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Allan Combs

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### Consciousness Studies – An Overview

### Allan L. Combs

Abstract. This essay is a survey of the field of consciousness studies, its history, scope, and a little about its future. It's principal focus is on Western thinking about consciousness beginning in classical times and continuing down to the present. It highlights and briefly describes major streams of thought including ideas from ancient Greece, German Idealism, British Empiricism, 20 th century European phenomenology, and important contemporary areas of research and scholarship. These include American pragmatism, developmental psychology, transpersonalism, analytic philosophy, computationalism, neural networks, and physics. The essay also briefly explores possible future trends in the study of consciousness.

Keywords: consciousness, American pragmatism, developmental psychology, transpersonalism, analytic philosophy, computationalism, neural networks, physics

#### The Trouble With Consciousness

Let's start with the big problem. Consciousness is impossible to define. It is like light that illuminates, but is not seen. It is like a clear stream, through which we see the brilliantly colored stones on the bottom. It is emptiness itself, translucent, transparent, yet somehow filled with the objects of the world. It is private, but it is shared in the social world of living beings. Each of us in some subtle but palpable way owns our own consciousness. We are at the center of it. And it is always directional. That is, it is intentional, or put simply it is always about something. Or almost always so.

It may seem surprising that the word "consciousness" was actually invented in the 17<sup>th</sup> century by René Descartes and John Locke. At least in the sense that it is used today. It is closely related to the word "conscience" which in French is still used for both "conscience" and "consciousness." Its Latin roots denote public or shared knowledge, especially in moral or legal situations such as court testimony. As we

use the word today, "consciousness" is a bit like "quality" in Robert Pirsig's memorable Zen and the Art of Motorcycle Maintenance (1974); it is impossible to define but "You know what it is!" To make things worse, the very existence of the word seems to imply that it actually refers to something palpable. And of course things that are palpable have properties that can be described and explained. In this way consciousness is often taken to be a noun. So we might ask, where did consciousness come from? What is it made of? Does it have properties of its own, or is it an illusory epiphenomenon of something else, the way a rainbow is an illusion produced by sunlight passing through myriad tiny water droplets in the air?

The reification of consciousness, its noun-ness, allows it to be projected into diverse areas of interest already under investigation by science, philosophy, and the arts. For instance, what is the connection between consciousness and the brain? Is consciousness a complex *feature* of the brain? Could it simply be an illusion created

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in the brain? Or in truth is it actually independent of the brain? As long ago as 1904, William James contrasted the merits of the "production theory" and the "transmission theory" of consciousness and the brain. Does the brain produce consciousness, as claimed by the philosophers such as John Searle (1997), who compares it to the fact that the gallbladder secretes bile? Or does it transmit conscious experience like a radio transmits signals that carry music and voices? The latter is a position eloquently supported by James' friend, the remarkable French philosopher Henri Bergson (e.g., Bergson, 1911). Typical of James, however, he continued to hold an open mind about the question (James, 1898).

But if we start thinking of consciousness as a noun, something produced, all sorts of confusions begin to arise. People speak of types of consciousness, levels of consciousness, realms of consciousness, structures of consciousness, and so on. It is not so much that these notions are not valid, as to say they all seem to be about something solid, or at least real in its own right, with attributes just like trees, stones, clouds, and ladybugs. But this is a slippery slope for a topic that seems able to be represented only by metaphors. Indeed, in 1904 James bewildered future psychologists and philosophers alike by completely rejecting the word "consciousness" as creating an implicit dualism between experience itself and the objects of experience that populate the world. He then went on to develop his idea of "radical empiricism," a worldview that posits a single experiential reality overarching both the material world of objects and the inner world of thoughts, images, and emotions. The key point here, however, is not James's radical empiricism, but the substitution of the word experience for the word consciousness.

Experience is just as difficult to define as is consciousness, perhaps more so, but it is more verb-like, and opened to a broader range of situations. For example, talking about the "consciousness of art" is a bit clumsy, while the "experience of art" is a perfectly normal way of speaking. On a related note, the phrase "consciousness of dreams" or "dream consciousness" seems clear enough at first, but carries implicit extra baggage such as questions about dreaming as a "state of consciousness," whether the dreamer is attending to the dream from a detached perspective, or even if "dream consciousness" points to some basically different kind of consciousness than waking consciousness. Simply stating that someone experiences a dream, or is in the midst of a dream experience, has none of these problems.

The above thoughts in mind, the whole topic of consciousness studies opens out onto an extensive landscape of experience. To begin with, we can speak of experiential realms, or "states" if you prefer, such as identified in Jean Gebser's (1949/1986) historical "structures of consciousness," and in the many representations of the "Wilber-Combs" lattice (e.g., Combs, 2009). These wide categories of experience have been identified and described for hundreds if not thousands of years (e.g., Bellah, 2011), for example in Hindu spiritual traditions such as Vedanta, Buddhist esoteric traditions, and in Western mysticism from Plotinus through Eckhart and down to Evelyn Underhill's articulation of varieties of mysticism. And we can also speak of structures of experience as articulated by modern day developmentalists such as Jean Piaget, Robert Kegan, Kurt Fischer, Jane Loevinger, Suzanne Cook-Greuter, Ken Wilber, myself, and others (see Combs, 2002; Wilber, 2000).

Considering the widespread appearance of the word "consciousness" in so many areas of research and scholarship, however, I will continue to use it as it appears in the common vernacular, understanding that it is better understood as *experience*.

#### The Span of Consciousness Studies

An aerial perspective on the network of areas that share an interest in consciousness discloses an impressive range of topics. To begin with, while there has been much written about the word "consciousness" and its many uses (e.g., Adam & Krippner, Block, 2002; 2007; van Gulick, 2014), to my knowledge the actual range of consciousness studies has not been surveyed. In fact, a few years ago when I started organizing a society of scholars interested in consciousness studies, the most frequent reservation expressed by potential members went something like, "Tell me again, what is this society supposed to be about?" One friend, a prominent Jamesian scholar, remarked, "It looks like a collection of Allan's friends!" That was true in part, but when the society actually got rolling, numerous scholars, researchers, and clinicians began to find they had much in common. Now, let us step back and survey the territory.

I have gathered a list of some of the major scholarly traditions, or perhaps better identified as themes, that historically, and continuing into the present, represent essential ideas about consciousness. Various of these are represented in Figure 1. Because of space limitations these are for the most part Western themes, though the great realm of Eastern thinking about consciousness, in its own right worthy of a much larger article, is also honored below.

#### Consciousness and Philosophy.

In the long view, philosophy can be seen as a running dialogue between individuals shouting out from different cultures at different moments in history. "Plato here," for instance; "Marcus Aurelius here," "Whitehead here," and so on, each making his or her own contribution to the ongoing conversation. From a high enough overview distinct themes can be seen to flow and ebb. These are assigned labels such as Pre-Socratic philosophy, Medieval Christian philosophy, German Idealism, European phenomenology, American Pragmatism, Analytical Philosophy, neurology, experimental psychology, depth psychology, and so on. All have something to say about consciousness, tacitly taking for granted some particular attitude towards it, or speaking about it directly.

The classical origins of European thought in Greek philosophy do not deal explicitly with consciousness, but they resonate with human experience. Plato's foundational allegory of the cave divides the world into a limited vision of reality as experienced by a group of individuals chained to face a wall in such a way that they see only the shadows of people passing behind them carrying sundry objects of different shapes. This double classification of reality into appearances before the eyes of the captives, and the unseen persons and objects behind them, resonates all the way down the ages to Kant's distinction between the world of phenomenal appearances and the unseen but more real noumenal world. Interestingly, Plato also noted the possibility of freeing the chained individuals so they could leave the cave and step out into the open sunlight, encountering a brilliant world previously unimagined. This escape from the blinkered reality of the cave world is suggestive of transcendent realms, perhaps including Plato's own world of ideals. The latter, a realm of pure concepts and forms, is not part of physical reality at all, but can be approached

only through human experience. For example, we all can experience the idea of a perfect circle, or an absolutely straight line, and we may have a deep sense of absolute justice, though in truth we will never see these in the material world.

Plato's realm of ideals is a close relative of twentieth century philosopher Karl Popper's "World Three" (1979). This is the world of facts or truths, experienced as objective realities by mathematicians, logicians, and others. Indeed, formal relationships in mathematics and logic seem to have undeniable validity no matter who or how they are observed. This is why the United States CETI ("Communication with Extraterrestrial Intelligence") Program tries to connect with other civilizations by relying on just such relationships. It is generally assumed that they are the same everywhere in the universe. World Three also includes areas of human experience such as art and justice, which to some extent are self-existent realities, but are also influenced over time by events in World Two, the world of human thought and imagination. Both of these worlds differ form World 1, the material world, in their dependence entirely on human experience or consciousness.

Other figures in Greek philosophy such as the semi-mythical Pythagoras, with his harmonies of the spheres, and the mysteries of Parmenides and Empedocles, may have involved the exploration and mastery of nonordinary states of consciousness, dream interpretation, and the arts of healing (e.g., Kingsley, 2003). Now, before leaving the world of antiquity let us also recognize the deeply reflective writings of the Roman Emperor, Marcus Aurelius, and the remarkable mysticism of Plotinus, the founder of Neoplatonism, as well as Augustine, who's *Confessions* exhibit a style of inner reflection

that even today seems completely contemporary (e.g., Morford, 2002).

Though not without interest, space limitations require that we move past Medieval Europe and the Renaissance and on to classical European philosophy where one finds many implications for consciousness. The German Idealists of the late 18th and early 19th centuries such as Fichte, Schelling, and Hegel (e.g., Bubner, 1997), rejected Kant's dual reality of a phenomenal and a noumenal world, instead stressing the importance of perceived or experienced reality. For them, "a thing must be an object of our consciousness if it is to be an object at all" (McQuillan, 2016). These thinkers also proclaimed the existence of a kind of forward-moving cosmos, anticipating in an abstract way the coming of Darwin's theory of evolution and even modern notions of evolutionary cosmology. They were essentially panentheists, viewing the historical advance of the Spirit or the Absolute in a broad theological context, anticipating 20th century philosophers of consciousness such as Henri Bergson and Pierre Teilhard de Chardin.

Starting in the early 20th century, the tradition of European phenomenology has dealt directly with human experience. From its beginnings with in Franz Brentano (Jacquette, 2004), it influenced both Sigmund Freud and Edmund Husserl as well as many existential writers such as Friedrich Nietzsche, Jean Paul Sartre, and contemporary philosophers like Shaun Gallagher (2012), all for whom the texture and nature of experience is the matter of primary interest.

Here we can only mention that vast range of Eastern spiritual philosophies that deal with consciousness and that have had an increasingly large influence in the modern West (e.g., Fields, 2014; Goldberg, 2010). Perhaps the most

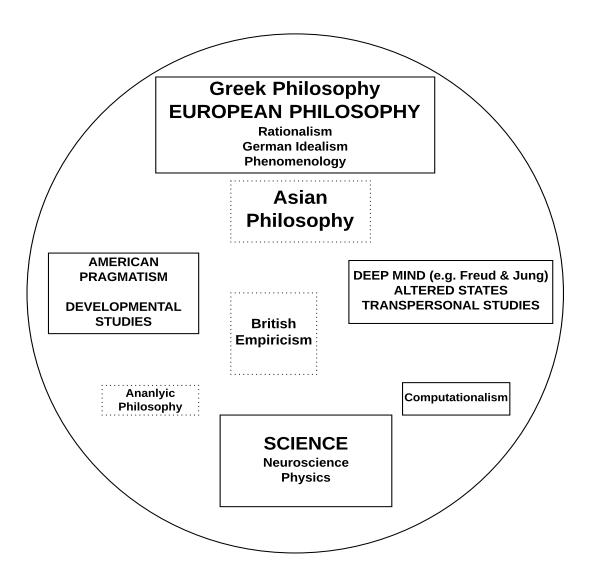
important of these in terms of consciousness has been the Indian tradition of Vedanta with its five sheaths or physical and subtle bodies (koshas), which also represent realms of consciousness (e.g., Tigunait, 1984; Zimmer, 1951). These have been a major influence on the development of transpersonal psychology, though Buddhist traditions, some representing similar inner structures and parallel though distinct practices, have recently become widespread in the West as well. The ground for these ideas in the West was prepared as far back as the mid-nineteenth century by translations of Eastern spiritual texts celebrated, for example, by German philosopher Arthur Schopenhauer (Barua, 2008), and by the popular turn-of-thecentury Theosophical movement founded by Helen ("Madame") Blavatsky (Lachman, 2008). Near the turn of the 20th century Theosophy became an underground driving force for Western occultism in general (Taylor, 1999). Other major influences in the West derived directly from the esoteric teachings of eighteenth century scientist and philosopher Emanuel Swedenborg (Lachman, 2012) and the early twentieth century philosopher and architect Rudolf Steiner (Lachman, 2007), both of whom remain active influences in the West even today. Swedenborg, for example, through his many influences on the spiritual and intellectual lives of major American thinkers such as Ralph Waldo Emerson and the William and Henry James family, both associated with the nineteenth century Transcendentalist movement, and Steiner through the continuing presence of his educational philosophy embodied in the Waldorf school tradition.

#### **American Psychology**

Nonordinary realms of experience, especially "higher," more expansive, or mystical states,

have been of special interest to transpersonal psychology, especially through its early years in the 1970s and 1980s when it actively explored Eastern traditions such as Vedanta, Taoism, and Buddhism (Grof, 2008, Wikipedia, 2016). Much of this scholarship tended to emphasize the similarities between these traditions, and the seeming similarities of the experiential states with which they are associated. The idea of the "perennial philosophy," first identified in modern times by Aldous Huxley (1945), was at the center of much of this discussion. Later the field of transpersonal psychology shifted in the direction of exploring a wide range of topics such as education, health and medicine, psychopathology, and psychotherapy, all from transpersonal perspectives. Important theorists such as Abraham Maslow, Ken Wilber, and Michael Washburn have from the beginning also emphasized an important developmental thread running through much of transpersonal psychology (Combs, 2002; Wilber, 2000). A point we will return to below.

In recent years transpersonal psychology has followed in the footsteps of many other fields of scholarship, accentuating postmodern and deconstructionist criticisms of the grand theories of its earlier days, while highlighting ideas beyond Western traditions, as well as advancing cultural diversity. This history can be traced in the pages of The Journal of Consciousness Studies and the the International Journal of Transpersonal Studies. Of special nterest, Jorge Ferrer's on participatory spirituality work places strong emphasis on cultural settings and is critical of the perennial philosophy. also recognize the field of Here we anthropology, which has its own Society for the Anthropology of Consciousness and a journal by the same title.



Fields of consciousness studies.

Before moving on let us recognize as well the European psychiatrists Sigmund Freud and Carl Jung as well as the entire traditions of depth psychology that they initiated. While ostensibly about the unconscious, many of the ideas inherent in these deal *de facto* with aspects of consciousness such as dreams, fantasies, desires, and emotions. One might suspect that these traditions with so much in common would flow into a single stream infused within the

broader field of consciousness studies. But sadly, professionalism in both the Freudian and Jungian camps has contributed significantly to an ongoing isolation from one another (Brown, 2016).

# American Pragmatism and Developmental Studies

Perhaps the most influential theme in consciousness scholarship in the United States

Corresponding author: Leslie.Allan.Combs@Gmail.com
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is the continuing presence of William James. His foundational book, The Principles of Psychology, published in 1890, begins with the sentence, "Psychology is the Science of Mental Life, both of its phenomena and of their conditions. The phenomena are such things as we call feelings, desires, cognitions, reasonings, decisions, and the like..." (p. 1). There is little doubt that James is talking about consciousness, and he continues to talk about it throughout the entire book, and throughout his entire career. His close friend, Charles Peirce, played an important part in James's thinking as well. The two of them, along with John Dewey, created the uniquely American philosophy of pragmatism (Hookway, 2013; Menand, 2001), an approach to knowledge that shifted the emphasis in American thought away from the formal logical systems of European philosophy such as German Idealism, and toward practical issues. James's interest in pragmatism, his philosophy of radical empiricism, and his interest in spirituality all helped to encourage an American interest in consciousness as experience. An important part of this milieu included a deep interest in individual psychological development, virtually unexamined in European thinking until Jean Piaget, who actually came at the topic from the point of view of "genetic epistemology" or how knowledge matures in the child and the adult (Flavell, 1963).

Another influential psychologist of the turn-of-the-century was James Mark Baldwin (Murchison, 1930), who was one of the fist psychologists to look carefully at individual mental development. Following in his footsteps, several major consciousness theorists have been closely associated with developmental psychology. Abraham Maslow's (1962) developmental hierarchy of needs was a tacit theory of types of experience or consciousness.

Robert Kegan's (1994) developmental studies of personality growth and transformation are intimately concerned with the ways the world is experienced as the individual grows and develops. During the early 21st century *Spiral Dynamics* (Beck & Cowan, 1996), influenced by the 1970s developmental theorist Clare Graves (Graves, 1974), has been a popular spinoff of the careful research conducted by Kegan (1982, 1994) and others. As Ken Wilber (2000) tirelessly reminds his readers, there are many models of personally development that carry implications for growth and maturation. Virtually all have roots in the pragmatist worldview.

#### **Spirituality and Growth**

One much discussed issue in terms of consciousness studies and maturation is whether models of personal growth and development can also be applied more or less directly to traditional views of spiritual growth and transformation such as articulated by Vedanta and the perennial philosophy. In early publications both Wilber and I supported such a view, but in time we began to realize that access to subtle or "spiritual" states of consciousness was different than achieving the kinds of cognitive maturation that undergird personality growth and the structure of the self. The result, after several adjustments, was my own graphic creation of what has become popularly known as the Wilber-Combs Lattice, to which Wilber added the types of mystical consciousness classically articulated by Evelyn Underhill. This is shown in Figure 2 (Combs, 2009).

Since this model was originally put forward by Wilber and myself it has become increasing clear that many of the traditional "spiritual" states, or types of experience, are not uncommon to individuals at all levels of mental

or personality development, including children (e.g., Wilber, 2006). In this connection, Wilber notes that much of the training in traditions such as Japanese Zen Buddhism is best thought of as "state training." This in mind, he has recently published a book titled *Integral Meditation* (Wilber, 2016) that addresses both

the vertical and horizontal growth vectors represented by the matrix diagram in a single type of practice.

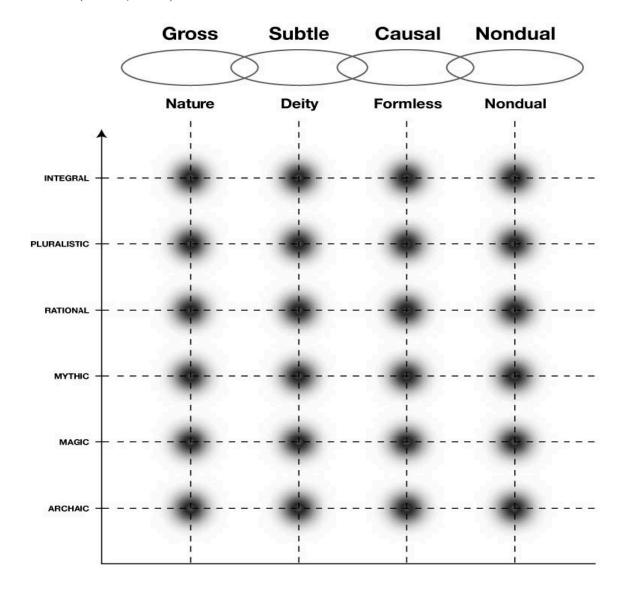


Figure 2. Levels of personal development, taken loosely from Jean Gebser's thought, shown with states of consciousness drawn from traditional studies of mysticism.

#### **Some Overlapping Modern Themes**

Here I briefly mention a loosely related set of important influences that have emerged during the past century and continuing into the present. Each is worthy of an entire library in its own right, but in the overall historical context of scholarship on consciousness the concepts on which each is based can be summarized more briefly.

Analytic philosophy. This is a tradition that started in Britain during the early years of the 20th century emphasizing the analyses of logic and language. Its beginnings are associated particularly with Bertrand Russell and G.E. Moore (Baldwin, 2003). It has since grown into a major and continuing influence in English speaking countries. Modern versions of this approach are represented by philosophers of mind such as Daniel Dennett (1991), David Chalmers (1996), and Alva Noë (2010). Logic and language analysis are at the basis of their analyses of mind and consciousness, and though not always the case, there is a distinct tendency towards reductionism, or as in Daniel Dennett's work, outright materialism. As most readers will know, Chalmers is famous for his "hard problem" dualism, but he does not question the basic logical or scientific approaches to consciousness, suggesting that we simply have not found the right solution yet. In fact, his earlier writings suggested "information" as the root of consciousness, but he has been severely criticized for this as an oversimplified view

Computationalism and neural networks. Computers and information processing became a major avenue for understanding the brain, and consequently the mind, during the middle years of the 20th century, and finally consciousness itself. Alan Turing's binary computing machine, or "Turing machine," was celebrated as a programmable device that in principle could emulate any conceivable kind of information processing system. At that time an emerging view of neuron activity as relying on binary impulses led to an explosion of research and theory attempting to understand many aspects of neurology, the brain, and intelligence in the form of a binary computer. "Computationalism" dominated much of the discussion about intelligence, consciousness, and the brain through much of the 1980s.

In time it became clear, however, that the neurons, and the brain as a whole, do not work like binary information processing machines. Still it seemed unquestionable that the nervous system somehow processes a great deal of information, and does so very effectively. Much discussion about artificial intelligence and the brain since that time has centered around neural networks, non-binary networks that emulate many essential features of nerve activity. This work continues, but the extent to which the brain can be actually modeled by neural network structures is

unclear. Certainly something like neural networks is at play, but the detail and complexity of actual neurological processes is still well beyond the grasp of artificial intelligence.

Neuroscience. Neurological research and the study of the human brain continues to bourgeon. It is a huge field involving clinical neurology, EEG and MRI studies of the normal brain, often engaged in specific activities such as solving mathematical problems or in meditation. Dozens of books and hundreds of articles are published each year on these topics, some in the popular press and many in the academic research venues. Progress continues to move forward relentlessly, but basic questions about the nature of thought, emotion, intelligence, and consciousness have been surprisingly resistant to resolution, and it is not unreasonable to say that though many areas of brain activity have been identified as active in particular states of thought, behavior, and emotion, science is still very much in the dark about the essential nature of these processes.

Physics. On first glance it might seem that no field of inquiry can be further from the study of consciousness than physics. This may have been the case for classical Newtonian physics, but today it could not be further from the truth. As early as 1931 Max Planck, one of the founders of the quantum revolution, observed, "I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about,

everything that we regard as existing. postulates consciousness." In fact, relatively little was written about physics and consciousness during the middle years of the 20th century because of the pervading influence of Logical Positivism and the Copenhagen Interpretation of quantum physics, with their bare bones emphasis on measurement as the only meaningful activity for physics. During the last decades of the 20th century, however, the lid was lifted and scientists and philosophers alike began to explore the implications of the quantum world in terms of its deeper implications, and indeed its involvement with consciousness at the most fundamental levels. The result has been explosive, resulting in many publications exploring the still unsettled questions about the role of consciousness in understanding the most basic aspects of reality. This continues to be a rich area for both research and speculation.

#### Trends in Consciousness Studies.

At this writing, it is clear that the day of major theories or models in consciousness studies, as well as psychology and philosophy, is past. At least for the time being. The pervasive influences of postmodern thought, with its relativistic and deconstructionist tendencies, has left every major theory or "metanarrative" (Lyotard, 1984) subject to academic criticisms from all sides. In a sense, we are living in a post-theoretical age. At the same time, we are also seeing a proliferation of research on diversity in both consciousness and spirituality. This is especially visible in academic venues such as *The International Journal of Transpersonal Studies*.

We should also mention that research into the effects of psychedelic substances, now often referred to as *entheogens* ("generating the divine within"), is returning in the United States after fifty years of political suppression. Studies of these substances are de facto studies about alternative realms of human experience. For example, visit the <u>ERIE</u> website.

#### The Future

Much more could be said about contemporary consciousness studies, but let us move on to the future. This writer sees three distinct possibilities for the future of consciousness studies.

**Diffusion.** Given the present remarkable spread of interest in consciousness into fields such as medicine, neuroscience, physics, cultural anthropology, and so on, it is possible that the study of consciousness will come to infuse virtually all areas of research and scholarship not entirely indifferent to it. At this point it is difficult to even say with confidence what these might be.

**Holism.** This is an attitude and a philosophy, as well as an emergent dimension of modern physics, medicine, biology, and culture itself. It is often tied in one way or another to consciousness. Spurred by advances in many fields, holism has become an increasingly important ingredient of a modern understanding of the world. From atomic physics, to biology, psychology, and even social science, there is spreading recognition that virtually nothing in this cosmos is solitary. In contrast, classical Newtonian physics was based on the idea that reality is constructed of independent chunks of matter. In this view, each piece of the universe is its own item, interacting with other parts of reality by mechanical forces such as gravity, strong and weak nuclear forces, and actual

material connections. Indeed, in Newton's day atoms were thought to be linked together by something like tiny hooks, an idea that made gravitational influence at a distance utterly baffling. This in mind, the modern shift towards holism is a radical change of worldview.

With the advent of a contemporary understanding of entanglement at the atomic level, holism has become much more than a metaphor. It is an idea that suggests at the deepest level that objects and events which appear to be separate aspects of reality in fact are in some essential way the same thing seen from different perspectives. In other words, different frames, or angles of experience. To get a sense of this, David Bohm (Nichol, 2003) explained the entangled "singlet" state of two particles that have a shared history as like a goldfish in a tank observed by two cameras, one in front and one to the side. Seen through these two cameras there appear to be two fish, different but strangely synchronized in their movements. Seen from a multidimensional perspective, however, we are viewing only one goldfish that in ordinary space seems double.

These ideas are reminiscent of the friendship between Carl Jung and prominent quantum physicist Wolfgang Pauli (Atmanspacher & Fuchs, 2014). One fruit of this collaboration was the now famous idea of "synchronicity" as a type of action orthogonal to classical notions of causation. Like so many other aspects of our cosmos, synchronicity relies heavily on the conscious experience of an observer. Indeed, the perspective of the observer has become so important in many aspects of modern science that Robert Lanza has written a well-received book on the topic titled Biocentrism: How Life and Consciousness are the Keys to Understanding the True Nature of the Universe. In it he argues convincingly that there is

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virtually no knowledge that does not come from one experiential perspective or another. In other words, there is simply no such thing as classical objectivity, or what Thomas Nagel (1986) termed "The View from Nowhere." In 1994, Henryk Skolimowski had already written an influential book titled The Participatory Mind, in which he quoted the prominent physicist John Wheeler's famous statement, "The universe does not exist 'out there,' independent of us. We are inescapably involved in bringing about that which appears to be happening. We are not only observers. We are participators. In some strange sense, this is a participatory universe" (Denis, 1995). By this, Wheeler recognized that even at the core of physics no reality is independent of human experience.

Consolidation The third possible future for consciousness studies is a consolidation of the many different approaches to consciousness into a single complex framework in which each subdivision is understood to be interwoven into all others. I it difficult at this time to see exactly how this would work out. In a sense it is is a complex systems vision that emphasizes the holistic aspect of consciousness studies. Such an integration of diverse perspectives may seem unrealistic at the moment, considering the rigid vertical academic silos that control much of today's knowledge. But this rigid academic structure is beginning to fray at the edges under the influence of increasingly holistic transdisciplinary approaches to knowledge. This is especially the case beyond the most elite academic institutions.

It seems that no matter how one looks at it, there appears to be an optimistic future to consciousness studies.

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Corresponding author: Leslie.Allan.Combs@Gmail.com
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