COMMUNICATIVE & INTEGRATIVE BIOLOGY
2022, VOL. 15, NO. 1, 193–208
https://doi.org/10.1080/19420889.2022.2107726

Taylor & Francis
Taylor & Francis Group

RESEARCH PAPER

OPEN ACCESS Check for updates

Omni-local consciousness

Andrew Lohrey [a] and Bruce Boreham[b]

[a]University of Technology, Sydney (1992); Professional Affiliate, The Galileo Commission, London; [b]Professor of Physics CQU (1989-98), Fellow of the Australian Institute of Physics

ABSTRACT

We present a general discussion concerning the wholeness of what has been called infinite awareness, but here is called Omni-local consciousness. This model of consciousness has an interconnecting structure that has both local and nonlocal features, that is, the model contains local conscious human minds and locates them within an infinite (Omni) background context of consciousness. This holistic model of Omni-local consciousness is exemplified through an examination of its internal structures of meaning, evident in the exchange relations between its two polarities: local minds and nonlocal, Omni consciousness. Following David Bohm's assertion that, 'The activity of consciousness is determined by meaning' [10, p. 102], we propose that the content of consciousness in every circumstance is always defined by the metaphysical conditions of meaning.

ARTICLE HISTORY
Received 4 July 2022
Accepted 26 July 2022

KEYWORDS
consciousness; mind; meaning; holomovement

Introduction

Neuroscience professor, Marjorie Woollacott describes her experiences of meditation and writes that there is a level of consciousness accessed in meditation that is beyond the brain. 'This level has many names; one we could use is infinite awareness. Whatever we call it, this transcendent level of awareness is what most scientists do not acknowledge exists' [1, p. 23].

Why is this experience from a reliable witness (along with that of legions of others with similar experiences via meditative techniques) concerning this kind of transcendental consciousness denied by mainstream scientists? We suggest this attitude is the result of a limited model of mind and consciousness that scientists have privileged. This is a model that mainstream science values and is a feature of the paradigm of local realism, the materialist worldview that informs most conventional scientific studies and experiments. In this paper, we suggest that science should cease erasing the larger view of mind and consciousness and in the process begin to question the conventions of local realism.

The infinite model of mind that Woollacott refers to as being beyond neurons is larger than the local minds of individuals, but also beyond social and cultural influences. The infinite consciousness Woollacott refers to has a universal scope and we have argued in our paper, 'Lifting the veil on Bohm's holomovement' [2] that it reflects the flowing characteristics of David Bohm's holomovement. In that paper, we argued that Bohm's unbroken and undivided totality that he called the holomovement – the title he gave to the concept of the self-organizing universe undergoing continual change or flux – is more coherently understood as universal consciousness While the holomovement represents the central concept in the Bohm-Hiley view of the universe [3] its character is that of a dynamic and flowing but hidden universal field of creation or becoming.

There is a large and growing body of literature that suggests that mind and consciousness cannot simply be excluded from scientific considerations, and we have documented this in our paper 'The Nonlocal Universe' [4]. The nonlocal approach in that paper is implied in Woollacott's description: 'a level [of consciousness] accessed in meditation beyond the neuron'. Woollacott calls this a 'transcendental level of awareness'. Such a phrase directs us to look at the connections where local minds meet universal or what we choose to call Omni consciousness. In this paper, we set out to explore in detail this 'transcendental level of awareness' and we begin firstly by naming it Omni-local consciousness and then we discuss this domain's functions and structures. It is our contention that these functions and structures form the basis of a larger model of consciousness relevant to the development of science in every area of endeavor.

CONTACT Andrew Lohrey andrew.lohrey@gmail.com

Local realism

Worldviews or what are sometimes called paradigms have a framing function that applies to the content of all discourses, written or spoken. Central to the materialist worldview of local realism is the denial of this framing function as an aspect of scientific discourses. This denial leads directly to the concept of an objective physical world, which then leads into the problematic objective viewpoint of local realism. The objective viewpoint says that reality is 'mind independent', and as the Australian philosopher David Chalmers has argued, such terms 'can serve as a useful sufficient condition for being real' [5, p, 111]. This view of 'objectivity' derives from a contradiction, one that declares the mind is not a mind. This is the no-mind mind. The no-mind mind amounts to the denial that scientists or philosophers have minds with points of view that are embedded within the theories and interpretations they express in their discourses.

The second troubling feature of local realism is again related to mind. This is its inherent dualism of an observer that is separated from the inanimate physical universe. The value system of local realism gives primacy to the inanimate physical details, forms and objects that move in space-time, while such objects are seen as the primary building blocks of living systems as well as the basic components of a dead physical universe. Independent of this physical reality is the human mind, which is thought of as generally unreliable, its fickle character being captured by the term 'subjective'. The subjective mind stands in contrast to the reliability of the 'objective' real world.

Hence, the model of mind that is privileged by local realism is that of a basically unreliable function and so any reference to it is usually kept to a minimum or simply erased altogether from scientific endeavors. Stapp makes the same point when he argues that the reason most scientists have difficulty including consciousness in their considerations is because of their acceptance of the basic assumption that subjective elements have no place in materialist science in the first place [6]. However, it is extremely difficult to altogether banish the mind from scientific enquiries or experiments as it is an implicit presence in all the work of scientists and philosophers. Rather than trying to banish mind from mainstream science we should be embracing it in all its universal scope and complexity.

The holomovement

Our paper, 'Lifting the veil on Bohm's holomovement' [2] argued that the dynamic flow of the holomovement reflects to a large degree the characteristics of infinite and universal consciousness. Hence, translating the holomovement as universal, Omni consciousness brings with it a list of detailed descriptions that have arisen from Bohm and Hiley's analysis of the holomovement, but which when applied to the subject matter of mind and consciousness can reveal some of the pertinent characteristics related to the structure and functions of Omni consciousness. We would first note here the set of functions that relates to the agency and organizational potentials of the holomovement, and then observe how these functions translate into the context of Omni consciousness.

In their paper, de Grosson & Hiley [3, p, 1] state that like the quantum vacuum, the holomovement 'is fundamental and gives rise to all physical phenomena. Objects, such as particles, fields and even space-time itself are to be abstracted from this underlying activity.' If the holomovement represents universal consciousness, then this all-encompassing creative agency will also be the determining feature of Omni consciousness. One implication of the organizational potentials of the holomovement is that physical objects, fields and forms represent secondary or derivative features that unfold from the flow of the holomovement. This derivative relationship is well described by de Grosson & Hiley who describe material objects thus: 'things emerge as quasi-local, semi-autonomous invariant features of this flow. Without this flow they cannot exist' [3]. They also state that the unbroken wholeness of the holomovement 'is not a static oneness, but a dynamic wholeness-in-flow in which everything moves in a coordinated way', and that it 'resembles in a fascinating way the *unus mundus* of Jung and Pauli'. This last comment is entirely in line with our 2021 paper in that it implies that the holomovement reflects the character of universal consciousness.

There is another feature of Bohm's work that adds to the agency and organizational potentials of the holomovement and that is the term 'order'. Bohm uses it to describe the implicate and explicate orders in his model of wholeness. The implicate and explicate orders represent the polarities of the holomovement, while the term 'order' concerns the hierarchy of each part which follows an order that has already been predetermined through an established set of potentialities inherent within the holomovement. Hence, the 'implicate order' is an order of infinite, implicit potentials that not only enfolds everything, (particles, molecules, organisms and galaxies), but has the value of being the first or primary order in the universe. The content of its creative organizing potentials will be explored here in

terms of the relationships of meaning. (The term 'creative' is used in this paper in the sense that Bohm used it, as a change in meaning toward a fuller meaning [7]).

Bohm called the secondary pole within the holomovement the explicate order. This order arises out of the implicate order and has secondary or derived capacities related to specific local forms and objects within a space-time continuum. These two orders have an ordered relationship to each other that is not binary or equal but, rather, integrated into a hierarchy. This hierarchy emerges from the primary agency and organizational potentials of the implicate order and the secondary details and capacities of the explicate order. This hierarchy is reflected in de Grosson & Hiley's description of the holomovement: 'things emerge as quasi-local, semi-autonomous invariant features of this flow. Without this flow they cannot exist' [3]. This means that the flow is the primary reality while particles, molecules, organisms and galaxies are secondary realities, abstracted and yet inseparable from this primary reality. This priority is reversed with the Newtonian-Cartesian paradigm of a mechanical world where the ultimate reality is seen as a basic set of interacting, independently existing elements [3, p, 4].

How does this inherent hierarchical order of the holomovement relate to mind and consciousness? Some purchase on that question can be arrived at in from Woollacott's description of her experiences in meditation. She suggests that infinite awareness is a transcendent level that she as an individual experiences in meditation. Here then are two features: i) Marjorie Woollacott's local mind that organized the meditation practice and which then experiences ii) infinite awareness. By applying the structure of Bohm's holomovement to these two features of consciousness we have i) the primary domain of infinite consciousness and awareness and ii) as a secondary, local feature, Marjorie Woollacott's local mind. Her description also suggests that when meditating she can at times tune into the nonlocal waves within the wholeness-in-flow of Omni consciousness.

The human drama related to the polarity of this wholeness can be seen to be played out by local minds who represent the servants or emissaries of the background mistress/master, the role played by nonlocal Omni consciousness. This relationship replicates the structure of Bohm's holomovement with its hierarchy of the implicate and explicate orders. Further, the mistress foundations of this wholeness model are nonlocal and implicit while the servant or emissary features represent a set of space-time differential relationships that are always local. The wholeness character of this model comes from its single, Omni-present and interconnected, nonlocal dynamic wholeness-in-flow of which the servant minds of individuals represent local parts.

This wholeness approach does not take on the task of refuting the many details of those schools of thought who regard local consciousness as having a material basis, either in cellular-molecular physiology [8,9] or in microtubules [10]. Rather, our focus is on the overall architecture of consciousness *per se*. Hence, Omni-local consciousness denies the absolute dualism of that independent observer who is an inherent feature of the materialism of local realism and replaces it with the observations of participants acting within the context of Omni consciousness (Bohm's holomovement). Support for the view that local minds are not independent comes from a key doctrine of Buddhist philosophy, which is that of dependent origination, or dependent arising. This doctrine holds that independent existence is a false belief and states that all phenomena arise in dependence upon other phenomena:

> *if this exists, that exists; if this ceases to exist, that also ceases to exist". i.e., all things and events, whether material, mental or even abstract concepts like time, are devoid of objective, independent existence [11, p. 47]*

Hence, everything depends on everything else and local minds exist in terms of what Buddhism calls "relative truth" (as opposed to "absolute truth"). This Buddhist doctrine that there can be no separate, private and local minds because they lack independent existence is a doctrine in conformity with the wholeness model of Omni-local consciousness presented here. In addition, the denial of independent existence implies the denial of the primary status that has traditionally been given to an independent physical world. Yet, in relation to Omni-local consciousness, the disappearance of this primary status does not mean the physical world disappears. The withdrawal of this status comes from its reconstitution as the secondary effects produced by local minds through the processes of perception and conception, which are Bohm's explicate order. (Bohm's implicate and explicate orders are here interpreted as providing the underlying structure of Omni-local consciousness). This means that the physical world comes into existence through the perceptual processes of local minds, and these processes represent significant points of transformation within the overall Omni-local system. Such transformations occur when nonlocal, implicit

meaning transforms into explicit forms and images, which are the character of the explicate order. As we will argue, this transformation occurs in perception.

In his 2008 paper, Hiley [12] was interested in how strange quantum effects such as quantum entanglement and non-locality appear in mathematics, and in particular by the way that the whole of Hamiltonian mechanics can be described in terms of 'Hamiltonian flows' and how this relates to the emergence of classical mechanics as an approximation of quantum mechanics. Also, de Grossan and Hiley [3] show how the overarching holomovement or Omni consciousness provides a way of understanding the mathematics of Bohm's 'quantum potential' and how entangled particles are 'locked together', giving a form to Bohm's notion of wholeness. However, the mathematics do not reveal any mechanism for communication from one system to the other. Omni consciousness provides this mechanism. What Bohm's model does show is that while there is no physical separation between entangled particles local realism makes them separate by attributing to them individual positions and momentum [9, p, 7].

To summarize: the major distinction within Omni-local consciousness is not of subjectivity versus objectivity. The cardinal distinction in this model is the distinction of the polarities of the complementary conditions of nonlocal and local, infinite and finite, eternal and transient, implicit and explicit. The underlying unity that connects these polarities is exemplified by the interactions and exchanges of meaning that occur between these two poles, which only ever take place within the dynamic wholeness-in-flow of the overall system. These considerations apply to both thought and matter.

Meaning

An analysis of meaning becomes necessary in this discussion of Omni-local consciousness because meaning represents the content and contexts within this singular holistic system. The author who has greatly influenced our understanding of meaning is David Bohm in his *Wholeness and the Implicate Order* [10]. His influence derives from the completeness of his research and the coherence of his theory of wholeness. It is not necessary to repeat the points we made in our 2021 paper here except for a few comments.

In the late 1980s Bohm authored a book on meaning called *Unfolding Meaning: A Weekend of Dialogue with David Bohm* [11]. In it he directed a group discussion toward the fascinating question of how our meanings relate to the universe as a whole. In *Unfolding Meaning* Bohm states that 'everyone has some intuitive sense of what meaning is', even if they could not define it explicitly [7, p. 72]. Given that basis we can begin to unfold some of the meaning of meaning in this discussion of Omni-local consciousness.

In *Unfolding Meaning* Bohm contends that, 'Any fundamental change in meaning is a change in being for us. Therefore, any transformation of consciousness must be a transformation of meaning' [11, p. 93]. He also wrote that 'We can say that human meanings make a contribution to the cosmos, but we can also say that the cosmos may be ordered according to a kind of 'objective' meaning' [11, p. 97]. And again, 'I think conscious awareness, its essential feature, is meaning.' … 'The activity of consciousness is determined by meaning' [7, p. 102].

We interpret Bohm's many statements on meaning to imply that the content of consciousness in its local and nonlocal forms is always that of meaning [2]. This interpretation is supported by his statements that 'meaning is fundamental to what life actually *is*' [12, p. 180] and, 'the universe is its meaning' [12, p. 181] or again, 'there is no point in asking the meaning of life, as life *is* its meaning', and again, 'not only that there is a meaning to it, [the universe as a whole] but rather *that it is* meaning' [13, p. 438]. From the wholeness view, meaning represents the content and the life of Omni consciousness and hence, the holomovement and the two polarities of the implicate and explicate orders. This contention is reinforced by Bohm's description of the holomovement as *'life implicit'* [14, p. 102]. As the flowing universal field of becoming, the holomovement contains the agency of life, an agency that has the transformational and organizational potentials to produce the life cycles of every diverse and transient life form.

As the content of consciousness, meaning necessarily comes before language, numbers, mathematics, information, particles, the science of quantum physics and mainstream mechanics, as well as coming before our birth, our body, our senses, and our longings and desires. It comes before paradigms, logic and learning processes. It comes before all these because without their meaning none would exist. The dynamic wholeness-in-flow of meaning represents the unconditioned eternal essence from which all forms and physical objects arise, or as Grosson & Hiley's write: 'things emerge as quasi-local, semi-autonomous invariant features of this flow. Without this flow they cannot exist' [3].

The essence of meaning comes in the form of relationships and relationships are always without exception relations of meaning. As a consequence, there are no relations that do not have meaning. Proof that all relations are relations of meaning rests on the fact that no one is able to offer evidence of a relationship that has no meaning. (Even random events have the meaning of a random event, while a distinction has the meaning of a difference or an asymmetrical relationship.)

As the content of consciousness, all relations of meaning represent the universal units of Omni-local consciousness. As the universal units of Omni-local consciousness, relations of meaning are alive and thus, are causal. This life-force of relations represents the agency that connects, interacts, unfolds and enfolds the transient existence of all structures, forms and functions in the explicate universe. This wholeness approach locates relations as the foundation causal building processes of the universe. This approach is post-material in that relations possess no physical properties. In other words, relations have no mass and no measurable energy for they are essentially metaphysical. Thus, relations of meaning represent the universal mental connecting processes that have organizational agency to interconnect, enfold and unfold the explicate world. All relations have two major features: they have an intelligent agency that create connections and interactions while also existing as the structural and functional processes within local minds and Omni consciousness.

Does this mean that the inanimate world is alive? Yes, it does, but the life of a stone is clearly very different from the life of a dog or a human. As Bohm has said, at every level of the universe 'there will be a 'mental pole' and a 'physical pole' [15]. The differences of the life of a stone and a human are due to their different contexts as well as the relations of meanings that are enfolded within each of these forms. For example, meaning has two interlinked aspects that inhere within and surround every form as well as every communication exchange. The first is an enfolding, implicit context that surrounds and is implicit in the form and/or the communication exchange. The second aspect provides the explicit content of the form and the explicit meaning of the communication exchange.

The context of a particle is of course different from the context of an atom, a molecule, an organism or a solar system and it's the implicit context where most of the meaning of the form or the communication reside. In contrast, the explicit and local content of a form – its shape, movements, interaction with other forms – represents its derivative or secondary and lessor meaning. Again, this is also the case for all communication exchanges that can occur between particles, cells, or people. With different levels of matter, it is the implicit and explicit meaning of their contexts and contents that determine the vicissitudes of these different life forms. As a consequence, both context and content must be taken into account in order to understand the life and the consciousness of any form or communication.

In general, we can say that relationships of meaning are the life-force within every form, whether classified animate or inanimate and as such these relations of meaning occur prior to the perception of any form or image or question about ideas, concepts or psychological habits and preconditions. This prior location represents the implicate domain of Omni consciousness. Yet while relations of meaning come prior to the human mind they are known to us implicitly and are captured within the formation of concepts that are expressible in language. As the universal processes of Omni-local consciousness, relations operate as the integrated and complex processes within all local mind functions while also being Omnipresent throughout the universe.

Relations of meaning connect everything to everything else to bind the universe into a single dynamic, flowing system of wholeness. This is what Bohm called the holomovement. As a consequence, we can say that the universe is a single interconnected living system of flowing relationships of meaning, or as Bohm has written the universe *is* meaning [16, p. 438]. Within the dynamic flow of this single interconnected system of relationships there are no gaps or separations as relationships connect everything to everything else. This non-local realist worldview is entirely coherent and of course differs from the gaps and separation produced by local realism, the most fundamental gap being the assumed separation between the physical and mental worlds.

Relations of meaning represent the flowing context and content of Bohm's holomovement and, as a consequence, of the implicate and explicate orders. We suggest that the holomovement represents a general but skeleton model of Omni-local consciousness with its many features that are applicable to all life forms and to all communication exchanges. It thus seems appropriate to unfold many of the implications inherent in Bohm's model of the holomovement in order to put some descriptive, meaningful flesh on its strong bones.

To begin with, it should not be surprising that like the holomovement meaning has a dynamic, rhythmic

flowing movement. Its flowing intelligence is cyclical and reflexive with no gaps, or beginnings and no ends. The cyclic-flowing order of meaning can be seen in its five basic transformations (below), which describe the first-order action processes by which exchanges between the implicate and explicate orders occur. For practical reasons of space our focus in this paper is restricted to humans rather than other organisms and so our concern is with the range of ways in which local individuals may choose to respond to the givens of Omni consciousness.

The five flowing transformations below represent first-order action processes within Omni-local consciousness. These processes begin with the infinite unity of a singular undifferentiated system and then gradually move to various states of diversity while always remaining within the implicit unity of the system. The cyclic movement of these transformations begins with unity, moves to diversity and returns to unity. Implicit and explicit relations of meaning always have a dynamic flow exemplified by their exchanges, which represent one of the features within the combination of four patterns, as demonstrated below: 0, 1, 2, 3. The fifth transformation comes about because the relations of meaning are cyclical rather than linear, and hence these exchange patterns begin with the process of unfolding, existing in that unfolded state for a time, and then enfolding back into the unity of 0: *implicit-to-implicit* meaning.[a] These five cycles have the following characteristics:

0	implicit to implicit
1	implicit to explicit
2	explicit to explicit
3	explicit to implicit
0	implicit to implicit

These five basic cycles of transformations provide the structural outline of the polarities within the implicate and explicate orders of Bohm's holomovement. As we have argued, this also means these are the basic transformations within Omni-local consciousness, and even though Omni-local consciousness is an entirely integrated single system because of its three general contexts it is not the same for all levels of mind or consciousness. Hence, the distinctions within this single unified system of relationships comes from the five basic transformations that function differently within three general creative contexts of consciousness.

The first context represents the universal potentials of Omni consciousness (Bohm's quantum potential), and these creative potentials are always implicit in the sense of being hidden from human view and are thus unable to be explicated. The second context represents those transformations that occur with the creation of all physical forms and simultaneously with the creation of conscious perceptual images of those physical forms. The third context allows for all those differences evident in local human minds and involves the production of conceptual formations that result in various habits of thought, interpretations, predispositions and worldviews.

The first two of these contexts are concerned with the functions of Omni consciousness and are therefore outside the direct control or choice of local human minds. However, it is the last context in which conceptual formations are created that humans have a degree of freedom of choice and decision-making. It is at this third level of local consciousness where cultural tendencies at times take precedence over the givens of Omni consciousness. This is particularly the current situation with the wide-spread common tendency to over-value the local explicate order by awarding significant importance to explicit differences or distinctions, thus making them appear as separations and gaps. Each of these three contexts of consciousness and mind (Omni consciousness, non-local creations and almost local creations) is discussed more fully below.

Omni consciousness

The universal potentials of Omni consciousness are represented by the zero (0), which indicates a universal background context without any explicit meaning. The zero (0) stands for *implicit-to-implicit* exchanges of meaning. Such exchanges are always entirely implicit, and they contain the potentials of symmetry. Such potentials arise from the non-explicit character of implicit meaning and from the flowing exchanges of *implicit-to-implicit* meaning. Hence, the zero of *implicit-to-implicit* exchanges provides a unified and unifying background context that stands in contrast to every mark, distinction, difference, form or explicit something within Bohm's explicate order. It is the symmetry potentials of this universal background context of zero (0) that produces nonlocal connections. Such connections are the implicit, intelligent, symmetry relations that interlink the whole universe into the nonlocal connections of zero (0). Nonlocal connections were discovered in the early years of last century when scientists found that a particle could, under certain entangled conditions know the state of another particle even when separated by light years of distance [4, p, 150].

The symmetry potentials of *implicit-to-implicit* exchanges provide an intelligent, creative background from which explicit marks, distinctions, differences, forms and objects become explicated or manifest at a local level. Such manifestations represent the sentient transformations of meanings within the cycles of 1, 2, and 3. As a consequence, within this zero domain the potentials of cycles 1, 2 and 3 remain hidden from immediate explicit thought or sensory perception. These potentials contain the organizational agency for the above five transformations to unfold and then to enfold the entire physical universe (Bohm's explicate order). The symmetry potentials of 0 are thus hidden, firstly because they are potentials and not manifest some-things, and secondly because sensory perceptions and conscious thoughts are the manifestations of cycles 1, 2, and 3. In other words, cycles 1, 2, and 3 are the derivative outcomes of the primary domain of zero (0).

The ordering potentials contained within the zero (0) of *implicit-to-implicit* exchanges of meaning can be likened to a plan or blue-print that when activated unfolds the birth (1), existence (2) and final passing (3) of every distinction, life-form and object at every level of creation, from perception and thoughts to particles, atoms, molecules, species, and galaxies. The circular path from 0, 1, 2, 3 and back to 0 can be called *the developmental path of creation*. It also represents the path of human learning. This is also the path that provides the purpose inherent within the wholeness-in-flow of the holomovement, or in other words, this path lays out the cooperative purposes of Nature.

In his book *On Purpose* the biologist, Charles Birch linked cosmic evolution to biological evolution and social evolution and wrote of 'Finding purpose pervasive throughout the individual entities of the universe' [17, p. xvii]. That purpose is associated with such biological terms as 'ecological', 'symbiotic' and 'partnership' and examples of this cooperative purpose can be found in mycorrhizal fungi which over 90% of plants depend on for survival. Such fungi link trees in shared networks 'sometimes referred to as the 'Wood Wide Web" [16, p. 4]. According to Merlin Sheldrake 'this ancient association gave rise to all recognisable life on land'. Further, this unifying and cooperative purpose of nature is represented in the endosymbiotic theory of evolution proposed by Lynn Margulis. This is the theory of biological innovation emerging from partnerships rather than from competition or the idea of survival of the fittest. According to Sheldrake, it was one of the most dramatic shifts in biological consensus in the twentieth century and has 're-written the history of life' [18, p. 91].

Further, the ordering potentials of *implicit-to-implicit* exchanges of meaning (0) involve a wave-like mnemonic resonance or flow of intelligence, memory, awareness and meaning. These capacities represent some of the salient creative potentials of Omni consciousness. The scope of these capacities extends infinitely and is continually present at each point in the universe. This means that these capabilities exist and operate within and across all scales of organic and inorganic matter, from particles, atoms, molecular networks, cells, living tissue to species, planets, and galaxies. At the level of living matter its most striking features are, as Erwin Schrödinger has written, 'visibly based to a large extent on the 'order-to-order' principle' [19, p. 80]. In other words, Schrodinger's order-to-order principle exemplifies the dynamic, ordering and unifying forces within living systems that are observed to unfold in predetermined ways.

However, even at the level of particle interactions, such an ordering is seen in the unifying polarities of positive and negative charges that order the form of the particle and its interactions with other particles. At the atomic level, there is a lasting attraction between atoms and molecules called chemical bonding. At the social level of human interaction, there are also unifying attractions that cover a broad spectrum of behaviors from lust and hate to empathy and compassion. And in regard to the unifying order of the solar system, Schrödinger reminds us that 'the motions of the planets, is maintained for an almost indefinite time' (16, p. 81]. Finally, we could say that the motions of the planets are modulated by the feature of this universal unifying force called gravity. Interconnection, coherence and unity are the forces that characterize this formless realm of *implicit-to-implicit* meaning.

Thus, the symmetry potentials of *implicit-to-implicit* flowing exchanges (0) are entirely general and nonlocal. This domain represents a concealed realm that is absolutely undivided; a *terra incognita*; an *unus mundus; a One*: these are some of the traditional names for this formless domain of creative meaning and intelligence. The scientific task of exploring the symmetry potentials of this nonlocal wholeness-in-flow appears to be an assignment similar to exploring Bohm's quantum potential; both represent the concealed living potentials that have created the universe.

To begin such an exploration, it is first necessary to recognize that the symmetry potentials of *implicit-to-implicit* meaning are beyond or outside of time and space. Bohm used the term 'pre-space' [20, p, 374] to describe such a state, but perhaps this state is more akin

to quantum superposition. This term refers to the idea that particles or matter waves can occupy multiple places simultaneously. In terms of Omni consciousness, its Omni state must occupy every position in the universe simultaneously. Yet unlike the superposition associated with particles, this universal state of simultaneity is not one that involves any set of particles, forms, differences or distinctions. Rather, this is a state of potentials, of symmetry potentials that produce the simultaneity of the state. In addition, these potentials can be said to be wave-like in that *implicit-to-implicit* meaning flows continually. Thus, the superposition of Omni consciousness may reflect the superposition of physic, but with the caveat that the superposition of Omni consciousness is essentially and entirely metaphysical.

Like fish that live in an ocean we humans live in a nonlocal and eternal oceanic flow of meaning, a superposition of implicitness. Yet unlike the physical ocean this ever-present, pre-space is without limits or borders.[b] In his 2008 paper Hiley [12] considers algebraic processes as a means to a better understanding of the mathematical structure of quantum mechanics and shows how space can be thought of as a dynamic flowing structure. Space and matter are both considered as process in this approach. Algebraic structures can be considered as successive states of changing thought and matter and can be considered as 'thought-like', leading to the conclusion that both material processes and thought can be treated by the same mathematics. The pre-Socratic philosopher, Heraclitus describes the soul in similar terms: 'One would never discover the limits of soul, should one traverse every road – so deep a measure does it possess' [21].

Hence the infinite implicitness of zero (0) is a metaphysical flowing and permanent surround in which every activity at every scale takes place. In addition, this nonlocal implicitness is also immanent within every physical form, object and process of nature. The zero (0) of *implicit-to-implicit* meaning is Woollacott's 'infinite awareness and also represents the 'Divine Ground' which, in Aldous Huxley's *Perennial Philosophy*, is the supreme good [22, p,184]. Our awareness that is a part of this infinite Ground is exemplified by the sight within the processes of seeing (perception) as well as in the conceptual insights which occur within realizations and learning processes.

The philosophy of perception has almost entirely come out of the worldview of local realism and so we have been inclined, as Schrödinger says, 'to think of 'rays of vision', issuing from the eye' [19, p. 123]. Yet the eye does not send out light rays and neither do the optic nerves or brain see. These physical organs do not possess insight and neither do they have the necessary features of sight or that of infinite awareness. Sight and insight are entirely the characteristics of Omni consciousness. We know the important distinction between the physical eye and sight because research has indicated it is possible to see without eyes in what has been called 'eyeless vision'. In a paper on 'Seeing without Eyes' [23] Hilton describes a range of recent research undertaken concerning 'eyeless vision'. He writes, 'the electrochemical conversion of light in the retina is not in itself sufficient for sight – but nor is it necessary'. Another name for this ability is 'seeing blindfolded' and that, according to Hilton, is the way people learn to have 'extra-ocular vision'. These research programs highlight the simple distinction that sight does not represent a physical or biochemical or electrochemical process but rather, from the nonlocal view, sight represents a feature of the infinite and concealed territory of *implicit-to-implicit* meaning (0).

The potentials of this ground of infinite flowing awareness can be said to be in the state of emptiness, for the ground is empty of any concrete, physical or explicit matter, yet full of *implicit-to-implicit* symmetry potentials. This foundational implicitness is close to the Buddhist's theory of emptiness rendered by The Heart Sutra [24, p. 8].

Form is no other than emptiness,
Emptiness no other than form.
Form is only emptiness,
Emptiness only form.
Feeling, thought, and choice,
Consciousness itself,
Are the same as this.
All things are by nature void
They are not born or destroyed
Nor are they stained or pure
Nor do they wax or wane.

In terms of the psychology of individuals, the zero (0) of *implicit-to-implicit* meaning represents the veiled yet flowing context which has multiple layers of implication that are associated with the accumulated attachments gained by an individual throughout their life. These are the attachments associated with every form and object and with every action undertaken within the cultural and social history of individuals. The best kind of learning is as Socrates said to examine your life and such learning is directed at revelation through a process of unraveling as many of these implications as possible.

Yet serious scientific research also has a similar aim of finding truth, that is, making explicit (unfolding) that which has been held implicitly (enfolded) within the universe. Eastern philosophy for well over two thousand years has referred to the hidden implications of an individual's life as 'karma'. If the law of karma is that of cause and effect, then the law of implications represents the necessary unfolding of life's implications through the processes of explicit life-long learning.

Within Hindu philosophy, consciousness is said to have the features of *Sat – chit – ananda*, that is, being, awareness and bliss. Hence, if we accept this definition, we can say that the *terra incognita* of *implicit-to-implicit* consciousness (0) represents the being of all beings. In addition, this ever-present nonlocal realm has a unifying power of connection, unification and attraction which on the level of the individual can be called love. In religious discourses this unifying function has historically been called Divine love. While the love that emanates from the nonlocal ground of *implicit-to-implicit* consciousness (0) is unconditional, this state contrasts to the conditional and qualified responses of attraction associated with most local, social experiences.

The concept of the 'being of all beings' points to a hierarchy in which the potentials contained within *implicit-to-implicit* exchanges of meaning, (0) will necessarily come prior to the actualities of everything we do, think or imagine. This means that this nonlocal *terra incognita* comes before the existence of the observable physical universe. This is usually taken to be a controversial statement by those scientists who undertake their research within the parameters of a local realism that denies the role of consciousness. We return to this point again below. However, the concept of the 'being of all beings' is ancient and was taken up by the 15th-century mystic Sufi poet Kabir who put it in this form:

> '*Behold but One in all things; it is the second that leads you astray*' [22, p. 10]

Kabir's second relates to a Divine order established by the One in all things, which comes before everything else. According to Kabir, we are led astray whenever we reverse this hierarchical order. This simple trick is accomplished by a re-ordering so that the second becomes the first. This is done continually when the local minds of individuals take precedence over Omni consciousness and whenever we privilege explicit meaning over implicit contexts. The second can also lead us astray in daily life when we consider the physical body as our being, and as a consequence believe that we die when the body is dropped. We often need to be reminded that the material body is integrated with, but distinct from, our being, which is a being of meaning. Yet secular understandings are reinforced by scientific materialism where the physical world is considered real because, as Chalmers states, 'Reality is that which doesn't depend on anyone's mind for its existence' [5, p. 111] a statement that depends on mind in order for it to be conceived, written and read.

In summary, the formless realm of *implicit-to-implicit* meaning comes first in the ordering of everything, and this first order is not empty but contains the organizational functions of unification, interconnection, coherence and love. Hence, from particles to galaxies the movement of every form is interconnected with other forms in a preordered unifying manner through a series of forces that play by developing and modulating the interactions of forms in a manner best suited to the form's physical exchanges and environment. This then are some of the characteristics of the primary contextual domain of implicit meaning, which represents Bohm's holomovement and de Grosson and Hiley's wholeness-in-flow. When directly confronted, its essential implicitness can create a sense of uncertain and mystery at the core of our being, especially for those who live their lives entirely on a material and formal plane.

Nonlocal-local creations

The second context of consciousness unfolds from the formless realm of *implicit-to-implicit* exchanges (0) and represents the beginning movements, *implicit-to-explicit* (1) of Bohm's explicate order. This second context of consciousness involves the manifestations of all physical forms as well as the creation of conscious perceptual images of those forms. Hence, local conscious experiences of the environment occur within this second context of consciousness, and these are experiences that locate and orient the individual organism to and within a specific environment. The unfolding of the explicit nature of this second context of consciousness entails the five transformations noted above with the additional hierarchy of relationships as follows:

(0) *implicit-to-implicit* – symmetry
(1) *implicit-to-explicit* – non-symmetry
(2) *explicit-to-explicit* – non-symmetries
(3) *explicit-to-implicit* – asymmetry
(0) *implicit-to-implicit* – symmetry

These five transformations represent the several process by which perceptual images of the environment are constructed in local minds. These processes are not visible or available to conscious human perceptions; however, the final perceptual images of the environment are visible and represent the conscious and explicit images and forms of the environment. In other words, our perceptions of the environment have both a nonlocal and local character. The nonlocal represents the five transformational processes that are hidden from local minds, while the local features of perception are the final wholistic asymmetrical images we perceive. This means that the entire set of processes involved in the creation of perceptions, along with our sense of sight, are given by Omni consciousness to our passive and recipient local minds.

The philosophical discussions surrounding the unfolding of images (perception) has been often debated by subjectivists and local realists. The subjectivist position says we only ever have private experiences of the world, which we know as 'ideas', 'impressions' or 'sense data'. A contemporary version of this view has developed from constructionist learning theory which promotes the idea that perceptions are created by one's mind. Both forms of subjectivism locate the agency and processes of perception within private local minds. The second position taken by local realists is quite similar in many respects and is held by philosophers like John Searle. Searle argues that the subjectivists promote intractable difficulties that arise from them deleting 'the facts about the real world' [25, p. 23]. Searle attempts to overcome the difficulties created by the fact of the subjectivists deleting the physical world by simply adhering to the underlying and contradictory assumptions of a local realism which proposes that the facts about the real physical world exist independently of mind.

Local realism deletes the local mind from consideration, yet when this worldview is used to discuss perception the results are inclined as Schrödinger says, 'to think of 'rays of vision', issuing from the eye' [19, p. 123]. Such a view aligns with both the subjectivists and local realists for both treat vision as an entirely local phenomenon. The differences between these two approaches relate to the 'facts about a real world' with subjectivists ignoring such facts in favor of local subjective accounts, while local realists are unable to separate perception from facts about a real world. Their only recourse is to rely upon impossible claims about knowing the facts about the real world while devaluing the facts about perception.

Consequently, our current explanation of perception based upon the five transformations of meaning is entirely different from the subjectivist as well as from the local realist approach. Our process approach is firmly based within the symmetry potentials of *implicit-to-implicit* exchanges of meaning (0). Hence, the processes of perception have origins within the organizing agency of the potentials of Omni consciousness, which in visual perception contains the awareness feature of the sight within seeing, a process we have already distinguished as 'eyeless vision'. Without this agency of awareness, there could be no visual perception.

The second set of first-order transformations (1 and 2) relate to a set of (nonsymmetrical) distinctions that are created through the transformations of *implicit-to-explicit* exchanges. Within this secondary movement are the phenomenological distinctions of various light frequencies, a range of colors, shapes, spatial dimensions and movements of forms. As suggested, these various nonsymmetrical distinctions are created through their contrast with the undifferentiated symmetry background of space. The final perceptual development involves the transformation of *explicit-to-implicit* exchanges (3) that involves the integration of all these differences and distinctions so as to produce in quick succession a complete (asymmetrical) set of images that are consciously perceived as the environment.

Hence, the inherent order within the phenomenology of visual perception runs from symmetry (0) to non-symmetry (1 & 2) to asymmetry (3). This is an irreversible order, with the final stage of (3) being when the conscious perception of images occurs. The wholeness of visual images produces a closure that is formed by the unity and integration of the many distinctions and differences of color, shape, motion, and luminous intensities. (This closure is evident in the psychological tests of ambiguous figures). This then is the wholeness process model of perception.

There are a range of implications we need to discuss that flow on from the general confusion of a local realist approach to perception and conception. For example, the axiomatic system that Spencer-Brown wrote about in his *The Laws of Form* [26], p. 1) begins not with the notion of symmetry but with the idea of a distinction which arises when we arrange a form so that it has a boundary with separate sides. As Spencer-Brown suggests, 'distinctions' arise as ideas and that means they must arise as concepts, and concepts are always created post-perceptions. For example, a distinction or a difference has no independent existence and cannot exist on its own. Neither can

a difference be seen in the manner that visual forms and images are autonomically registered by the visual awareness of perception.

This is not to argue that concepts are unreal. They are as 'real' as perceptions are 'real' for each of these represents a derivative feature of Omni consciousness. However, the distinction between perception and conception was not made by Spencer-Brown and is almost never made by scientists, philosophers or mathematicians who, if they refer to these processes at all, tend to weld them together into the single term they call 'perception'. In other words, the prevailing discourses of science tend to ignore all the ordered processes of Omni-local consciousness and replace this hierarchy with ambiguity and confusion.

One example of that confusion is the concept of a 'beable', sometimes used in physics. In their book, *The Undivided Universe* [20, p. 41] Bohm and Hiley refer to the distinction J. S. Bell made between 'observables' and a 'beable'. Bohm and Hiley state that, 'These beables are assumed to have a reality that is independent of being observed or known in any other way'. We question how it is possible for a beable to have any meaning at all if it is independent of observation or knowing. However, Bohm and Hiley admit that they treat observables as statistical functions of beables. In later discussion of this question, one writer quoted Bell as saying 'there is no one-to-one relationship between the beable of a theory and the physical world, meaning that we cannot definitively establish whether a certain ontology is the correct ultimate description of reality' [27].

The confusion surrounding a beable is created by its elementary place within the worldview of local realism for it stands as a difference that has an independent existence (it exists without a context). Hence, it is unsurprising that on close inspection by Bell he should find some fault with the ontological idea that units of matter (beables) are essentially confusing. How could they be otherwise when the local realist believes that physical states in the form of beables can exist on their own, divorced from any process involving local minds, or from Omni consciousness. This is a prime example of the confusion that arises from believing in the possibility that differences and distinctions can exist without their contexts.

While physical images and forms are visible to us through the processes of visual perception, such images and forms are never independent of the processes of perception or conception for they are the very products of those implicit and explicit relations that have produced these two mind processes. Hence, the idea of a beable represents an impossibility. It is also interesting to note that some twenty years after Hiley wrote about beables with Bohm, he had changed his description to a process one when he and de Gosson wrote about particles as quasi-local, semi-autonomous invariant features of the flow of the holomovement, and that without the flow of the holomovement particles could not exit [3].

The flow of Omni-local consciousness represents a single whole system, an entirely interconnected and coherent system of relationships of meaning. The implications that follow from the self-referencing logic of such a system is that all physical forms and material objects of the universe come into existence when perceived. Given the coherent wholeness of Omni-local consciousness, this statement implies a very different outcome to the classic one historically promoted by Bishop Berkeley whose original discussion is captured in the simple phrase: 'to be is to be perceived'. Berkeley's comments were understood as subjectivist descriptions within the dualistic system of local realism where individuals are seen to be separate and independent of other individuals and, significantly, from a real physical world.

In contrast to the dictates of subjectivism and local realism, a world framed by our current approach of nonlocal realism provides radically different outcomes. Firstly, the observable physical universe that according to the prevailing cosmological model began with the Big Bang 13.7 billion years ago provides us with an historical context for the current state of the universe. If we accept this history, then clearly the physical universe has occurred prior to any observation or any perception because the acts of perception and observation are functions that involve an organism's physical body, a body which must be considered to be a feature of the physical universe.

However, these processes do not simply involve a local mind, as subjectivists imply with the comment: 'to be is to be perceived'. Rather, there are two simultaneous first-order transformations that create physical forms (like particles, atoms, molecules and organisms) and the perceptual images of those forms. When we analyze these two sets of transformations, (the creation of forms and their perceptual images) we find they have identical structuring processes of meaning, that is, of *implicit-to-explicit* meaning. Hence, perceptual images are created from exactly the same first-order transforming *implicit-to-explicit* processes as physical forms [25]. In other words, the

processes that create physical forms are those that create the perception of those forms.

Here is a symmetry of first-order creative processes, which means our conscious minds are unable to directly experience the differences between physical forms and the perceptual images of those forms. In other words, while we may say there is a difference between the two, that difference cannot be directly experienced conceptually or perceptually because the symmetry of these creative processes excludes any differences. However, under the influences of local realism, we may like to *say* there is a difference because we have excluded all aspects of Omni-local consciousness. However, when the wholeness of Omni-local consciousness frames our viewpoint, (nonlocal realism) we have to take note that there is no evidence of any difference and this is because both of these developments (physical forms and their perceptual images) are created from the same set of meaningful processes and structures that transform the implicit into the explicit.

The symmetry or same-ness of physical forms and their perceptual images should make us alive to the fact that here are not two separate processes involving object and subject but one. Schrödinger makes a similar point when he says, 'The world is given to me only once, not one existing and one perceived. Subject and object are only one. The barrier between them cannot be said to have broken down as a result of recent experience in the physical sciences, for this barrier does not exist' [19, p. 127]. Schrödinger's comments about the singularity of subject and object entirely reflect the symmetry of physical forms and the perceptual images of those forms.

The significance of recognizing that subject and object are one also relates to how we understand the processes of perception. These are not private and subjective, and nor are they within the control of local minds. As de Gosson and Hiley's comments suggest, individuals are not separate, physical entities, but are quasi-local, semi-autonomous invariant features of the flow of Omni consciousness. Therefore, individuals and their perceptions are the results of first-order nonlocal transformations and as a consequence, are not created or in the control of local minds. Individuals have almost no control over perceiving or not. When the eyes are open for the healthy individual there is visual perception. Hence, the symmetry of the physical world and our images of it are always situated within an implicit network of relations that constitute their nonlocal-local context of Omni consciousness.

This transformational description is reflected in the standard interpretation of quantum physics where the wave function collapse is said to be a superposition that reduces to a single state owing to the interaction of an observer. In this interpretation, the observer plays the critical role of collapsing the wave function, which is a mathematical function that describes the quantum state. The differences between the symmetry of the physical world and our images of it versus the standard interpretation of quantum physics relates firstly to the concept of a 'wave function collapse'. We suggest that the continuous flowing waves of meaning never collapse, they simply transform, so the term 'collapse' used in physics is inappropriate. Secondly, if as Schrödinger says, 'subject and object are one' then the observer must become a feature of the wave function, which is a proposition almost entirely the same as the wholeness view we have argued for in this paper. A similar point was made by Bohr [4, p, 157] who *introduced a generic notion of wholeness into the description of every quantum phenomenon.*[c]

As perceptual images cannot exist or arise from their own inner independent causal principles, that is from individual eyes or brains, it means that the world arises through the nonlocal-local processes of perception, first-order processes over which we as local individuals have no control. Also, it is fundamentally impossible to disprove that proposition without deleting, ignoring or erasing the Omni-local context of consciousness. One related reason why some believe there is a gap between physical forms and their perceptual images is the manner in which they understand the differences between perception and conception, that is, between seeing and thinking. The images of physical forms arise through the processes of perception witnessed by the individual, whereas our interpretations of the world, and that includes cosmological models of the observable universe, arise through the development of conceptual frameworks.

On their own, concepts cannot be observed or perceived by the senses as they are non-sensory and that means they always come after sensory images in the form of interpretations. This is also the case for imagined conceptual images such as the unicorn. In addition, concepts (which are the subject of the next section) do not exist on their own in isolation from perceptual images and that includes the formal images associated with various forms of communication (written or acoustic perceptible marks that in linguistics are known as signifiers). Hence, while the processes of perception and conception are distinct, unless an individual suffers from the illness of associative agnosia where they are unable to identify common objects perceived, these two processes will

always form an integrated mental continuum. (In semiotics the linking of signifiers with signifieds is called a 'representation' or a 'sign' [25]).

Almost local creations

The third context of consciousness also relates to Bohm's explicate order and involves the human's conscious conceptual thoughts and interpretations (1, 2 and 3). From the point of view of consciousness, Bohm's explicate order has two aspects to it, that is, it has both perceptual and conceptual features. Thus, this third level of concepts rests within the zero (0) of *implicit-to-implicit* exchanges and, secondly, these processes operate as extensions to *implicit-to-explicit* perceptions. Together, levels 1, 2 and 3 produce conscious recognition, identification, differentiation and integration processes that are associated with the development of human language and concept formations generally, and involve intellectual, cognitive and differential operations that are facilitated by social communication exchanges.

The unfolding of this third level of human conceptual formations follows the five cycles noted above and are associated with the following processes:

(0) *implicit-to-implicit* – implicit resonant waves
(1) *implicit-to-explicit* – identification
(2) *explicit-to-explicit* – differentiation
(3) *explicit-to-implicit* – integration
(0) *implicit-to-implicit* – implicit resonant waves

At the conceptual level, the processes of *identification, differentiation* and *integration* are local mind processes that construct various kinds of concepts while the quality of *implicit resonant waves* represents the functioning of Omni consciousness and are, therefore, nonlocal in character. The developmental path of concept formation can be exemplified by how thoughts arise in the mind, persist for a time and then return to their original implicit state. This is also the basic cyclic pattern of how we listen to music, with explicit identifiable notes making their differential patterns throughout the score while contrasting with the background spaces of implicitness (0), then to fade away into the implicitness of the listener's mind.

It is at the conceptual level of mind where the human species gains some sense of quasi-control and semi-autonomy over the world. This sense of autonomy comes from the three processes of concept formation used in decision-making, and also to make and utilize tools such as, axes, clubs, computers, money, rockets, mathematics, languages and discourses. Yet while such tools are practical and beneficial, an overly formal and instrumental focus on them can lead us astray and produce a disorientation that can at times be fatal. The outward evidence of disorientation comes when problems, disagreements, disorders and even wars are created and then habitually persisted with, and it is in these soils of confusion where the seeds of human pain and suffering sprout. These are the negative outcomes of being led astray and it happens whenever we reverse the hierarchical order of the five cycles of consciousness. This simple trick is accomplished by scientists with a re-ordering of this natural hierarchy so that the tools of measurement, calculation, language, and materialist orthodoxy are assumed to be first-order principles.

The trick of re-ordering also occurs with the habitual use of *identification* patterns associated with perception (1) that can construct a sense of physical, personal identity that is assumed to be a static, private and separate state from other people and from surrounding contexts (social, cultural, environmental and of Omni consciousness). Such an identity (ego) is fictitious because it appears to come first in everything and be independent of context. Yet while the ego appears to be stable and physical, its sense of separateness tends to make it dissociated from the life force of the wholeness-in-flow of Omni-local consciousness. Instead of conceiving of ourselves as quasi-local, semi-autonomous and invariant features of the flow of Omni consciousness, through the influences of complex patterns of identification we can appear to be fixed entities or objects exiled from the garden of our home environment.[d]

In order to compensate for this kind of self-imposed alienation many individuals polish up their defense mechanisms by seeking domination over others, or the environment, or by accumulating financial wealth and social status, or invading another state. For the intellectually gifted, the seeking of power, domination and status can be reinforced and actualized by an education system that has an exclusive focus on differential – *explicit-to-explicit* – learning patterns (2). Such learning is not exclusive to but represents the common practices of the gifted science, technology or medical student who successfully completes graduate and/or post graduate levels of education. Cognitive and intellectual functions can be described as having a base of *explicit-to-explicit* exchanges of meaning. As such, the location of *explicit-to-explicit* exchanges is at the center-

point on the learning and concept development pathway, and hence the differential capacities of the intellect are able to be employed either forward or backwards on this pathway.

In other words, the intellect can be a servant, either of the false identity (ego) or of a broad integrating empathy. As a consequence, the intellect can turn backwards by using rational arguments to reinforce a false static identity through the sanctification of reputation, status, power, domination or social prestige. Alternatively, the differential capacities of *explicit-to-explicit* exchanges (the servant intellect) can be used to emphasize the interconnections, unity and the integrating outcomes of *explicit-to-implicit* exchanges (3) and as a consequence, of locating the individual within the larger contexts of society, the environment and Omni consciousness. Such intelligent integration is a feature of a compassionate and empathetic mind in which all differences are accepted as the necessary features of a broad social and metaphysical ecology.

Given the tendency for concept formations to become habitual, over time the individual can easily become stuck in one of the three conceptual transformations of 1, 2 or 3. When this happens habits develop into predispositions and then into general paradigms or worldviews. As the processes of concept formation are three in number – *identification* (1), *differentiation* (2) and *integration* (3) – so too are general perspectives or worldviews. Hence, we can have the worldviews or paradigms of egocentric self-interest (1), local realism (2) and nonlocal realism (3). There are of course several variations of each of these , discussed in Five Realities, One Truth [28, 29]. The role of a worldview is to provide the framing function for the content of discourses, and as a consequence worldviews cut across all social and institutional boundaries, from religion to science to technology to the humanities, arts, the social sciences and every-day living. In other words, all scientific, cultural and discursive content, no matter its social or institutional origins, will always be framed by a worldview of some kind. (This means there is no worldview that is 'objective' for each one has a bias).

The differences between these three worldviews represent the most profound differences within every group, and that means within every church, temple, mosque, synagogue, university, corporation, political party, school, hospital, scientific peer group, editorial board, defense establishment or nation state. This is the case because worldviews represent the framing habits and predispositions that form our sense of reality from which all our discourses flow. The different realities constructed by different worldviews represent the hidden and underlying framework for all social divisions, especially those associated with questions of orthodoxy, custom, norm, ethnicity, nation, skin color, age, religion, tribe or gender.

Yet not all worldviews are equal. They differ with respect to i) their resistance or opposition to the learning associated with each of the five transformational orders of consciousness, ii) their breadth and depth of perspective and iii) their level of suppressed or repressed unconsciousness.[e] These elements overlap each other. For example, the worldview of egocentric self-interest created by complex patterns of identification represents the narrowest perspective and most unconscious in relation to other people, society at large, the environment and to Omni consciousness. Somewhere in the mid-range, in terms of resistance to the inherent transformational orders of meaning, and also in its level of unconsciousness, lies the paradigm of local realism. This is the worldview of mainstream science that has a narrow and exclusive focus on its local tools of trade, that is, a focus on multiple local details, computations, data, lists and explicit particulars while being studiously blind to those broader cultural and metaphysical contexts that give such tools and details most of their meaning. Finally, the integrating worldview of nonlocal realism has the broadest perspective and has the least resistance to the cosmic order of meaning. Hence, it is the least unconscious of those overlapping contexts that locate and give meaning to local minds.

In conclusion, it is from the wholeness worldview of nonlocal realism that we have attempted to describe the structure and functions of Omni-local consciousness as it relates to humans and which in summary has three interrelated features: i) the Omni or infinite awareness of universal consciousness; ii) the processes that create physical forms and their perceptual images; and iii) local concept formations that provide a framing for the accompanying worldviews.

Woollacott described her meditation experiences as accessing infinite awareness, what we have described as a local interaction with nonlocal Omni consciousness. Meditation is a practice that once undertaken seriously will slowly make individuals more aware of the several surrounding contexts in which they live. We could have added to Woollacott's description of her experience of infinite awareness with similar experiences we have had as long-time meditators, but we considered that theorizing the relationship between local minds and nonlocal Omni consciousness would provide a more contextual understanding of the wholeness model of Omni-local consciousness.

Notes

a The (0) zero of *implicit-to-implicit* meaning cannot be equated with zero-point energy in quantum mechanics that was first introduced by Max Plank in 1911. The zero-point energy (also known as ground state energy) is the finite minimum amount of energy in all matter, even at absolute zero. The (0) zero of *implicit-to-implicit* meaning concerns the absence of explicit meaning associated with any distinction, difference or form.

b de Grosson and Hiley show [3, p, 2] that 'past, present and future are present in any one moment'. Also, that 'simple solutions of Hamilton's equations stay within the universe for all time' [3, p, 7].

c Also, de Gasson and Hiley comment that it is much easier to see how the Hamiltonian flow can be modified through its boundary conditions by the presence of the experimental environment in the way Bohr insisted on.

d Carl Jung said: "The first half of life is devoted to forming a healthy ego, the second half is going inward and letting go of it". A principal realization of Insight meditation practice is the illusionary nature of the ego.

e In terms of the current analysis of meaning, unconsciousness only occurs at the level of conceptual formations, the third context of consciousness. This is because unconsciousness relates to the freedom of the individual to use, create, repress or suppress concepts. Hence, unconsciousness is a local state and not a state of nonlocal Omni consciousness. The state of Omni consciousness represents the resonant flowing waves of implicit meaning. The status of that which is implicit is never repressed or suppressed, that is, it is never unconscious. The Omni rhythmic flow of implicit meaning represents the infinite foundational state of all local thinking, that is, of concept formations as well as of all unconsciousness produced by conceptual repression or suppression. In addition, as the local mind is never private but always communal, so unconsciousness is always a collective activity, and this is because concepts are always formed out of preexisting linguistic and cultural formations and worldviews.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Andrew Lohrey http://orcid.org/0000-0002-4268-280X

References

[1] Woollacott MH. Infinite awareness: the awakening of a scientific mind. New York: Rowman & Littlefield Publishers; 2015.
[2] Lohrey A, Boreham B. Lifting the veil on Bohm's holomovement. Commun Integr Biol. 2021;14(1):221–229.
[3] de Grosson MA, Hiley BJ. Hamiltonian flows and the holomovement. Mind and Matter. 2013;11:2.
[4] Lohrey A, Boreham B. The nonlocal universe. Commun Integr Biol. 2020;13(1):147–159.
[5] Chalmers DJ. Reality + virtual worlds and the problems of philosophy. London: Penguin; 2021.
[6] Stapp HP. Why classical mechanics cannot naturally accommodate consciousness but quantum mechanics can. JournalPsyche.org. 1995 May;2(5):1- 23.
[7] Bohm D (1984) Unfolding meaning: a weekend of dialogue with David Bohm, London: Ark Paperbacks.
[8] Torday JS, Rehan VK. Evolutionary biology, cell-cell communication and complex disease. Hoboken: Wiley; 2012.
[9] Torday JS, Miller WB Jr. Unitary physiology. Compr Physiol. 2018 Mar 25;8(2):761–771.
[10] Hameroff S, Penrose R. Consciousness in the universe: a review of 'Orch-Or' theory. Phys Life Rev. 2014 Mar;11(1):39–78.
[11] Lama D. The universe in a single atom: how science and spirituality can serve the world. New York: Morgan Road Books; 2005.
[12] Hiley BJ. Quantum reality unveiled through process and the implicate order. Birkbeck: University of London; 2008.
[13] Bohm D (1983) Wholeness and the implicate order, London: Ark Paperbacks.
[14] Nichol L. The essential David Bohm. London: Routledge; 2007.
[15] Bohm D. A new theory of the relationship of mind and matter. Phil Psychol. 1990;3(2–3):2.
[16] Hiley BJ, Peat FD, Ed it. Quantum implications: essays to honour David Bohm. London: Routledge; 1991.
[17] Birch C. On Purpose. Sydney: UNSW Press; 1990.
[18] Sheldrake M. Entangled life: how fungi make our world, change our minds, and shape our futures. London: Bodley Head; 2020.
[19] Schrödinger E. What is life? Cambridge UK: Cambridge University Press; 1993.
[20] Bohm D, Hiley BJ. The undivided universe: an ontological interpretation of quantum theory. London: Routledge; 1995.
[21] Robertson TM, Sugden SJB. Heraclitus on Soul. Monist. 1986;69(3):305–314.
[22] Huxley A. The perennial philosophy. New York: Harper & Row; 1970.
[23] Hilton A. Seeing without eyes. Edgescience. 2021 September 9;47:9- 14.
[24] See: https://thebuddhistcentre.com. Access date: May 16, 2022.
[25] Searle J. Seeing things as they are: a theory of perception. Oxford: Oxford University Press; 2015.
[26] Spencer-Brown G. Laws of form. New York: Dutton; 1977.
[27] Oldofredi A. Beables, primitive ontology and beyond: how theories meet the world. In: Allori V,

editor. Quantum mechanics and fundamentality: naturalizing quantum theory between scientific realism and ontological indeterminacy. New York: Springer Nature; 2022:97- 112.

[28] Lohrey A. Five realities, one truth: the human condition. Tasmania: Rishi; 2020.

[29] Lohrey A. The evolution of consciousness: a new science. Princeton: ICRL Press; 2018.