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Why Consciousness Matters: Insights from a New Generation

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Abstract: The University of Washington-Bothell is home to a transdisciplinary and integral minor in consciousness that is the first and only such program at a public research university. This study reports a content analysis of reflection essays submitted by 122 students who completed at least four of the five courses that comprise the minor between 2012 and 2016. Results indicate that students derived significant benefits from this approach to the study of consciousness, including a deep appreciation for the depth and breadth of the mind and the need to release their understanding of consciousness from the constraints of scientific materialism. They also gained specific tools that greatly improved their sense of optimism and agency and reduced feelings of depression, anxiety, and nihilism. Challenges included the complexity of the concepts and the inadequacy of language to adequately describe and decipher the phenomena under investigation. Implications of this approach for finding effective and creative solutions to the unprecedented challenges currently confronting humankind and the biosphere are also addressed.

Keywords: Consciousness in higher education; transdisciplinary and integral approach; awakening students minds and well-being

We live in inordinately difficult times. Although we are hardly the first cohort in human history to voice this lament, we are the first to have created unprecedented challenges on an unprecedented scale that threaten the very existence of the biosphere. Crises abound on every front – from the personal to the political, from the social to the environmental - and seem to worsen daily despite many efforts on the part of many committed people to resolve them. Although many, perhaps most of us, feel overwhelmed by these challenges, the younger generations are suffering disproportionately because they will inherit both the problems and the bulk of responsibility for solving them. I have been a clinical and counseling psychologist and a professor at the University of Washington for over 30 years and I have observed firsthand the growing pessimism and despair expressed by many young people as they prepare to engage a world riddled with dilemmas about which they feel they can do little. Many have told me that they leave courses in cultural studies or in the social, life, and physical sciences feeling both disempowered and overpowered by a prevailing paradigm that holds only physical reality to be real, the biosphere to be insentient, the mind to be at best an epiphenomenon of the brain and at worst, an illusion, and death to reduce their selves and all whom they love to smoke in the wind. In the face of these wide-

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ly held but unproven beliefs it is no wonder that so many feel paralyzed and helpless.

Yet this need not be the case. At the dawn of the nuclear age and in the wake of devastating global conflict, Albert Einstein warned humankind that,

[t]he world we have made as a result of the level of the thinking we have done thus far creates problems that we cannot solve at the same level at which we have created them...We shall require a substantially new manner of thinking if humankind is to survive. (as cited in Highfield & Carter, 1993, p. 79).

This new manner of thinking entails a radical *rethinking* of the power and place of the mind and a recognition of the primacy of consciousness in shaping our personal and collective lives. And it is this new manner of thinking that has the potential to replace nihilism with hope and apathy with agency.

Actually, this new manner of thinking is not new at all. Buddhism, the Vedas, and many indigenous wisdom traditions have been reminding humanity for thousands of years that we have the means to move ourselves toward a higher level of functioning if we take our minds and consciousness seriously. Over the past 130 years a growing cohort of scientists and scholars has been doing just that, generating a burgeoning body of robust scientific data that reveals consciousness to be the fundamental force underlying all that we experience in physical reality. Professional forums routinely disseminate this information to scientists, clinicians, health practitioners, and academics, the military establishments in the U.S. and abroad have invested millions in related research and applications, and the internet has made these data increasingly available to and

accepted by the majority of the general public. Unfortunately, this is not the case for higher education. The study of consciousness has been systematically derided and excluded from the academic mainstream since materialism (aka physicalism) became the dominant scientific and intellectual ideology in the mid-19th century. Consequently, students, both undergraduate and graduate, who want to learn – or faculty who want to teach – about consciousness in the traditional academic arena have had and continue to have few opportunities to do so. Yet increasing these opportunities is critical if we are to prepare the next generation of scientists and scholars to embrace this new manner of thinking and propel the study of consciousness into the 21st century and beyond. It is equally important if we are to boost their sense of efficacy and optimism and give them the tools we all need to transform our relationships with ourselves. each other, and the biosphere. This would inaugurate a paradigm shift of epic proportion, for as Kuhn (1962, 2012) demonstrated, such shifts are brought about in large part by introducing a new generation – one that is less committed to an old paradigm - to a new way of thinking. Or, as Max Planck said toward the end of his career, "a new scientific truth does not triumph by convincing its opponents and making them see the light but rather because its opponents eventually die and a new generation grows up that is familiar with it" (as cited in Kuhn, 2012, p. 150).

Finding a way to accomplish these twin goals has guided my professional life since three near death experiences thrust me into a deep understanding of the primacy of consciousness many years ago (Noble, 2001). It led me to a doctorate and licensure in counseling and clinical psychology, a faculty position at the University of Washington, Seattle (UWS), tenure and promotion to full professorship, and ancil-

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lary administrative and clinical responsibilities along the way. But finding a way to study and teach about consciousness proved more difficult than I had anticipated because of the taboo that has for decades debarred the subject from serious consideration in mainstream academia.

Finally, in 2001, I was able to offer my first undergraduate seminar for the UWS Honors Program ("The Farther Reaches of Human Nature," an homage to Abraham Maslow's 1971 work of the same title) that introduced students to the scientific literature about consciousness in its myriad manifestations and engaged them in a far-reaching exploration of the mysteries of their own minds. The course met with so much enthusiasm that I taught it annually for the next seven years, all the while attempting to garner departmental support to expand course offerings beyond this brief introduction. When this proved unsuccessful an opportunity arose in 2010 to create a Minor in Consciousness at the smaller, more innovative University of Washington - Bothell (UWB) campus and I jumped at the chance (Noble, 2015).

The consciousness minor, which formally launched in 2014, is currently housed in the School of Science, Technology, Engineering, and Math (STEM) and is comprised of five core courses (Noble, 2015) each of which I designed from a transdisciplinary and integral point of view. The transdisciplinary perspective is important because the study of consciousness encompasses many disciplines, including psychology, quantum physics and biology, neuroscience, health sciences, engineering, and anthropology. The integral approach propounded by Ken Wilber (1998) is equally important because it embraces both Western and non-Western ideas and likens consciousness to the electromagnetic spectrum

whereby different theories of consciousness offer valid interpretations of the same phenomena, but at different frequencies. The integral approach rejects materialist explanations of consciousness that exclude the possibility of nonphysical or spiritual dimensions and draws upon insights gleaned from contemplative practices that are grounded in direct experience. Ed Sarath (2006) has argued that the most important benefit of an integral approach is its ability to unify a large number of disparate, yet viable, theories about consciousness. Further, it respects these theories as providing unique and valid perspectives on phenomena that defy a single, all-encompassing explanation. Yet another advantage of this approach is that it uses three pedagogical methods: first-, second-, and third-person. Whereas third-person knowledge consists of objective and analytical inquiry and secondperson is dialogical, first-person is experiential and invites students to explore and take seriously their own subjective experiences.

I chose to create a minor rather than a major for two principal reasons. First, the study of consciousness is not yet a recognized discipline at the mainstream undergraduate or graduate level. I knew that students would be reluctant to choose a major that was not directly linked to career opportunities once they graduated, yet I wanted to expose as many as possible to the wonders and complexity of the field. I hoped the endeavor would enrich their personal lives and encourage some to make it the focus of their professional lives. A minor seemed an ideal way to do this. Secondly, I suspected that the creation of a formal program in Consciousness would generate a fair amount of controversy among my STEM colleagues and I thought that a minor might be easier for me to achieve and for them to accept.

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The introductory course for the minor (BCONSC 321: The Farther Reaches of Human Nature) addresses such questions as: "What is consciousness? Is it dependent on, independent of, or interdependent with physical reality? Why do non-Western wisdom traditions and Western scientific perspectives disagree so completely in their ideas about it?" We begin with an overview of Kuhn's (1962, 2012) theory of scientific revolutions so that students have a framework for understanding the paradigmatic implications of the data they will be studying for the next 10 weeks. Then they are introduced to research about nonlocal awareness and communication (Mayer, 2007), retrospective and prospective studies of neardeath experiences (Moody, 1975, 2001; Van Lommel, 2010), and the relevance of dreams to understanding and exploring consciousness (Van de Castle, 1994). In addition, they watch a variety of films and talks by Ken Wilber, Dean Radin, Rupert Sheldrake, Robert Waggoner, Robert Jahn, Amit Goswami and others that extend and amplify the topics discussed in the texts. Each class begins with a 5-minute period of breath-based meditation which students are also encouraged to practice at home. At the completion of the course they write a 3-5-page reflection essay about how their ideas about consciousness changed over the ten weeks and any insights or challenges that they experienced. This essay is never graded; rather, students are assured of full marks regardless of the positive or negative content of their opinions as long as their essays are thoughtful and well-written.

Students who continue in the minor take four additional courses that ground them in the history of science and the politics of paradigm shifts (Sheldrake, 2012; Wallace, 2008) and increase their familiarity with the depth and breadth of the field. Topics include the ubiquity and implications of nonlocal awareness

(Dossey, 2013; Radin, 2006; Tart, 2009), neuroplasticity and contemplative practices (Begley, 2007; Schwartz & Begley, 2002), the sentience of animals and plants (Narby, 1999; Sheldrake, 1999), ethics (His Holiness the Dalai Lama, 1999), and the psychology and science of dreams (Van de Castle, 1994; Waggoner, 2009). Students are also introduced to the insights of quantum physics and the biology of belief through texts (Lipton, 2005, 2016; Radin, 2006: Wallace, 2008) and films. As in the introductory course students are encouraged to practice mindfulness and meditation, and to record their dreams as avenues for selfexploration, creativity, and enhanced wellbeing. They begin each class with a 5-minute period of meditation and write a 3-5-page nongraded reflection essay at the end of each course to document what they learned that has most significance to them. The overall goal of the minor is to help students understand that consciousness is a vast, dynamic, and participatory phenomenon, far surpassing the constraints artificially imposed upon it by the materialist paradigm.

Despite years in the field I was unprepared for the backlash from colleagues as I proceeded to develop and advocate for the minor. Most of the STEM faculty had no inkling of the robust scientific and scholarly literature that underlies the field, yet their opinions ranged from condescending to compulsively skeptical. As I submitted course proposals to both departmental and campus-wide curriculum committees and negotiated the administrative obstacle course, I had to debate continually the legitimacy of the material I proposed to teach, an experience made more onerous by the fact that the principal gatekeepers knew little but assumed the worst about its scientific validity. Indeed, the minor would have been derailed were it not for the dedication and persistence of a group of undergraduate students who

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were determined to make the study of consciousness available to as many students as possible (Noble, Crotty, Karande, Lavides, & Montano, 2016). The enthusiastic advocacy of the minor by students who had largely absorbed the biases of the materialist paradigm and who had known little or nothing about consciousness before enrolling in the first course convinced me that learning about consciousness in a systematic and intellectually rigorous way could unlock the door to a new level of thinking and well-being, both individually and collectively.

The results of an earlier research project (Green & Noble, 2010) that examined the effects of studying consciousness on students' psychological and intellectual growth gave me an initial insight into the power of this undertaking. Students who participated in the UWS Honors course in 2008 (n=19) described powerful and meaningful changes in their world views after being exposed to the material. Their underlying beliefs about consciousness and reality, as measured by pre- and post-test scores on the Beliefs about Consciousness and Reality Ouestionnaire (Baruss & Moore, 1992) became significantly less materialist and more transcendent over the ten weeks of the course. Students said they had opened their minds to ideas that few had previously considered because they did so in a safe environment that was also intellectually rigorous. Most had never had an opportunity prior to this course to examine their basic assumptions about reality or to explore the limitations of the materialist mindset in the face of contrary evidence. As they grew more aware of the extent to which these unexamined assumptions influenced their lives they were more willing to engage with controversial and often contradictory theories about consciousness, and they brought a greater depth and breadth—both intellectually and emotionally—to this conversation. By the end of the course they were excited about the possibilities of an expanded mindset, more tolerant of ambiguity and uncertainty, and more confident about challenging their own beliefs as well as each other's. Most students evinced a newfound sense of wonder and excitement about the nature and extent of their own minds, as well as a profound sense of comfort and curiosity and a willingness to engage questions about the nature of physical and psychological reality that most had previously eschewed. Most students left the course feeling optimistic and efficacious, and most left wanting to learn more.

A four-year study (Noble et al, 2016) with a larger sample of UWB students (n=116) who completed what is now the first course in the minor between 2012 and 2015 confirmed these results. Like their UWS counterparts in the 2008 study, their beliefs about consciousness and reality changed dramatically and significantly over ten weeks, moving away from a materialist mindset and toward a more transcendent orientation. This means that by the end of the course they recognized that there is much more to consciousness and reality than the materialist mindset admits. For most this was an earth-shaking realization. Yet as their core beliefs began to change, students reported an accompanying sense of excitement and curiosity that most said they rarely experienced in their academic or personal lives. Studying consciousness enabled them to explore aspects of themselves and of life that were otherwise neglected in higher education and elsewhere. It illuminated the biases of the materialist scientific paradigm which many had held unconsciously and whose influence they had not previously thought to examine. Many students began to share what they were learning in class with friends, family, partners, and professors – and

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many returned to class shocked by the negative and ill-informed reactions that they encountered. They expressed a great deal of frustration with the lack of conversation about consciousness in higher education and they acknowledged the importance of approaching this controversial subject with the humility of Beginner's Mind, rather than with a cursory and compulsive skepticism. Most students left the course deeply disappointed that it was ending and they wanted to continue the exploration in greater depth. Many hoped to find ways to engage with and contribute to the field professionally but were concerned about whether they would be able to do so. All said they were profoundly grateful to have learned about consciousness.

After 2011 when increasing numbers of students had the opportunity to participate in additional consciousness courses, a new set of questions arose. Virtually all these students said they experienced a deeper alignment with their own minds as they progressed through the material and that studying consciousness was no longer just an interesting and nontraditional way of fulfilling science credits for graduation. Consciousness began to matter to them – and to matter profoundly. Many even postponed graduation so that they could enroll in additional courses and/or complete the minor despite the additional time and expense that entailed. I wanted to understand why. So, after completing the 2016 study I decided to conduct a content analysis of the final reflection essays submitted by all 122 students who had completed four or more consciousness courses between 2011 and 2016 to ascertain the impact that studying consciousness had on them

Method

Participants

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The 122 students who submitted these essays were majoring in a wide variety of subjects, including biology, environmental science, psychology, media communications, society/ethics/and human behavior, business, computer science, engineering, and health sciences. Most were seniors when they wrote their essays, although a few were juniors. Most were in their early 20s, while a minority were of nontraditional age. No identifying demographic data were collected to preserve students' anonymity.

Assessment

The goal of this project was to answer via content analysis two principle questions: What did students gain, intellectually and psychologically, by studying consciousness beyond the introductory level? Additionally, did students face any challenges when exploring the field of consciousness or feel any reservations about the endeavor? Before analysis commenced, students' names were removed from their essays to avoid overt or unintentional bias.

Results

Principle Question #1: What did students gain, intellectually and psychologically, by studying consciousness beyond the introductory level?

Students' final reflection essays revealed four primary categories that addressed this question. Although I have summarized their responses, I have selected and included many representative quotes so that students' direct voices can be heard.

1. Realization that there is far more to the mind, to consciousness, and to physi-

cal reality than what they had previously believed.

- Decrease in depression and anxiety, increased feelings of well-being, curiosity, and hope, and a deeper sense of meaning and purpose in their lives.
- 3. Acquisition of important tools for self-discovery, self-development, and expanded awareness.
- 4. Increased respect and appreciation for the natural world, and awareness of humans' ethical responsibilities to all other species and to the biosphere.

Realization that there is far more to the mind, to consciousness, and to physical reality than they had previously believed.

I thought for something to be real it had to be physical. Learning about consciousness challenged every belief and assumption about waking reality, from the significance of dreams to the consciousness of animals and plants to the myriad ways in which all are entangled.

Although most students had left the introductory course with a new awareness of and respect for consciousness, the subject was still shrouded in a miasma of magic. Now their exploration of theory and research into its myriad manifestations thrust them into a deeper understanding of the nature and reach of all that is. Students began to recognize the extent to which consciousness had a direct impact on physical reality, and the powerful role it played in their own psychological and physical experience. Virtually all said they had never seriously considered the nature of their minds nor had they ever been encouraged to do so until they started studying consciousness. As one student said, "I only

began to think about the mind through consciousness classes." Others agreed:

Learning that the mind isn't as stagnant as western psychology portrays makes you realize the potential that everyone has including yourself...We are all part of a deeper reality even if we choose to ignore/deny that.

In the current western paradigm, the mind has been reduced to a purely physical series of identifiable chemical reactions... I began to understand that everything is perceived and painted by my mind...I began to wonder if we have spent our entire lives ignoring the significance and even the existence of mind, then how has this affected our society?

As students progressed in their study of consciousness, several common observations surfaced. Most felt liberated by the possibilities of non-locality, by the idea that the brain was more likely a transmitter and receiver than a producer of consciousness, and with the possibility, in the words of one student, that

...matter may be a state of information or dynamic web rather than physical building blocks. Non-locality releases the restrictions that are normally placed on the mind.

Reading and discussing the texts was always interspersed with practical exercises to promote the possibility of direct experience. Besides practicing meditation, students were encouraged to watch the interplay of their thoughts and their external lives for synchronicities, and opportunities were always provided to discuss these in class. This had a dramatic and persuasive effect on many students; in the words of one "it is one thing to read about the double spit experiment and quite another to see an entangled universe unfold before me on a daily basis."

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A powerful insight arose for many students when they realized the extent to which scientific materialism had become identified with science, to the detriment of the latter. Although they had been introduced to Kuhn's theory of the structure of scientific revolutions in the introductory course, most had never been exposed to the history of science or the way in which deeply held physicalist beliefs became the dominant organizing principles of Western science and, subsequently, of Western intellectual life in the mid-19th century. After examining the work of scientists who challenged the tenets of materialism, students were shocked to realize how unquestioningly they themselves had accepted those beliefs. As one student said, "scientific materialism plays a role in my despair by losing the purpose of life. Scientific materialism is rooted so deep in my belief system that I could not even realize I am within the system." Several noted that the mechanical and impersonal universe extolled by that ideology provided no incentive to consider seriously what His Holiness the Dalai Lama (1999) calls the ethics of compassion, virtue, and restraint. Rather it undermined any sense of personal responsibility and left no room for concepts like entanglement, entrainment, or interconnectedness. Despite their respect for science as an important driving force of cultural, technological, and social progress many echoed the statement of one student who felt that materialism had "led to a diseased state of mind" and resulted in "one of the most unhappy and confused cultures in history."

It feeds us messages that normalize the fear of the 'other' and normalizes violence as a solution. It leaves us looking for ways to fill our needs at the expense of others and the environment. It leads us to seek outside validation of self-worth and it encourages us to fight off anyone that is not like us...It really appears that we developed into this state through centuries of claiming that all there is is the physical world and denying all else. In this physical world we have no connection to one another and no moral drive; rather we are purely a result of random physical processes. The study of consciousness dismantles this scene and opens up the possibilities for a different reality and interconnectedness by disrupting this concept of reality.

This class has really opened up my eyes to just how we are subjected to so much scientific materialism in education. We constantly hear in school that the universe is exclusively physical, that this is a proven fact from research, and that we learn all of the important things about reality by virtue of science period. Until taking this class I would agree. In order to graduate high school we have to learn about ideas such as objectivism, behaviorism and reductionism, yet we don't learn about consciousness, healing, or other ways of viewing the world....

As students began to separate scientific materialism from science and to perceive the former, in the words of one student, as "theoretically immature" it became easier for them to recognize, explore, and accept their own anomalous experiences. "I switched from seeing anomalous activity as something a bit spooky to something to be curious about, worth noting, talking about, sharing, and studying." Although they had been introduced to these phenomena in the introductory course, they now had a broader context for understanding not only the implications of the phenomena, but also the consequences of their systematic rejection by physicalists.

The idea that scientists only looked "out" and not in or within was an aha moment to me.

Scientific materialism taught me to believe everything that is physical is real and everything that isn't is not...We cannot believe that materialism is an absolute lens for interpreting reality...The consequence is that our minds become irrelevant in this physical reality.

Students also began to see connections between the rejection of the mind and the growing dependence on technology. They had to turn off their phones and electronic devices for the duration of each class session and to pay attention to how it felt to do so. In one class, they were required to spend two, two-hour periods outdoors in the natural world alone and without a phone. Although many were initially anxious or frightened by this assignment, they later reported feeling increasingly comforted, relaxed, and reluctant to end the exercise at the two-hour mark.

I believe it is pretty clear that we have forgotten our key component, the mind, and have thus lost ourselves in a sea of distraction and misdirected attentions toward materialistic and immediate gains...Not only did we lose touch with the environment around us we also have quickly begun to separate each other so as not to need to connect with others. We have sacrificed presence for a poor substitute, being 'plugged in.' And we have destroyed our ability to stay focused and resist distraction through our growing addiction to technology...I believe consciousness offers an evolved, enlightened and informed solution to the problems we have sunk ourselves into.

Many concluded that moving beyond materialism and taking consciousness seriously was necessary for the human species to survive and prosper. Further, an emphasis throughout the courses on the importance of Beginner's Mind led them to realize that it was their re-

sponsibility to question everything – including the ideas they were being exposed to in consciousness classes.

I have learned that nothing is an absolute. There is a freedom in this that nothing is stuck, nothing is permanent. Your mind isn't an absolute, science isn't an absolute, reality isn't even an absolute. This allows for a greater change than you can imagine since everything is more fluid and part of a cohesive continuum.

The biggest implication is that there is an infinite universe of answers to the questions that plague humanity in dark times such as the volatile commercial society we are living in. Those answers and the universe that holds them are all interconnected, waiting for us deep within our own mind.

Decrease in depression and anxiety, increased feelings of well-being, curiosity, and hope, and a deeper sense of meaning and purpose in their lives.

Some of the most pronounced changes reported by virtually all students were a marked decrease in depression and anxiety, an increased ability to regulate levels of stress, an increased sense of agency and hope, and a growing sense of optimism and resilience. In virtually every reflection essay students discussed how relevant the material was to their own lives and sense of well-being. As one student said, "I feel an increased level of happiness, increased awareness, more positive, more stable...Studying consciousness has helped me cope, control emotions, develop greater connections with self, friends, family." Similar changes were attributed by many students to the regular practice of meditation:

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It was a wonderful feeling to be able to walk into class, the familiar sound of a gong being struck, then silence. Just a few minutes of focused silence would change the collective consciousness of the entire gathering. No more would I hear the incessant mundane chatter. Instead everyone would appear calm, relaxed, and focused – the most ideal way to begin a class.

I know that every minute that I put into reading, writing, studying, thinking and meditating for this class has assisted in helping to wake me up and recognize myself on a deeper level and in a fuller sense.

I feel more hope that there is more to me than what is on the surface. This version of me can change.

I am filled with hope – where once I was so empty.

Equally important to virtually all students was the growing awareness that there was more to life than the pursuit of money, power, or fame extolled by the dominant materialist culture. Some students said that studying consciousness had rekindled an awareness that they had had in childhood but had forgotten as they matured into adulthood. They learned to slow down, to pay attention to their daily lives, and to unplug themselves periodically and consciously from technological distractions that increasingly dominate their lives. The following comments were typical.

Without even realizing it I had created a life of pure chaos where relaxation was nonexistent.

Studying consciousness undermines western emphasis on extroversion and constant activity – which allows little time or respect for meditation, contemplation, introspection,

depth – deems them irrelevant. Consciousness challenges this long-standing taboo.

One of the questions to which we returned often was "What kind of mind do you want?" The more students took seriously the primacy of consciousness, the more they understood that they had a level of conscious control over their minds that they had previously never realized. This was startling to most students. Many said it was the first time they realized they could actively choose to cultivate inner qualities such as mindfulness, empathy, compassion, and gratitude. The question also led them to accept "radical responsibility" not only for their own well-being but for those around them, including the environment. As one student said, "the healthier we keep ourselves, the healthier will be everyone else." Many were also profoundly inspired by the idea common to near-death experiences that far from being random or chaotic, lives were deliberately chosen for individual reasons. This, they said, helped them to feel greater self-acceptance and trust, as a result of which the quality of their lives had improved.

There has been a significant shift in my development as an individual as well as a part of a dynamic, interconnected, participatory multiverse where mind is central.

I am more convinced than ever than self-actualization is more of a benefit to the human race than martyrdom.

There is meaning in pain and illness. I can rely on myself and my Self for emotional safety.

I have been extremely fearful to actually know myself because I believe that because I have been taught specific beliefs of worthlessness

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and powerlessness, my expectation of myself was belittled...Consciousness changed that.

I have become a better human being. I realized that I am more than who I think I am.

Even 2 quarters of consciousness ideas have changed my entire life for the better...Consciousness has been the most important, most interesting topic I have and ever will learn throughout my life.

With the awareness that there is a larger reality from which physical reality springs, students reported a growing sense of comfort and security, interconnectedness, and a newfound curiosity about the potential of the human species. In every class questions arose that were frequent motifs in students' essays: What are humans capable of? Who are we? What could the human species become if we took consciousness seriously?

This allowed me to take a fresh look at who I am, who I think I should be, and my outlook toward others and the world around me.

I never imagined who I would be today. Am cherishing the present moment, living my (new) passion for sustainability, decreased materialism, decreased consumerism, and greater sense of responsibility to others and the planet.

What I have learned, especially this quarter, is that I am a part of something bigger than myself, I may not have words to describe what it is but I feel that it's a feeling of connectedness with the world and everyone.

This normalizes what I've always felt but was taught to deny...we are interconnected.

This has given me so much knowledge and the opportunity to discuss, in confidence, the power of being intertwined and connected to a great consciousness in the universe and not have someone tell me I'm crazy (even though it happens regularly) for thinking that way.

Acquisition of important tools for self-discovery, self-development, and expanded awareness.

Of all the insights that students shared in their reflection essays, those mentioned most often involved the acquisition of new tools for selfdiscovery, self-development, and expanded awareness. Students took to heart the question "What kind of mind do you want?" which encouraged them not only to take consciousness seriously but to learn and practice skills that would allow them to shape and reshape the minds they wanted. As one student said, "consciousness classes have made me face myself and see areas within where there has been growth or no growth at all and where there is still resistance and where I have opened up." Although this was "both frightening and empowering," it led to what another called "new ways to do this thing called life." Another said, "these classes have given me the tools, mental and intellectual, to dig deeper, to ask the right questions." The tools students identified were as follows:

Meditation. Very few students were familiar with or had practiced meditation prior to the introductory course, and although initially most were skeptical they were surprised to discover that regular practice produced real effects. This awareness deepened as they advanced through the consciousness coursework and was reinforced by watching films and reading studies about the effects of meditation on the brain.

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To be able to quiet the mind was something very foreign for my mind.

Meditation enables me to have a relationship with my own intentions and myself.

The possibility for change is very real. We can use meditative practices to change our brains through neuroplasticity, we can change our view of reality, we can change our approach to healing, and we can change ourselves on many different levels. We are not stuck!

For the past couple of years I would occasionally wonder about what else was going on besides what I see in front of me. I never imagined that I would find out by taking consciousness classes and I never imagined myself meditating.

Neuroplasticity. Few students had been exposed to the concept or reality of neuroplasticity and thus were unaware of the brain's capacity to change and reshape itself after childhood. Those who had been introduced to the phenomenon in traditional biology classes had never been taught that meditation could induce positive results both anatomically and physiologically for common disorders like depression and anxiety and to mitigate arousal in situations of extreme stress or emotional disturbance. Now they were inspired not only by the pioneering scientists who rejected the dogma of an unchanging brain, but also by the awareness that they could do this for themselves.

One of the turning points for me for understanding meditation and the power of selfknowledge was neuroplasticity....it offers a type of healing and growth that has been overlooked. We can relearn and evolve. I learned that my mind is powerful enough to change my brain... I learned that I can meditate to literally become a happier and more compassionate person. I can get to know myself on a much deeper level.

Neuroplasticity is more than the changing of the brain, it shows us that people can change. This gives the hope that we are not doomed by our past experience or our previous lifestyles, where people tend to blame their surroundings for hardships... Understanding neuroplasticity has given me the confidence in being independent and the power to change. I have the power to sculpt my own mind.

Thoughts literally affect everything: placebos, nocebos, neuroplasticity, alternative forms of health care, energy medicine; mind can exist without body but not the body without the mind.

Our bodies are quite literally affected by our minds. While this may sound overwhelming there is a sense of peace in knowing the extent my mind can influence my body.

I cannot thank you enough for exposing me to the truth that my brain is active and changing. We are constantly alive and changing. I am always dynamic. I am NOT stuck. I have the power to change myself to become a more balanced individual. It's all me. Uh oh, radical responsibility.

Mindfulness: Because students had been introduced to the reality of and research about lucid dreaming in another consciousness course, we were able to extend this concept to incorporate the idea of being lucidly awake. This skill encouraged them to learn to stay in the present moment, to listen to their innermost needs and desires, to practice patience and introspection, to release themselves peri-

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odically from technological distractions, and to allow themselves to change their lives for the better by identifying and changing negative beliefs. They learned about the power of attention and intention, to be open to their subjective experiences and give credence to feelings and intuition as legitimate data. As a result, many students reported that they came to know themselves not only better, but at a deeper level than they had thought possible.

I realized that my pattern of thinking toward all things in my life was very limiting because I wasn't willing to be introspective and question exactly why I thought the way I did. My view of the world around me is far clearer now.

I learned that my thoughts have more power than I had ever realized...Examining our thoughts on an internal level I realize that viewing myself as a victim of my environment, which is how we are viewed in the western mindset, forces us into a pattern of reacting and does not allow for space to be anything but a byproduct of our materialist society. We have become mindless machines, brainwashed into believing in a vaguely defined world view, lost of self.

I realize that the mind I want is not like a new year's resolution; once you fail, it's over. Attaining the mind I hope to have requires hard work, intention, attention, focus, and commitment; qualities I have the power to cultivate if only I choose to do so.

I am made up of beliefs and now I am much more aware of what those beliefs are and why I have them and most importantly I can change them. There was a point in my life where I believed I would die an addict, I believed I was damaged beyond repair and that I could not change. I have been physically, emotionally, and sexually abused throughout my life. ...I am much more aware. I realize the amazing capabilities of my mind. I pay much closer attention to the kinds of thoughts that I am having...the people I allow to come into my life and the ones that need to leave... the boundaries I need to set in order for me to be able to move forward.

I now think of my mind as the lenses which I experience and perceive my life. Like glasses I need to maintain and sometimes clean the lenses of my mind to prevent blurry vision. Sometimes my prescription needs to be updated like my mental perspectives need to evolve... Overall an understanding of my own mind is vital to forming meaningful relationships with others and myself.

Constructive skepticism: Sheldrake's (1999) framing of "constructive vs. compulsive" skepticism was extremely helpful in guiding students as they navigated difficult concepts and data that flew in the face of the materialist paradigm. Every class session concluded with a discussion of students' "so what's?" which was an opportunity for them to discern and share what was most meaningful or problematic for them. It took most students awhile to realize that their opinions were important and that they could voice them aloud without penalty. Regardless of whether these were positive or negative they had to be grounded in the data or to thoughtful reactions to the research which generated these data. Students were free to accept or reject ideas and data but they had to understand why they were doing so and to clearly articulate their reasons. Most students said they never had the opportunity to do this in other classes and that it was an invaluable skill to learn.

In the past, I would have thought in strictly scientific materialist terms and dismissed consciousness as a bunch of voodoo, shamanistic and hocus-pocus nonsense...But these are inadequate for understanding or exploring the mind.

I learned the necessity of open-mindedness in the face of information that one resists for various reasons - whether it's the shamans' use of ayahuasca to explore the universe or animal telepathy or the value of meditation.

I feel empowered. I know the importance of being honestly skeptical and the dangers of being stubbornly skeptical.

I now have a vocabulary to investigate the properties of the sacred without holding onto religious dogmas or fundamentalist beliefs.

Fractals are a great metaphor for understanding consciousness. Scientific materialism is the very source of cultural barriers against the mind...These ideologies created our perception of reality and have been passed down for centuries yet we have never truly questioned them. This is essential because when we cannot sense, infer, or reason our understanding of reality for ourselves we rely on authority to generate the answers. This is important to me because it has influenced me to acknowledge where my beliefs come from and how I created or come to know my beliefs...

Being raised as a believer is as great a challenge as being raised a skeptic. I now know that everything I know is based on a set of beliefs and now it's time for me to navigate the unknowns of my own mind.

Dreams: Most students had no idea that they engaged in at least five periods of dreaming during their regular sleep cycles, nor did they

have any awareness of the contribution of dreams to some of the greatest works of literature, art, and music, and to brilliant technological, medicinal and scientific discoveries. Few remembered their dreams on a regular basis and most had absorbed the Western misconception that dreams were meaningless neural discharges with occasional relevance to their waking lives. As one student said,

We have an entire society of Western people who operate under the biases that dreams aren't real, dreams don't matter, dreams aren't meaningful, and dreams are just neural happenings. So, it makes sense that I never paid any mind to my dreams the way I do now.

But after studying the history and research about dreams, maintaining daily dream journals, and participating in regular dream groups, their beliefs changed profoundly. Many reported that their dreams illuminated parts of themselves that had been hidden, helped them to resolve trauma and grief, and steered them toward more meaningful uses of their lives. They particularly valued having a toolkit of different theoretical perspectives through which to analyze their dreams and were astonished at how taking their dreams seriously stretched their imaginations and coping skills in startling new ways.

Dreams offer us a better way of living with ourselves and the world. I never imagined that my dreams are sources of hope and strength to help me become a better person. Paying attention to my dreams and listening to my unconscious made my waking life more captivating.

I was shocked at the amount of detail I was able to remember when I placed a greater importance on the events happening within my mind.

I am thankful for being able to learn the material we did because it provided me with tools and explanations to some of the dreams that trouble me at certain times in my life.

Dreams have inspired me to take on a different way of life, a way of life that incorporates into my belief system the understanding that I am experiencing this life and on the pursuit of personal growth not just for myself but for the collective consciousness and the well-being of others. I am very grateful that I have been reminded of the other states of reality in which my deeper sense of self and connection with the collective consciousness exists.

By giving dreams attention, I have come to validate and work through deepest worries, past trauma, current relationship issues, past relationship issues, future goals, really every part of my larger self. There seems to be more of a foundation to my life that I can rely on to move forward.

In addition to boosting their sense of wellbeing and efficacy, many students reported that their dreams illuminated complex concepts discussed in class such as entanglement and entrainment. Like meditation, paying attention to their dreams helped them to recognize that there was far more to themselves than they had been taught to believe.

Taking the dreams class felt like the first step in understanding how expansive and vast the mind can be.

I realized that our reality, dreams, meditation, healing, remote viewing, ayahuasca trips, telepathy and everything else we studied all travel on the same frequency – the frequency of awareness. I initially thought we would be plunging into another realm with the study of

dreams, but what I didn't realize was that we were going into the same place that even meditation can take you.

Learning how to lucid dream was the most important thing I learned this quarter...I know this is going to be one of the most powerful self-healing tools I will ever find, my core self...That is my big so what, I finally get to be able to learn about areas of myself that I had no clue actually existed. The reality of this is mind blowing and encourages me to heal as an individual to an extent I didn't know I could actually attend to.

Dreams specifically have given me an outlet to experiment with things that otherwise would be unattainable until a near death experience. The possibilities excite and terrify me at the same time which is why I always continue to move forward...

I am amazed at how much freedom, life, and extended reality lay within me for so long without my knowledge.

Dreams introduced me to the opportunity for a relationship with a part of myself that is universes and universes larger than I had initially believed possible.

At first, reading the miraculous accounts of dreaming up novels, symphonies, and precognitive events I was awestruck. These possibilities could in no way be available to me. However, as this course progressed I realized these accounts were simply the surface layer for the possibilities of dreams. In conjunction with consciousness I realize that dreams provide a gateway into the inner self and allow the individual to follow a path to a clearer mind.

Increased respect and appreciation for the natural world and awareness of humans' ethical responsibilities to the biosphere.

Most of these students live in cities and rarely engaged with the natural world. Although some had pets, most spent far more time on their digital devices than engaging in outdoor activities and most had absorbed the misconception that other species and the biosphere itself lacked consciousness. Learning about the vast array of knowledge, networks, and feelings among "neighboring beings," as one student said, gave them a deeper appreciation for the full extent of physical reality and of the sentience of the natural world. They were immersed in research about animals' capacities to "know when their owners were coming home," their role in helping humans to be physically and emotionally healthier and to survive trauma and grief, their capacity for deep bonds of love and friendship with their own and other species, and their demonstrated ability to communicate non-locally in ways that were superior to humans. For example, after watching a video of Aimee Morgan interacting verbally and telepathically with her parrot, N'Kisi, who had acquired a vocabulary of more than 1000 English words, one student expressed a reaction that was common among students:

I was blown away that an animal has the ability to read minds. How could this be? How come? I was asking myself so many questions and I finally realized what was in the way of me truly digesting these profound experiments as well as one of my biggest learnings. As human beings we believe we are dominant and it's not without evidence...but this is all an illusion that has thrown us into an ego-centric way of life and a selfish lens to view from. We are not on top of the food chain, we are not kings on a throne, and we are no better than

any other living being on this planet. I walked away from that class not only happy with the unknown but humble to be a small piece of it.

Students were also introduced to the cosmologies and healing capabilities of shamans from various cultures around the world, and to research demonstrating the "mindedness" of nature as seen through the abilities of Amazonian Ayahuasceros that defied the constraints of Western biology or psychology. And they were steeped in the ethical insights of the Dalai Lama who encouraged them to become better stewards and citizens of Earth in the face of mounting environmental crises.

This class has taught us how truly alive the natural world is and how it is much more than we have given it credit for. Everything has consciousness. This means that to find inner peace we must be concerned with how our energy, thoughts, and actions can affect not only other human beings but also trees and pets and even bacteria. Everything is connected...

I have come a long way since consciousness one. The way I view the world is much different now, especially the natural world...My biggest so what is that there is so much the natural world can teach us and so much joy in being a part of it that if we do not protect it we will eventually become lost as a species with no way to recover...Humans are constantly worried about equality among different races, religions, genders but they forget about equality among all life.

Principle Question #2: Did students face any challenges when exploring the field of consciousness or feel any reservations about the endeavor?

Studying consciousness from a transdisciplinary and integral perspective is not for the fainthearted. Virtually all students said they put more time and effort into studying consciousness than they had any other subject at university, often to the detriment of their other courses. This was not because the workload was more demanding, although it was certainly rigorous, but because the content was far more challenging intellectually than they had anticipated. As one student said,

The profound implications of subjects such as healing, the power of thoughts, non-local abilities left me utterly tongue-tied. Perhaps the uncomfortable yet necessary struggle was a testament to the power and profound depth of consciousness studies.

Concepts like entanglement, superposition, entrainment, and non-locality as well as anomalous phenomena themselves call into question the veracity of the materialist paradigm and can be extraordinarily difficult to wrap one's waking mind around. Most students had absorbed and accepted the precepts of materialism prior to enrolling in the introductory course and very few said they had thought about these ideas before being introduced to them in Consciousness One (as it came to be called). As they immersed themselves in progressively more complex material, they realized that the "rabbit hole" they had entered was far deeper and more baffling than they had imagined. Many said they enrolled in successive consciousness classes thinking that there was little left to learn, only to find that they were completely wrong. Not only was this disorienting, but their experience was made more difficult by the inadequacy of language to convey the complexity of the concepts and the phenomena under investigation, or to enable them to accurately describe and decipher their own anomalous experiences.

Beginner's Mind and acceptance of the limitations of language and logic became necessary guidelines for navigating the ever-widening enigma of consciousness.

The whole is so vast that it would take a very long time to even get close to understanding all of it.

The implications of consciousness are huge and I'm just beginning to grasp the vastness.

Consciousness studies forces me to think about the universe and its vastness and then to ponder my role in it.

The exploration of consciousness is a deep personal inward journey...The inner points of consciousness are where the illusory nature of the world around us become obvious and dissipate.

Each quarter of consciousness brings a wave of awakening to my own consciousness and brings a new light to a new way that I want to live my life. Throughout the quarter I have learned so much and have really had to wrestle with a lot of complex and reality shattering knowledge.

How is it possible that I could exist as a human being when there are more non-human cells within my body than there are human cells? How can I exist as myself when there is nothing inherently me about me? I am a piece of a fluid system that has been chopped up into countless pieces, each assigned their own name and their own imaginary existence that is separate from previous or later steps of its reality....

Not surprisingly studying consciousness from a transdisciplinary and integral perspective also presented unexpected emotional challenges. Some students likened this to being on

an emotional roller coaster. Despite the excitement and resonance they felt as they navigated the material, every student at some point found him- or herself struggling with beliefs and assumptions which had been invisible until highlighted through feelings of resistance, frustration, fear, and occasionally anger. Tackling the inner conflict these feelings presented whenever they arose took courage, trust, and a willingness to be vulnerable.

Consciousness 1 was magic; consciousness 2 made everything very real, very fast and to the extent where I felt fear I conclude that...it was fear of letting go of what I thought I know to be true. I fear autonomy, I fear the unknown, and I fear myself.

This class made me question almost everything I previously believed was absolute truth (e.g., brain doesn't change). It is somehow both terrifying and comforting to learn that what you believed isn't true.

The dilemma for me is that exploring further would not only mean having to learn of new studies of the mind but the new findings could also distort my own personal assumptions of consciousness...Reading about the dogma of scientific materialism made me aware of being guilty of the same self-limitations.

My whole viewpoint on how I perceive the world around me has shifted more times that I can count. I have experienced so many paradigm shifts in my thinking that the more I know the more I know that I don't know.

Perhaps the most uncomfortable challenge that students faced was trying to discuss the material they were learning with others outside the classroom. This was not an entirely new experience because most had encountered this difficulty during Consciousness One. But as they absorbed and embraced the precepts of the new paradigm, most said they felt saddened, frustrated, and disheartened by the compulsive skepticism and arrogance of those who clung unthinkingly to the materialist mindset, particularly when they encountered this in faculty members whom they had assumed would have more open minds.

Sometimes I think people in general like to not admit or be blind to the fact that in each of us we have this innate power because it is easier to remain powerless and inert...

The more I learn about consciousness the more hopeful I become, but at the same time the more challenging it becomes to deal with the material and conventional world.

We cannot force people or indoctrinate people to learn about consciousness: as a discipline consciousness is one that people need to truly care about before they can learn anything.

Despite these challenges, no student regretted having embarked upon what most considered an extraordinary and invaluable adventure. In one way or another all students felt they had woken up and all were eager both to learn more and to share what they were learning with others.

These concepts promote more positive and thoughtful components to the lives of everyone who engages in them.

We want to learn about the most complex concepts because we all see the profound effects they have on our individual selves as well as those around us.

I believe that the study of consciousness will bring about a new paradigm in which we can

one day heal the ailing world we are a part of. I have come to the realization that everything, including personal growth, isn't just for ourselves.

Discussion

When I undertook the challenge of creating a transdisciplinary and integral minor in consciousness I had no idea whether it would succeed. Would students enroll? Would they see the value in studying consciousness beyond accruing nontraditional science credits toward graduation? Would the minor help to prepare them to take consciousness seriously and inspire them to use this knowledge to address the challenges confronting humanity and the biosphere? Would it boost their sense of optimism and efficacy and help to counteract the nihilism that infected so many of them and their peers? It is clear from the results of this study that the answers to these questions is a resounding "yes."

Earlier research conducted by myself and my undergraduate assistants (Green & Noble, 2010; Noble et al., 2016) found that most students had never questioned the tenets of materialism prior to enrolling in the introductory course, but that all of them had begun to reject those assumptions upon its completion. Those who continued in the minor were eager to explore further but they had no idea how far further would turn out to be. Despite the disorientation all students felt at one point or another as they delved deeper into the mysteries of consciousness, no one was disappointed by what they learned or resented the effort and commitment that the journey entailed. Rather, they universally reported that they felt reinvigorated, and that they regained the sense of wonder and excitement about life that they had as children but had lost as they became mired in the materialist mindset. Virtually all

students said that studying consciousness was the most important and meaningful experience of their undergraduate careers for which they were deeply grateful.

"What kind of mind do you want?" This is the question to which students returned again and again as they worked their way through the material and the question that led them to cherish what they were learning and why. Consciousness mattered to them – and mattered profoundly – for reasons that were intellectual, psychological, and, for many, spiritual.

Most students had enrolled in the introductory consciousness course having little or no understanding of consciousness and most had accepted unquestioningly the precepts of scientific materialism. Athough these precepts were deeply challenged and largely abandoned by the conclusion of that course, ten weeks was hardly sufficient to demonstrate the depth and breadth of the field. In truth, even four or five additional courses could only scratch the surface of consciousness, but they did demonstrate the validity of a transdisciplinary and integral approach, introduce students to a wide range of topics and research, and whet their appetites for more. In addition, students' intellectual understanding of the politics of paradigms and the history of science taught them that science was not comprised of inviolable rules, and that it could and should change as new understandings came into being. They learned that scientific materialism itself is a belief system, and that its ubiquity does not mean that it is true. Students learned to bring constructive skepticism and a Beginner's Mind to everything they were learning, including their own assumptions and beliefs. They learned that they could critically engage with those beliefs rather than accept them unquestioningly, and that by doing so they gained a

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familiarity and mastery over their minds that had previously eluded them.

They also gained important psychological skills. They learned the value of introspection and the importance of mindfulness and meditation, skills that most had never been exposed to prior to studying consciousness. They learned that by training their minds they could change their brains, reduce the impact of depression, stress, and anxiety, and increase their sense of well-being and hope. They learned that by paying attention to their dreams they could turn to themselves for help in navigating personal issues that they were struggling with and to undertake further explorations and experiments in consciousness. They learned the importance of empathy and compassion and that practicing the ethics of virtue, restraint, and compassion was critical to their positive engagement in the world.

They also learned to appreciate and to embrace a new manner of thinking – what I think of and have described elsewhere as spiritual intelligence (Green & Noble, 2010: Noble, 2001). This concept has no theological overor undertones. Rather, it is the conscious recognition that physical reality is embedded within a larger, multidimensional reality, and that the choice to expand our awareness is critical if the human species is to survive and mature. The hallmarks of spiritual intelligence are compassion, empathy, humility, and a willingness to engage deeply with one's own life and with others. They also include the cultivation of inner resources, openness to the richness of one's inner life, and an appreciation for different ways of knowing. Spiritual intelligence requires the ability to tolerate uncertainty and paradox and to accept that the whole is greater than the sum of the parts, no matter how cherished a part might be. It recognizes that we are non-physical beings having a physical existence and that it is critically important that we begin to remember and act upon this awareness.

There is a strong and growing interest among college and university students in exploring spirituality and consciousness in academic settings. Surveys of more than 112,000 first year students at 236 colleges and universities, conducted by Alexander Astin and his colleagues at the University of California, Los Angeles, found "a high level of spiritual engagement and commitment among college students, with more than half placing a high value on 'integrating spirituality' in their lives" (Astin et al., 2004, p. 2). Respondents wanted to investigate the subject and content of spirituality through academic content and endorsed as "essential" or "very important" life goals that included attaining wisdom, becoming a more loving person, improving the human condition, and developing a meaningful philosophy of life. However, "more than half (56%) said that their professors never provide opportunities to discuss the meaning and purpose of life...or encourage discussions of spiritual or religious matters" (p. 6).

Many students who participate in the consciousness courses at UWB have similar goals and most have had extraordinary and anomalous experiences, whether they label these as "spiritual" or not. Many want to better understand and integrate these experiences into their lives but most have said that prior to studying consciousness they had no place to do so because these experiences challenged the orthodoxy of their religious traditions or scientific training. Many echoed the query of one student who asked, "Where else do we get to discuss the meaning of life?" As seen from the results of this research, the transdisciplinary and integral study of consciousness can provide an ideal setting in which to embed this

conversation. It is a platform that can encourage students from diverse backgrounds and perspectives to delve into these issues in an intellectually rigorous way that also encourages them to be self-reflective and insightful. It introduces them to a field of inquiry in which big questions and bigger mysteries cannot be avoided. It offers them an opportunity to share their thoughts, experiences, and confusions about consciousness with professors and peers without fear of recrimination. It points them in the direction of scholars and scientists from whom they can learn more and encourages those who are motivated to do so to contribute professionally to the field. It gives them skills to enhance well-being, restore the sense of wonder and enthusiasm that they experienced as children, quicken their intellectual curiosity, promote wisdom and compassion and enrich their experience of life. And perhaps most importantly, it reminds them "that the universe is not a dead machine but a living presence, that in its essence and tendency it is infinitely good, and that individual existence is continuous beyond what is called death" (Bucke, 1972, p. 79). Given the unprecedented and overwhelming challenges we face on environmental, political, individual and global levels, the study of consciousness can help a new generation to tackle these challenges with greater confidence and success.

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