear espoused, we are students of nature who seek to learn to feel beauty.

Additional traditions source out the dialectical potential for personal and collective transformation and immanent transcendence, far preceding Jung. Winkelman depicts how guided shamanistic practices can work on individuals' biopsychology, especially the brain's serotonin and opioid neurotransmitter systems, activating the release of euphoric and uplifting chemicals. Jungian holistic reconciliation is further backed by recent psychological empirically-grounded approaches like that of Marcia Callahan's Dialectical Behavioural Therapy (DBT) or Mindfulness-Based Cognitive Behavioural Therapy, which both draw upon the benefits of embracing all with a spirit of equanimity (Desbordes et al., 2014). Specifically, Jung conceptualized the positive or negative Shadow, which connotes the undesirable, unknown, or disconcerting component parts of our selves. The anima, in a woman, or animus, in a man, further constitute core elements of the self, in which recognition of the Shadow is deemed an apprenticeship, while making one with the anima is deemed a masterpiece, which is vastly unattained. Unavoidable conflicts between our multiple parts require reconciliatory processes, and the mandala and other balancing integrative practices assist in resolution or resolving toward the Self. Here, we see the linkages to shamanism, the most ancient and longstanding holistic healing practices known to humankind. Many Native Peoples, such as the Cree, the Medicine Wheel, or living Sacred Hoop, provide ceremonial access to the reconciliatory powers of the inner healer, aided and guided by 'numinal' spiritual earthly powers.

Much like Jung's experiences and documentations of traversing the boundary of sanity and the psychotic, the combined ethnographic and cognitive neuroscientific research of Native Californian cultural origins and symbolism gives evidence of a collective unconsciousness in the form of rock art (Whitley, 1998). Such findings gave an indication of the psychological imagery and somatic hallucinations of trance, representative of supernatural experiences. From a cognitive neuroscientific viewpoint, shamanistic states of consciousness include not only the ecstatic but also unpleasant emotions, frequently cited in Jung's Red Book writings. Similar mixed-state transcendent experiences by spiritual seekers include those who ingest the increasingly popular Amazonian Ayahuasca, or the iboga hallucinogen taken as part of the Bwiti spiritual practice of West Africa.

### **3. 'Problems' of phenomenology and altered states of consciousness**

Similarly, a general aversion to non-cognitive effortful cognition, and so-called 'non-normal' ways of knowing and being, is profligate in scientific investigation of the realms of consciousness. Jung certainly came up against such skepticism and attempts to discredit, which are most clearly laid out in the descriptions of Jungian and depth psychology as a cult (i.e., Noll, 1995). None of this is new to targets, intentional or not, who attempt to push against the barriers and boundaries of hegemonic constructions of social order and its associated bodies of 'knowledge' and 'wisdom' (see hooks). However, this rebuttal is not obviated by switching the focus from Jung himself, however controversial or unorthodox in his methodologies, and signposts the deeper dissonance between ways of thinking about the natural world and biological beings (e.g., Kournay, 2015). Chief among these debates, attempts to bridge the explanatory gap remain among the principal projects of academic communities, scientific, philosophical, and (post-) humanistic (e.g., Adolphs, 2015; Braidotti, 2013; Chalmers, 1997).

As Pauen (2000) cites in the methodological and conceptual conundrums of the property dualism implicated in investigating alternate states of consciousness, "It is obviously impossible to find an empirical test that would detect a possible violation of the psycho-physical law." Moreover, phenomenal properties actually may possess causal powers that reflect their first person qualities, meaning that bodily states and action tendencies are among the constituents of emotional states – not just among their effects or concomitants.<sup>12</sup> Pauen (2010) continues in elucidating the differentiation between epistemic first-person privilege and third-person access to mental states. Here, the insight gained from both folk wisdom and scientific knowledge in

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<sup>12</sup> See Damasio's unconscious somatic markers (1994) and Varela's (1996) embodied sensorimotor structures for perception, sensation, and experience.

tandem would feasibly allow for significant inroads into the problems and nature of consciousness taken up by mythics (see Joseph Campbell), or explorers of the natural world, of which humans are co-constitutive. Accounts of phenomenology, the complexity of ecological systems, and the human Psyche, may be ultimately broadened, enriched, and refined through divergent and convergent bisociation processes (Koestler). The initial crucial step here is to allow for the integration of diverse (neurophenomenological) accounts of consciousness, incorporating the brain-body-world divisions (Thompson & Varela, 2001), and alternate states of consciousness yet to be rendered as knowledge into and outside of existing frameworks and structures for systematically investigating lived experience.

Of course, discussion on the underpinnings of consciousness, the whole of the human psyche, and its cartography, runs up against immense age-old theoretical and cultural debates. First and foremost, current studies on the history of science generally, and the empirical and industrial revolutions specifically, cite the legacies of Cartesian dualism and Newtonian mechanics as predominant flag-bearers of the reductionistic mechanistic models taken as sacrosanct in hegemonic scientific and medical communities. At its core, scientific pursuit has been characterized by, and thought to require, detachment, absence of emotion, and 'independent' investigation (see Kourmay). Moreover, this has led and continues to lead toward mainstream science's knowledge production in service of dominant groups (i.e., men, Westernized worldviews) and, accordingly, ignorance<sup>13</sup> in the alternating disabuse and disservice of oppressed groups<sup>14</sup>.

Feminist science studies and sociology of knowledge, joined by membership in the social collective (Schuffer), further underscores how certain areas are differentially valued in scientific undertakings and the social construction of knowledge, while others are relegated to realms outside the 'legitimate halls' of science. What has been thus neglected, involves not only entire cultural groups, and demographics, but accordingly, their forms and contents of knowledge deemed 'ignorant,' 'savage,' or 'non-scientific.' Previously and continually 'othered' forms of knowledge and complex epistemologies are unceremoniously ripped from the global collective body of knowledge, leaving a gaping void, or schismogenesis in Gregory Bateson's<sup>15</sup> description of the lethal consequences in the structural split of ideas and relationships, a great 'Chaos' or fracturing. Such knowledge includes, among others, indigenous ways of knowing, practices, and those epistemologies of denigrated groups, much of which has been met with demonizing or, conversely, 'noble-izing' tendencies.

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<sup>13</sup> See Robert Proctor's concept of Agnotology.

<sup>14</sup> See, among others, bell hooks' writings on the end of dominance, and freedom linked to self-investigation and actualization.

<sup>15</sup> See, for instance, 'Steps to an Ecology of the Mind' by Gregory Bateson.

A certain type of intuitive ‘non-cognitive’ emotional knowledge of the world is at once denigrated as ignorant, but, moreover, dangerous, evil, or the like, including the murderous witch hunts of Salem and the genocide of ‘non-human’ peoples (Staub, 1989). Though knowledge systems are transmitted via varying means i.e., through socialization of deep valuing of the natural world or ecological adaptation,<sup>16</sup> or specialization in the case of some autistic individuals’ ability to access information beyond pure verbal/linguistic cognitive domains through specific somatosensory structures (Varela, 1992/1996),<sup>17</sup> Western investigation rarely acknowledges this diversity (Watson-Verran & Turnbull, 1995). It is therefore imperative that accordant research support be provided, for instance, to draw insight from ‘lay’ individuals outside the laboratory setting.

Encompassed into the ecological whole, human beings as organisms must be acknowledged as such in any reliable or valid conceptualization of human psychology, pan-cultural or culturally and location-specific. However, as Watson-Verran & Turnbull (1995) draw out, “retreat from cross-cultural studies is currently being reversed as fresh insights are gained from the intersections of the social study of science with anthropology, postmodernism, feminism, postcolonialism, literary theory, geography, and environmentalism” (p. 345). They continue, “Western contemporary technosciences, rather than being taken as definitional of knowledge, rationality, or objectivity, should be treated as varieties of knowledge systems” (p. 346). In illuminating the damaging effects of the relation between knowledge and power, Ludwig von Bertalanffy, likewise states, “Let us face the fact: a large part of modern psychology is a sterile and pompous scholasticism which, with the blinkers of preconceived notion or superstitions, doesn’t see the obvious; [...] which provides modern society with the techniques for the progressive stultification of mankind.”

Though much systems– and ecologically-grounded advance has been made, thereby partially mending the separated academies of scientific and humanistic inquiry,<sup>18</sup> the holistic study of individuals embedded within their environments is hindered by overarching biases and cultural systems privileging certain forms of knowledge, and its associated methodologies, over others. Among them, stand the agonizingly slow uptake of serious investigations into non-normal states of consciousness already known by diverse cultures for time immemorial to hold incredible weight in human and ecosystem balancing.

Still, times change with cultural value shifts, and globalization offers up unparalleled opportunities for widening such investigations with scientific method’s rigour. To begin, Joseph Campbell’s cross-cultural work has clearly laid out strong evidence for story archetypes, potentially ingrained in humans’ genetic codes and/or cultural

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<sup>16</sup> See, for example, the spatial representations of time of the Pormpuraaw people of Australia (Boroditsky & Gaby, 2010).

<sup>17</sup> See the UC Davis Autism Research group’s research, and Temple Grandin’s accounts.

<sup>18</sup> For instance, the Santa Fe Institute, or the Von Bertalanffy Centre for Systems Study.

artefacts, extending back into humanity's shared patterns of storytelling, narrating, language, and cultural knowledge transmission. Michael Harner's Foundation for Shamanic Studies and the related Shamanic Knowledge Conservatory (SKC) has undertaken a mass documentation of collective states of altered consciousness, the MONOR (The Mapping of Nonordinary Reality), while complementary neuroscientific inquests into meditative states within laboratory settings frequently appear in empirical publications. A selection of the benefits of non-normal or alternate states of consciousness and mindfulness, or mind-body integrative practices, includes: self-regulation over the life course (Tang, Posner, & Rothbart, 2014), stress and well-being (Goyal et al., 2014), harmful intergroup attitude reduction (Kang, Gray, & Dovidio, 2014), and even genetic markers of health in breast cancer survivors in combination with supportive expressive group therapy (Carlson et al., 2014). Additionally, Desbordes and other authors (2014) draw out the beneficial impact of equanimity and its implicated role in psychoanalysis, citing Jung's declaration that "the foundation of all mental illness is the unwillingness to experience legitimate suffering." Transactional therapy, depth psychology, and psychoanalysis, likewise bring all parts of a person, and their embodied experiences and thoughts, into awareness in the present, allowing a space for acceptance and de-stigmatization and dismantling of the patterns and harsh dualisms which contribute to suffering.

However, whilst these studies depict the positive influence of such practices, they are typically devoid of any spiritual context or other embodied situated spirituality of which depth and Jungian psychology and holistic traditions like those of the shamanistic approach to health and wellness represent. Indeed, recent integrative overviews of the benefits of holistic approaches to the human psyche and wellness, include numerous researchers, medically-trained practitioners or otherwise, who draw upon their collective experiences of working with diverse ranges of groups of individuals (e.g., Bessel Van der Kolk, Risa Kaparo, Barnaby Barrat, John Kabat-Zinn) or even animals in comparative medicine (Natterson-Horowitz & Bowers, 2013); and particularly, somatic work sourced from shamanistic neuroethologies<sup>19</sup> features among their proponents. Individual practitioners and 'lay people' enlist their ingenuity in their commitment to bridging allopathic (Western) empirical science, as in the medicinal field with traditional ancient healing wisdoms<sup>20</sup>.

Mechanistic reductionism and cultural appropriation or commodification of 'otherness' can be counted among contributory factors to the academy's tendency to stray from the origins of such practices. Additionally, the practicality of implementing such methods to wellness in the wilderness in the case of traditional holistic ceremonies or activities (i.e., the Medicine Wheel, yogic practices, Tai Chi or Chi Qong, or solo journeys) is obvious, and modern modes of economic production and

<sup>19</sup> See Whiteley, 2004.

<sup>20</sup> As examples, see the work of Dr. David Cumes or Dr. Stanislov Grof or Dr. Malidome Some.

social control are eager for ‘proven’ randomized-control trials (thereby precluding psychoanalytic or case-based knowledge), quick-fix, economically-focused measures for improving productivity among the workforce. Obviously, such aims are directly contrary to the original holistic teachings and might well be an example of cultural appropriation writ large.

The current tide toward mindfulness-based psychological and physical health benefits is preceded by hundreds if not thousands of years of diverse cultural practices embracing the dialectical nature of living ecologies and organisms within. By way of example, Tibetan Buddhism and its synthesizing of Shamanistic roots recognized the need to counter the dismemberment of the spirit through acknowledging aggression, anger, desire or attachment, and ignorance or non-awareness of self and the wider world. Those who succumb to the aforementioned listed contributors to suffering, were thought to belong to the Realm of the Hungry Ghosts, those who could never quench their thirst or hunger while continually gobbling up everything within their reach. As recent work has born out, the healthful integration and acceptance of all these parts, whether deemed ‘negative’ or ‘positive,’ allows for spiritual balance, as in the yin or yang, or Jungian Shadow and Persona, Anima or Animus.

The collective unconscious may well map onto mammalian structures, with perinatal, primordial, and alternate states of consciousness included among the collective human experiences (Maclean, Winkelman). Remaining work on the layers of the brain’s evolution could lend further insight into, and serious consideration of, alternate so-called non-ordinary states of consciousness and their depictions through phenomenological accounts. Clearly, explanations by verbal communication remains a formidable barrier, yet, challenging the scientific community’s locked into materialistic paradigm, neuroscience inferences could prove invaluable. Here, new methods of investigating and potentially “actualizing” the collective unconscious, conscripting various technologies such as the internet (Goertzel, 2007; Hossain, 2012), prove promising.

#### **4. Neuroscience and epistemic continuums**

Along a continuum of epistemological ways of interpreting the world, repeated exposures, and subsequent adaptive adjustments, in continual succession and interaction, play out between individuals and their environments. It is not surprising, then, that in the traditional empiricism underpinning neuroscientific research, reductionistic conceptions of humans and the natural world reign supreme. Consciousness is widely held as arising from matter, constituting an (secondary) epiphenomenon. Philosophical inquests repeatedly question such claims against neuroscience’s ability to identify and label physical structures and properties tied

to phenomena or psychological states. Simply put, bridging between physical material and meaningful experience is hugely challenging, though new ontologies and neurophenomenological perspectives prove promising.

Functional MRI research at the University of Wisconsin among others hint at correlations among temporal lobe and ‘peak experiences’ as well as meditation. Even more convincing evidence for a collective unconscious beyond Jung’s visioning comes from Christian Koch, neuroscientist at the Allen Institute for Brain Science, in an account of a scientifically-based version of panpsychism<sup>21</sup>. Koch holds that “consciousness arises within any sufficiently complex, information-processing system” and “that we live in a universe of space, time, mass, energy, and consciousness arising out of complex systems” (Keim, 2013). Indeed, recent work by Omur Güntürkün and his colleagues shows that while brain structure might at first glance appear to be vastly dissimilar, and so upholding Ludwig Edinger’s view of the successive evolution of cognitive abilities, the underlying functionality or the problems encountered by living organisms instead vary in their anatomical solutions (Jarvis et al., 2005; Shimizu, 2009). Still, the import of such comparative studies of consciousness and cognition are in their nascency, with researchers clamouring over a bulk of data in search of underlying patterns.

Neuroscience can be of aid in sorting out “patternicity” as coined by Michael Shermer, or the tendency to find patterns in both meaningful and meaningless noise. The brain’s pattern detection area, the anterior cingulate cortex (ACC), is known for its volatility and influence to specific situational characteristics, like feeling out of control (Whitson), or hemispheric manipulation and stimulation, as well as neurotransmitters such as dopamine (Brugger). In turn, these neuroimaging results have been linked to states of consciousness. However, in staking a claim on the phenomenology of such experiences, the so-called ‘hard problems of consciousness’ are ever present. To address such issues, neurophenomenology and renewed ontologies (Thompson, 2004; Varela, 1996, 1997) have been proposed.

In terms of a systematic investigation into the collective unconscious and other Jungian archetypal, historico-mythological, and Shamanic forms of untapped non-ordinary states of consciousness and their contents, few inroads have been paved to-date. Certainly, the skepticism met by correspondent endeavours is vast and was formerly insurmountable. However, with the assistance of bridging work, as in the increasing influence of Eastern spiritual traditions and philosophies on Western empirical research, and a full inclusion of diverse perspectives, perhaps a greater collaboration may yet take place.

One encouraging way in which to bridge and coherently synthesize such a diversity of knowledge is the incorporation of the continuum of epistemologies envisioned by Steven Manson (2008). Along this arc of knowing, spanning from hard-edged absolutist reductionism to “absolute” relativistic subjectivism, multiple

<sup>21</sup> See Scientific American and WIRED articles,

epistemological forms can be identified, located, and so brought into the fold. This is critical in that this pluralistic integration, to use a term of Sandra Mitchell and promulgated by other systems and complexity theorists and practitioners,<sup>22</sup> is adequately able to account for the diversities of not only perspectives and experiences but also of knowledge and wisdom heretofore unacknowledged or integrated within the traditional scientific inquiry. Importantly, collaborative efforts between science and the mythical, the historical, and the knowledge of indigenous origins, need to take into account and negotiate the invariable difficulties and potential seemingly intractable scholastic grievances,<sup>23</sup> and territorial politics<sup>24</sup> in combining and comparing multiple, often seemingly non-combinatorial, epistemologies (i.e., oral versus written traditions). Nonetheless, such undertakings have been documented and provide a starting blueprint for collaborative inroads.<sup>25</sup> Thus, the preceding review illustrates that literatures on the Jungian and Shamanistic collective and personal levels of consciousness and scientific inquiry are not parallel but, rather, complementary to the furtherance of our evolution and emergence as individuals and a collective whole.

It is in account of the foregoing evidence and continuing gains into bridging the conscious and unconscious mind, in theory and practice, that we might embrace what might seem counterintuitive or contradictory or foreign, and reject what Jung titled “misonism” or fear of the new. In following, cross-cultural study assists in closing in on schismogenesis, between the conscious and the unconscious, between that which is known and unknown, in relation to phenomenology, the experience of existence, and ‘problems’ or consciousness. As Thompson (2004) pays homage to Francisco Varela’s<sup>26</sup> call for a new radical neurophenomenology and renewed ecological ontologies, our current limitations might be holistically overcome by “putting human life back in” and not, by some “theoretical fix” or “extra ingredient.” Through integrating all parts of our individual experiences and elements of psyche or self within our collective body of situated knowledge, we no longer become fungible semi-conscious entities but, rather: whole beings.

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<sup>22</sup> See Mitchell’s 2004 article, *Integrated Pluralism* or Donella Meadow’s (2008) *Thinking in Systems*.

<sup>23</sup> See Anthropology and Empirical Methods long-standing disagreements, due in large part to seeming incompatibility of epistemologies and worldviews, among others.

<sup>24</sup> See for instance, the role of state-level politics in involvement in the Amazon and their impact on local indigenous groups within the Napoleon Chagnon – Marshal Sahlins controversy.

<sup>25</sup> See Rebecca Fritsche Wiewel’s (2008) *The Collaboration Continuum: Including Indigenous Perspectives in Archaeology*.

<sup>26</sup> See Varela’s (1996, 1997) texts.

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