ARTICLE

On Spirituality
Part 2: Free movement

Michael J. Hogan

Mike Hogan is a lecturer in psychology at the National University of Ireland, Galway. Correspondence regarding this article may be addressed by email to michael.hogan@nuigalway.ie.

The creative is successful; this is beneficial if correct.
I Ching

Self-as-context has a rather strange quality to it because it seems to have no limits… [S]elf as context is the ever present I, HERE, and NOW. It is boundless, timeless, and without finitude…[T]his infinite quality also gives rise to talk of the spiritual, the immaterial, and the incorporeal. The matter/spirit distinction appears to have its source, therefore, in the content/context distinction that emerges as a necessary side effect of language.
Hayes, Barnes-Holmes, & Roche, *Relational Frame Theory*

The development of the logos pole of the mind probably was of extreme importance in the evolution of Western thinking about mind and human nature…Thus, as mythos became differentiated from logos, it also become subordinated to it.
Labouvie-Vief, *Psyche and Eros*

Previously the spiritual was realizable only approximately in the emotional darkness of the magical, in the twilight of the imagination in the mythical, and in the brightness of abstraction in the mental. The mode of realization now manifesting itself assures that … the spiritual is not only given emotionally, imaginatively, abstractly, or conceptually…it is also perceptible concretely as it begins to coalesce with our consciousness.
Gebser, *The Ever Present Origin*

Life is beautiful. This can be demonstrated in each part of the greater whole. Listening to the repeated call of two birds in spring, and the sheer pleasure of dialogue, one is not surprised to see the sun amidst their dip and glide. Something pulls us skyward, against the fullness of gravity, like a flower in the midday sun, into an upright posture, listening, to where we can hear of the people who placed *shen*[1] at the crown of their head. Here we vanish into the sunshine, into the din of voices, being nothing and everything.

Moving forward

We have noted that spirituality memes are omnipresent in modern culture, and we suggested that the process of cultural evolution ensures that people continue to assimilate and modify these ideas, values, and beliefs. We noted that certain categories of spiritual experience – a sense of connectedness, universality, and fulfilment (joy and contentment) that result from personal encounters with a transcendent reality – cannot be judged as either correct or incorrect when considered as pure phenomenal experiences, but that they are, nevertheless, more or less functional when they co-function with problem-solving and decision-making mechanisms. And although the science of spirituality is poorly developed, we called for the development of a metasystems account that coordinates maladaptive *and* adaptive functional relations of religion and spirituality. We also highlighted the challenge of constructing a paradigmatic and cross-paradigmatic explanation of both religion and spirituality, an account that draws upon all the relevant sciences – evolutionary, social, behavioural, and brain sciences – thus providing a balanced, neutral scientific account of system dynamics, illuminating both the substantive and the functional analysis of ideas, values, and beliefs.

Not surprisingly, I have yet to read what I am certain will achieve consensus as regards 'A Neutral Scientific Account of System Dynamics'. Notwithstanding examples of good empirical work on the substantive nature, functional significance, and developmental dynamics of religious and spiritual beliefs [1-3], every explanatory account of religion and spirituality is limited in some important respect – either because it confuses substantive with functional analysis, presents a biased scientific account of systems dynamics, confounds levels of analysis, or simply ignores paradigmatic and cross-paradigmatic explanatory considerations [4-12]. Furthermore, every account is infused with sentiments that influence the content selected for analysis. Even those authors who point the way toward ecumenicity and transcultural applicability in the measurement of spirituality [13] fall terribly short of the mark, somehow getting lost in a conceptual mess[2].

Perhaps our goals are problematic: achieving *Ecumenicity and Transcultural Applicability in the Measurement of Spirituality,* and deriving *A Neutral Scientific Account of System Dynamics*. Why specify the need for paradigmatic and cross-paradigmatic explanations? Why such high ideals? Every philosopher understands that idealism is far removed from pragmatism (and realism), and is not pragmatism the more important philosophical stance here? Change your goal and everything changes. Does this idealism amount to much more than a form of defensiveness, protecting those with a 'complex' understanding of spirituality from those with a 'simple' view? And what are the idealists trying to defend exactly – those who choose to use the word spirituality, those who choose to think about it and consider their actions an expression of it? Is there a single account of moral development, human emotion, or human memory that can reasonably be described as 'A Neutral Scientific Account of System Dynamics'? The realist in me says no [14-17]. The pragmatist in me laughs.

Perhaps fervent idealism in this context reflects a new kind of cultural investment process, a merger of memes: *Spirituality* meets *Western Enlightenment* meets *Systems Science*. As noted in Part 1, ideas and beliefs that pertain to spirituality exist in culture because they are *valued* – there is a motivational and emotional process at play here, a process that co-functions with the rational process [18] – there are evolutionary, ontogenetic, and cultural contingencies that give rise

to and sustain talk of the spiritual, the immaterial, the incorporeal. Rational processes also come in many forms – not all of which draw upon observable evidence to arrive at a 'logical' conclusion – and that which is 'based on reason' is not necessarily 'sensible'. For example, our heavy investment in things mental, immaterial, and spiritual may be partially reducible to an adaptive but over-generalised belief that other people have a perspective, thoughts, goals, and feelings. Our predisposition to take cognizance of the immaterial 'mind' as well as the material environment is an unavoidable by-product of our evolved 'theory of mind' [19]: we come to assume that others have a perspective, thoughts, goals, and feelings, just like we do, because it helps us to function in the interpersonal world [20]. However, by assuming that actors (and *unseen* actors) have thoughts, goals, and feelings, there is potential for us to generalize. Thoughts, goals, and feelings are "seen" everywhere – not only in the world of the living, but in the world of the dead; not only in the concrete world of nature, but in the metaphysical world *living behind* and *causing* all natural creation[3].

And although many people (and the dictionary) distinguish spirituality from spiritualism – our focus here being predominantly on spirituality – outside of the proclamations of orthodox religions, one likely source of the idea that 'people have a spirit' derives from our tendency to think about human action in the absence of an observed actor. Because other human beings with whom we have relationships are only intermittently observable, human relationships often proceed as *offline social events*; we assume that individuals with whom we have relationships are engaged in actions even when we cannot observe them doing so. For this same reason, when someone close to us dies, we may find it difficult to update the list of actors in our social world. Dead people continue to play a role in our offline social cognition. Their spirit lives on.

Notwithstanding the fact than none of us fully understands the evolutionary, ontogenetic, and cultural contingencies that give rise to and sustain talk of the spiritual, perhaps those of us who do represent some obscure merger of memes. Why, for example, would I even bother write about spirituality if I were not affected by certain contingencies, if I myself did not, on some level, value certain conscious experiences and related ideas that pertain to spirituality? And disappointed and all as I am with the conceptual mess I see, is the measured confusion not simply a reflection of the variety of measured thought in relation to spirituality [1, 21]? Am I not simply contributing to the mess? But let's not descend from idealism to cynicism so quickly. Clear thinking and a clear set of goals are needed. Let's now move away from idealism and, after grappling some more with realism, let's move toward pragmatism.

Integrated complexity

Some have argued that a feature common to all spiritual experiences is the aesthetic sense of unity and, by extension, universality [5, 6], whereby spirituality is equated with consciousness itself, and more specifically, the sense of unity granted through awareness of 'the one' interconnected field of experience (I-EVERTHING-ONE). This awareness of 'the one' is expanded and generalized such that there is an experience of universality (I-EVERYTHING-ONE-SAME) and a sense of connection between the individual and the cosmos (I-EVERTHING-ONE-SAME-CONNECTED), an experience that can infuse the individual with a profound sense of fulfillment and reinforce ideas that pertain to meaningful, purposeful existence and a deep attachment to something greater than themselves [3, 7-10]. Related ideas emerge, and people talking about spirituality will sometimes refer to a loving connection to others, self-effacing altruism, blissful transcendence, and religiosity and sacredness [11]. And some people adopt a very deliberate strategy: they *practise* non-referential compassion (I-EVERTHING-ONE-COMPASSION-CONNECTED), projecting a profound feeling of love upon "everything" and "no (specific) thing", and this practice fosters a highly integrated brain electrical state that is correlated with a unified sensory-motor experience [22-24].

In this context, it is not difficult to see how certain values might be derived from simple patterns of relational responding (I-EVERYTHING-ONE-SAME-CONNECTED: "therefore, transcend all differences and behave toward others as you would have them behave toward you"); or I-EVERYTHING-ONE-COMPASSION-CONNECTED: "therefore, love your neighbor as yourself"; and so on. At the same time, the developmental process explaining how people derive these ideas is still poorly understood [25, 26], and it is a mistake to assume that an aesthetic sense of unity, an experience of 'the one', is the starting point for the emergence of a spiritual consciousness structure [27]. It is also a mistake to assume that common in people's definitions of spirituality is the idea of integrating one's values with one's behaviour in daily life [1]. (A person experiencing I-EVERTHING-ONE-COMPASSION-CONNECTED can generate a rule that is rarely applied outside of the context where the rule was generated, and thus the definition of spirituality this person constructs has no *applied* component: it is a belief or a set of beliefs without an application.)

The ontogenesis of any given spiritual consciousness structure may be uncertain, but the cultural process of abstracting spirituality from consciousness itself – and the subsequent cultural evolution of various potent relational frames now operative in the verbal community – is deeply rooted in philosophy, for example, Spinoza's philosophy [28]. The process of abstraction is also partially responsible for the historical intellectual split between Theism, Deism, Pantheism, Agnosticism, and Atheism and the correlated and emerging distinctions between Religiosity and Spirituality [13-15].

And long before the Western Enlightenment and the great battle between philosophy, science, and orthodox religions, the coalescence of language with consciousness created conditions that were ideal for the emergence of spirituality as a core concept in culture. For example, on a very fundamental level of abstraction, Hayes, Barnes-Holmes, and Roche [16] point to a linguistic basis for spirituality as a core concept, a concept that has existed in culture for thousands of years. They note that all psychological experiences occur from the perspective "I" located "HERE" and "NOW". This perspective they label "self-as-context" as opposed to "self-as-content". For example, I may remember what I did yesterday or 10 years ago, or I may imagine what it would be like to be Bruce Lee, but all these events will be

viewed from the ever present I, HERE, and NOW, and even if nothing about my physical nature, my thoughts, and my emotions are the same from one moment to the next, my viewing of this changing reality is always from I, HERE, and NOW. In this sense, self-as-context has no physical limits – it is experienced as boundless, timeless, and without finitude, and it appears to exist independently of one's body, thoughts, and emotions. This independent, infinite quality also gives rise to talk of the spiritual, the immaterial, and the incorporeal.

Specifically, because self-as-context is only experienceable in its effects, not as a thing or object *per se* – it is, instead, the aspect in which things are held – it thus fits the dictionary definition of "spirit" reasonably well: *that which pertains to the immaterial and that which has no extant reality*. In other words, much like "spirit", self-as-context has no stable edges or limits: it is "no thing". This view coheres well with the Eastern tradition of thinking about spirituality, which points to the philosophical and practical implications of being "nothing" [13, 29, 30].

Ultimately, Hayes and colleagues suggest that the matter/spirit distinction has its source in the content/context distinction that emerges as a necessary side effect of language. They also suggest that a sense of transcendence emerges when evaluations located I, HERE, and NOW are repeatedly discriminated as evaluations, thus acquiring the relational functions I, THERE, and THEN. For example, "normal" perceptions of reality can be undermined and a sense of transcendence (and tranquility) can occur during mindfulness meditation, because dispassionate observation of spontaneous thoughts and the repeated, deliberate switch of perspective from I, HERE, and NOW to I, THERE, and THEN weakens the psychological functions of evaluations linked to every passing thought. Psychologists have sought to train people to switch perspective in this way, weakening verbal control and fostering a functional transcendence of sorts, for example, in the context of training 'acceptance' in chronic pain patients [31].

Hayes and colleagues also describe how some of the characteristics of a metaphysical God – The One, Unchangeable, Omnipresent, Love (with love defined as "absolute acceptance") – are a logical extension of the personal experience of I, HERE, and NOW, which is experienced as a unified, undivided, limitless perspective that, by its very nature, is accepting of all "things", all conscious contents. And, again, in the sense that I, HERE, and NOW is "no thing", it fits well with the Eastern view of God as everything/nothing.

On one level, this account offers a relatively simple explanation for characteristic spiritual experiences – a sense of connectedness, universality, and fulfilment (joy and contentment) that result from personal encounters with a transcendent reality. However, some psychologists might find it difficult to accept that "spirituality" should simply be allowed to co-opt language and consciousness in this way and thus range so freely across time and space in an effort to bolster its existence. And this belief might itself be associated with a concern that the concepts and measures generated will somehow represent a "religification" of already established psychological variables [32]. Nevertheless, if such is the nature of relational responding, if such is the way language functions, if such is the nature of the conscious experience generated, then why not choose to be pragmatic (like the language users we study) and why not assume that psychological science will contribute to our understanding of spirituality if it pursues this line of inquiry?

But, again, other systems thinkers might complain: is this analysis of spirituality not somewhat unique to Hayes and colleagues? Does it serve as a good starting point for the construction of a metasystems, paradigmatic, and cross-paradigmatic account that coordinates maladaptive *and* adaptive functional relations of religion and spirituality [2, 33, 34]? Beyond their play on the idea that spirituality is derived from "self-as-context", will Hayes and other functional contextualists generate any new empirical work that helps us to understand the kind of spirituality that people themselves actually possess, and not the kind predefined or hoped for by academics? Further, will functional contextualists help us to synthesise the functional relations they observe with those presented to us by the other sciences – the evolutionary, social, and brain sciences?

Notably, functional contextualists will not necessarily be concerned with this systems view, outside of the way it functions as a perspective for people in different situations. And function for people it may. For example, for those who wish to merge their science with their spirituality, and for those who gravitate toward realism and more complex patterns of relational framing, any simple-minded unity or universality – a by-product of simple-minded relational framing – may, after a time, after a characteristic epiphany [35, 36], irritate their deeper aesthetic sensibilities. For the average realist, two *attractors* occupy the spirituality *state space* [18] – and there are two ways thinking can go – one attractor is defined by reference to the aesthetic UNITY-SIMPLICITY-BEAUTY, and another is defined by reference to the aesthetic DIVERSITY-COMPLEXITY-BEAUTY. (The latter is the more common aesthetic for the 'systems thinker', many of whom are simply confused by complexity but somehow still like it [37].) And because aesthetics will influence sentiments, and because sentiments shape our formal logic [4, 5], it is understandable why some scientists find it difficult to secure a scientifically-minded spiritual enlightenment, particularly those who get lost in complexity or those who try too hard to retain their 'balance' by choosing to sit in the centre of the state space and swivel in their swivel chair. In truth, regardless of one's focus of inquiry – spirituality, moral development, human emotion – the same pair of aesthetics will tend to compete for prominence, and the pragmatist in us usually resolves any conflict they experience in this context by selecting a goal. Eventually, we all stand up and move in one direction or another. And, using another metaphor, an electrical transmission metaphor, the challenge for the autonomous thinker – *to move and think clearly in the field of others* – can be translated thus: discover a clear, coherent, and functional *signal* that fosters free, efficient, effective movement within the *noise* generated by modern culture.

Part of what culture tells us is this: the scientific thinker *must* master the art of taking *many* functional relations and placing them into *one* clear, coherent, and functional theory. And when culture comes to describe the characteristics

of *quality thinking* in this context, one belief is that a quality thinker will display the characteristics of "integrated complexity" [38]. In the context of environmental and culture complexity, the alternatives to "integrated complexity" do not appear to be aesthetically pleasing. First, complexity without integration is non-functional: a theory lacking internal consistency will fail to explain, predict, and control functional relations [39-41]. Second, unity (or integration) without sufficient complexity is non-functional: a conscious state that impedes the ability to discriminate does not facilitate survival [39, 42][4].

However, in light of our goal to discover a clear, coherent, and functional 'signal' or 'state space' that fosters free, efficient, effective movement, we also need to be pragmatic. In practical terms, we can experience the unity of the universe, of life, of self, and of knowledge and *many* of the subtle distinctions that differentiate the parts within the whole, but in reality we must also accept that *any* scientific account of *any* phenomenon is limited by the number of parts within the whole that we consider [5]. We cannot reduce *all* the facts and relations of the universe to system. And because everything in the universe is connected, complexity can always be increased by inclusion of more aspects of the system, but this isn't always useful. As such, we must proceed with the assumption that there is unity without consiliance [43], and that "integrated complexity" is an ideal, a matter of degree and scale, not an absolute.

There are many "varieties of religious experience" [36], some of which are not bound to an orthodox religious belief system *per se* – some of which may reflect functional dynamics linked to sustained application of relatively simple patterns of relational thinking not unlike those mentioned above: I, HERE, and NOW [29]. And although diversity of religious and spiritual experience is accepted by many modern thinkers, the reaction to diversity has varied considerably – no thinker has yet mastered the art of taking all the many functional relations and placing them into one clear, coherent, and functional theory, and many thinkers appear to think they know what they think before they even start thinking [44].

Thinking and nothingness

The evolution from non-living to living systems has brought with it something new, something *without which* we could not understand, but *of which* we understand relatively little – an enigma of awareness: consciousness. With the evolution of consciousness we have witnessed the slow birth of insight and outsight [45]. *Insight* looks to consciousness, and sees what wisdom, enlightenment, and skill can be found from mastering the contents of consciousness; *outsight* looks to the system – to reduce the facts and relations of the universe to system – and sees what wisdom, enlightenment, and skill can be found from mastering the system [46].

Physics, chemistry, and biology represent significant achievements of outsight. The merits of psychological science are less certain: it often grapples to understand unseen processes – motivation, emotion, cognition – by measuring the behaviour and physiological state of the developing person. Naturally, all science has its roots in phenomenology – in what human experience allows us to observe, measure, analyse, synthesise – but only philosophy and psychology attempt to study phenomenology directly, and only psychological science attempts to build an understanding of insight in the field of outsight. And when it comes to "spirituality" we may well wonder: what will be the effect of our scientific understanding of spirituality on human consciousness, human behaviour and human social functioning[5]? Regardless of our focus of scientific inquiry, we cannot simply assume that the wisdom, enlightenment, and skill made available to us by reducing the facts and relations of the universe to system necessarily leads to mastery over the contents of consciousness. A focus on consciousness itself is necessary.

Seán Ó Nualláin makes a similar point when he proposes a distinction be made between inner and outer empiricism [47]:

"*Consciousness studies and cognitive science are two distinct, if overlapping areas. Cognitive science studies that aspect of mind which can be informationally described; consciousness studies attempts also to provide a framework that can do justice to phenomenal experience.*" (p. 32)

Fundamentally, the distinction is an epistemological one: inner and outer empiricism, or subjectivity versus objectivity, have to do with different ways of knowing and experiencing the world. And although it is philosophically defensible to state that a first person account of conscious experience is not necessary to explain consciousness [48], much like it is philosophically defensible to state that a description of mental processes is not necessary to explain human behaviour [49], few of us out walking the streets would deny our phenomenal experience, or the impression that manipulating phenomenal experience somehow allows us a measure of control over our action state [50]. And although some psychologists describe phenomenal experience as a computational mystery and thus engage little with the problem [42], others have attempted to synthesise what it is we currently know in an effort to explain consciousness [51].

However, upon reading the modern synthesis, we soon recognise that it is not a synthesis of inner and outer empiricism at all: the two ways of knowing consciousness are rarely given equal treatment in the same text. Nevertheless, if a collection of active minds are to work together to construct an account of consciousness that does justice to brain science, phenomenal experience, and human behavioural dynamics, then the perspectives and intentions of each participant in the dialogue needs to be considered by the group [52]. This is a fundamental tenet of systems science.

Ó Nualláin's position is interesting and worth analysing in this context, because his point of entry into consciousness studies involves directing our attention to the consciousness behind the content of consciousness, and the link with religion is explicit. He writes:

" '... it is the practical work of religion to make it possible for natural man truly to experience his own nothingness, his own lack of being' (Needleman, 1982a, p. 36)... This experience is the first step on the royal road to consciousness... The distinction between the content of consciousness and consciousness itself becomes paramount here... The only justification for the existence of a science of consciousness is the existence of a distinction between its contents,

the subject matter of cognitive science, and consciousness itself... The imperative is to distinguish the experience from the content of experience. Why do this? Essentially, because like techniques in conventional science, it leads us to ever more valuable insights. What's being argued, then, is that inner empiricism is a discipline, a 'science', and that it has been practiced with great sophistication in the past. The results of these explorations are codified in religious traditions..." (p. 32 – 34)

Ó Nualláin's reasons for drawing this distinction between the content of consciousness and consciousness itself (starting with the experience of "nothingness") are made clearer on p. 35.

"More specifically, we wish to investigate the possibility of creating a science of consciousness that can do justice to the myriad findings emerging from neuroscience and the cognitive sciences on one hand, and the knowledge carried by the religious traditions on the other. We ultimately wish to confront an even more awesome question: how can I use the findings of outer empiricism and the exercises of inner empiricism to be more fully myself?"

On the one hand, Ó Nualláin is clearly calling for a constructive dialogue between inner and outer empiricism. Part of what he is hoping for is a "*union in which...absolute objectivity and absolute subjectivity are again one absoluteness"* (p. 38). However, because the facts and relations of cognitive neuroscience are ignored in his piece, and because he hopes the findings of outer empiricism will allow him to become more fully himself, the reader is left with the impression that Ó Nualláin is willing to sacrifice absolute objectivity in an effort to elevate the status of subjectivity (or inner empiricism) in consciousness studies. The following passage illustrates the problem:

"For the Advaitin, consciousness is the fundamental reality. It is the wave function just before breakdown, or the observer just before consciousness, which are the same thing. It is spread throughout the entire universe, and contains infinite possibilities. What we know as the world, and the events of our lives, are mere superimpositions on it. The metaphor Ramana Maharshi uses is that of the blank cinema screen, which remains the same as the movie is projected on it. In meditation in a correct setting, this reality is allowed reoccupy those parts of the psyche from which the ego customarily bars it. Ultimately, there is no distinction between subject and object." (p. 37)

While this is a good example of metaphorical thinking, we are soon asked to consider the metaphor more deeply and, more specifically, consider the relationship between experimental observations made by quantum physicists and the subjective experience (and metaphors) of those who practise meditation.

"The square of the modulus of the wave function at any point represents the probability that the particle is (found) at that point once an observation is performed. However, before observation, the particle is, as it were, smeared all over the cosmos, containing infinite potential for any measurable property. For example, we might decide to measure its momentum property, rather than position. Lucille's major insight is that this pre-observation state of the particle is identical with what Advaitins call consciousness. Moreover, this state is identical with the state of the observer just prior to observation....The idea central to Vedanta, that Atman and Brahman are one, finds a correlate at the physical level." (p. 38)

Up to this point, up to the point when ontological questions are addressed, the distinction between the contents of consciousness and consciousness itself is not unlike the distinction between "self-as-content" and "self-as-context" made by Hayes and colleagues. Switching perspective from I, HERE, and NOW, to I, THERE, and THEN, we can readily distinguish "*experience from the content of experience",* and we can understand how a person might also derive the idea that self-as-context (or consciousness itself) "*is spread throughout the entire universe, and contains infinite possibilities".* But to say that the *idea* corresponding to the *state* described by Advaitins finds a correlate at the physical level is misleading, and it is at this point that the dialogue between inner and outer empiricism might start to run into difficulties (see Rose, 2006, for an excellent critique of theories that jump from quantum levels of analysis to psychological levels without consideration of the levels in between).

When we consider ontological levels applicable to models of human consciousness (as described by scientific disciplines: physics, chemistry, biology, psychology, sociology, ecology, and so on) we might assume that when Ó Nualláin talks about content empty consciousness as a 'thing' he is suggesting that it can be found at the psychological level and that it is functionally linked to mechanisms operating at the biological (neural) level. But he is not explicit in this regard; he bypasses biology and chemistry and jumps directly to physics in an effort to support his metaphors.

More generally, Ó Nualláin believes there will be a "Copernican" revolution soon after "a substrate of subjectivity is posited as existing independently of the contents of consciousness" (p. 36). In positing a substrate of subjectivity independent of the contents of consciousness, Ó Nualláin follows a long tradition deeply rooted in mythical, religious, and esoteric schools of belief and practice, and he is aware of this tradition. However, his attitude toward scientific modes of thinking (as applied to the study of consciousness) appears biased and simplistic. For example, by assuming that the scientific study of consciousness has focused solely on studying the 'contents of consciousness', he fails to recognise that modern cognitive neuroscience also attempts to answer the question: how do different brain states correlate with (or cause) different *states* of consciousness, including the "nothingness" state experienced by those in deep meditation [23, 53][6].

Although the experience of nothingness amounts to a deeply spiritual experience for some people, the problem of moving from a "nothingness" state to a description of the state has long been recognised. The opening lines in some translations of Tao Te Ching run as follows: *Those who know do not speak; those who speak do not know* [54]. If one assumes there is no content to consciousness when in the "nothingness" state, one might also assume (like a stubborn Zen master) that there is nothing to talk about, or that it is better not to talk about 'it' because talk about it introduces content, which conflicts with the idea that it is the 'content empty consciousness behind the

content of consciousness'. This is not to say that dialogue between inner or outer empiricism is impossible in this context, only that some members of the inner empiricism camp who advocate exploration of the content empty consciousness behind the content of consciousness might not see the purpose of dialogue with the external empiricists, and *vice versa*.

Dialogue bridging the two camps requires a specific focus that will help everyone develop understanding. One example is the ongoing work by Davidson and colleagues, who study the brain and immune system functioning of people who have developed a very high level of skill in the practice of meditation [55]. This research is of great interest to the Dalai Lama, who visits Davidson to engage in dialogue about research findings. Having said that, some neuroscientists object to the Dalai Lama presenting at neuroscience conferences, because he is a religious leader and not a neuroscientist [56]. This suggests that the dialogue between inner and outer empiricism will be contentious if it mixes religion with science. It is possible that a more acceptable merger of inner and outer empiricism will be observed when there emerges a critical mass of people with both a deep understanding of phenomenology and cognitive neuroscience [57].

By communicating findings with clarity to the scientific community, outer empiricists might facilitate greater understanding and acceptance of practices designed to activate various esoteric (or non-normative) states of consciousness. If, for example, through careful analysis, outer empiricists report previously unknown benefits associated with both tapping into the "nothingness" state and, later, deriving a functional spirituality not unlike the one Hayes and colleagues talk about [26], then the scientific community can clearly evaluate these findings and use this research as the foundation for further analysis. The alternative (i.e., doing no analysis of transcendental states and different functional models of spirituality) leaves the population open to a barrage of magical and mythical beliefs, thus reinforcing the idea that we are not interested in establishing the truth [58].

There is already a substantial body of research in this area that offers us ample scope for testing of novel hypotheses. For example, the research by Richard Davidson and colleagues suggests that deep meditative states (of non-referential compassion) can induce high levels of gamma wave synchronization in the brain. Gamma is a frequency associated with the binding of *gestalts* and the integration of distal brain networks during learning [59, 60]. Thus, the path of inner empiricism, if it is successful in generating heightened gamma power brain states, may facilitate increased cognitive power. But we have to be careful to distinguish different states of consciousness being analysed by different researchers; we have to appreciate that there are potentially many layers of consciousness that separate ordinary waking states from "nothingness" [29].

In the next section, I draw out the distinction between "mindfulness", "nothingness", and "no-mind". I also introduce a brief functional account of spirituality as *transcendence-in-action*. Consistent with the analysis of Hayes and colleagues, I suggest that one function of transcendence-in-action is to weaken verbal control. A related function, when *transcendence-in-action* is applied to the language of others, is to penetrate conceptual and abstract systems and thus enhance awareness of the function of language itself. Consistent with Austin [29], I propose that the practice of meditation also fosters increased intensity of awareness that can lead eventually to awareness of "no thoughts", and given a certain context (e.g. sitting in front of a white wall with no visible edges and no objects in sight), representations of the body can eventually be negated and "no body" transcendental states arise (e.g., the experience of "being white light"). From here, from moments of "nothingness", intention is re-experienced with greater intensity (i.e., as it "floods the field of nothingness"); intention as it re-enters is also understood in a new light – in light of its function – and a sense of calm, focus, freedom and intentional power and control is magnified. With further practice and application, *transcendence-in-action* can manifest both in physical and mental movements that are increasingly complex – and possibly as a consequence of increased power and coherence of electrical signalling in the brain-body matrix [23], the sense is that these movements are enhanced beyond anything previously experienced.

Derivation of the idea "I-ONE-FREE MOVEMENT" arises as a consequence of attempts to label the experience of "pure intention in a field of nothingness". Consistent with Hayes and colleagues, the word "spirit" is used as a synonym for the limitless field (or state space) within which "FREE MOVEMENT" is generated, and the word "spirituality" is used to refer to actions enacted in this field. Spirituality "grows" as a consequence of skills generated and inferences abstracted during the practice of actions in this field. Spirituality becomes increasingly attached to other concepts as the set of derived relations expands. A new perspective on "ultimate reality" can be generated in this way, by reference to the newfound ability to "see from a point below the contents of consciousness", and a "path" of spiritual development unfolds that seeks to establish an increasingly coherent and integrated set of relations between the field of spiritual experience and other "normal" experiences. If the merger is successful, a new kind of "normal" experience is eventually derived, and this amounts to a new stage of human development [61]. This developmental process includes an emerging understanding of values-in-action by reference to transcendence-in-action. There also emerges a balance between subjective and objective worldviews. And, in its fullest sense, the developmental process leads eventually to the merger of a functional mindfulness/nothingness/no-mind/spirituality with *logos* (the exercise of rationality) and *mythos* (freedom of imagination and depth of human feeling). This series of mergers leads to pragmatism. "Spirituality" vanishes from use when it becomes the field of perception that permeates every action [27].

Mindfulness, nothingness, and no-mind

Following Austin (2000), we can highlight a number of levels (or states) of consciousness that bridge the connection between "mindfulness" [62] and "no-mind". In the process we will arrive at a fuller understanding of how inner empiricists who practise meditation describe different states of consciousness.

Bishop and colleagues describe

mindfulness "*as a kind of nonelaborative, nonjudgmental, present-centered awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is.... Mindfulness begins by bringing awareness to current experience—observing and attending to the changing field of thoughts, feelings, and sensations from moment to moment—by regulating the focus of attention. This leads to a feeling of being very alert to what is occurring in the here-and-now. It is often described as a feeling of being fully present and alive in the moment*". (p. 232)

Central to mindfulness is direct experience of events in the mind and body. Bishop and colleagues note that thoughts that arise during the practice of mindfulness are not suppressed – all events linked to mind-body experience are considered an object of observation, not a distraction. At the same time, secondary elaborative processing of the thoughts, feelings, and sensations is inhibited. Inhibiting secondary elaborative processing frees up cognitive resources, and because these cognitive resources are directed toward the open experience of ongoing events in the mind and body, an attitude of curiosity and acceptance is established in relation to the stream of conscious experience. Acceptance involves being "open to" or "allowing" current thoughts, feelings, and sensations [63].

Bishop et al. distinguish their definition of mindfulness from other definitions [64] which emphasise an explicit focus on external (environmental) stimuli rather than the variety of thoughts, feelings, and sensations that arise when attempting to focus, for example, on the breath. And notably, in describing what he calls shallower meditative modes, Austin (2000) argues practitioners do not necessarily distinguish external from internal focus. In other words, the first stage of meditation may involve a mode of mindfulness where recurrent thoughts and sensations are linked to both external and internal stimuli. It is only when the practitioner moves to a deeper meditative mode that they can truly choose whether or not they will focus selectively on external or internal stimuli. Furthermore, at the deeper level, Austin points to a movement from transient thoughts and sensations linked to the focus of attention (be it internal or external) to "no thoughts" (p. 300).

It is this capacity for no thoughts that is essential to the experience of "nothingness" as distinct from "mindfulness", and consistent with Ó Nualláin's point of entry into consciousness studies, Austin's scheme highlights how different types of "nothingness" experience act as important steps on the royal road to "no-mind" (see below).

Specifically, Austin (2000) notes that states of consciousness during meditation differ by reference to the intensity of awareness the practitioner can attain, maintain, and use, with higher intensity states allowing for deeper levels of experience, at least until a final stage is arrived at where a very high intensity state of awareness is no longer needed to maintain a stable, trait-like type of awareness that is unbounded.

For example, during the early stages of practice, as intensity of awareness increases from moderate to maximal, practitioners of meditation report significant changes in the experience of 1) a bounded self, 2) a sense of time and place, 3) sensate perceptions registered, 4) positive affect, and 5) detachments from cravings/aversions. Austin describes a moderately advanced state called "absorption with sensate loss: internal absorption" (p. 302), where there is temporary awareness of awareness itself permeated by silent space. In this state, which characteristically lasts from seconds to minutes, there is no bounded self experienced, no sense of time or place, and no sensate perceptions registered. Levels of positive affect are high and are retrospectively described using words like "enchantment", "bliss", "rapture", and so on. Importantly, this state of consciousness is the 5th level in Austin's 8-level scheme, which transitions from shallow states of meditation (level 1), through internal absorption (level 5), and on through to the "stage of ongoing enlightened traits" (level 8).

While it is conceivable for us to use the term "nothingness" as a summary term to describe Austin's 5th level ("absorption with sensate loss: internal absorption"), there is a higher-level state that is a *fuller* type of "nothingness". Specifically, after internal absorption (level 5) has been experienced, the practitioner can focus attention again on external stimuli and, with a maximal intensity of awareness, experience a sense of oneness with *external* stimuli. At this level (level 6: "Insight-Wisdom", p. 303) there is no bounded self experienced, no sense of time or place, but *maximal* sensate perceptions registered[7]. This state of consciousness comes before the state of "Ultimate Being" (level 7, p. 303), which is the fuller type of "nothingness" mentioned above. According to Austin, "Ultimate Being" involves the experience of emptiness with a maximal intensity of awareness linked to no bounded self, no sense of time or place, no sensate perceptions, and an inexpressible emotional experience. Austin uses the footnote description "pure being, beyond subject and object" (p. 303).

Notably, "Ultimate Being" is a state of consciousness that is sustained for seconds to minutes at best. In other words, "nothingness" (both at level 5 and at level 7) is not long retained and, ultimately, it is a non-functional state (in the sense that it is not linked to any adaptive goals)[8]: it is a state that one must 'let happen' and then 'let be' [35].

Having experienced these states of consciousness the practitioner can move to the final stage in Austin's scheme, "The Stage of Ongoing Enlightened Traits". The unique aspects of this state are 1) it is ongoing, and thus better described as a trait rather than a state[9], 2) it is linked to a moderate (rather than maximal) intensity of awareness and thus can better sustain itself alongside an unbounded external and internal awareness, 3) it allows for free access to an unbounded sense of self, and 4) it is "so in the flow of events that positive things happen with the lightest touch" (p. 303).

We can also use the term "no-mind" to refer to this final state. No-mind is a new *normal* (and thus *trait-like*) state of consciousness that is experienced after level 7 states have been repeatedly experienced for a sufficient period of time to allow for new automatic patterns of sensorimotor experience to be consolidated in the brain, thus acting as a relatively stable background state during the pursuit of day-to-day goals.

No-mind can also be described as *transcendence-in-action*: it amounts to a skill (the maintenance of a transcendental state undergirding goal pursuit) that is slowly transferred to multiple other skill domains [66]. In the sense that

it is derived via mindfulness, the weakening of verbal control is a necessary part of skill development, as is the exercise of an increasing intensity of awareness, with higher intensity states allowing for deeper levels of experience that can, for example, penetrate and negate body representations. When intention enters the field of "nothingness" – and it always does, "nothingness" itself being a fragile state – it is experienced with great intensity, and an inference readily generated is that "intention is the source of great power", an inference not inconsistent with the idea that, in the context of meditation, the switch from "no-intention" to "intention" corresponds to a relative increase in high frequency (15 – 25 Hz) electrical brain power [23]. An increase in power and stability of the "nothingness" state–a function of practice–reinforces the sense of calm, focus, freedom and intentional power and control that is experienced when in the no-mind state. Eventually, the no-mind state itself dominates and the practice of nothingness is less necessary. With explicit practice and application, transcendence-in-action (no-mind) will manifest in physical and mental movements that are increasingly complex.

Although longitudinal studies are unavailable, I estimate that 8 to 10 years of practice, mixing sitting and moving meditation and repeatedly experiencing level 7 states in the later years while also testing the consequences associated with the pursuit of different goals *in and around the state,* is sufficient to entrain no-mind as a relatively stable background state during the pursuit of most day-to-day goals [35]. This view is consistent with the body of literature suggesting that the development of expertise in many domains of skill (music, sport, academia, chess, and so on) takes approximately 10 years of intense practice [67]. Regular practice is needed to maintain certain applications, particularly those that involve a merger of no-mind with intense physical exertion/pain, extremely complex or difficult physical/mental skills, or noxious stimulation [68]. Also, because no-mind is associated with a movement toward unbounded external and internal awareness[10] and free access to an unbounded sense of self, it can be usefully applied to the pursuit of any goal conceived of. Ultimately, this process of moving toward "no-mind" involves acting as an inner empiricist, following the age-old tradition of practising meditation and allowing for the growth of an increasing intensity of awareness, such that one can move through levels of consciousness and stabilise at a new level of dynamic equilibrium.

At the same time, the path outlined above can have a profound effect on one's thinking about self, other, and world. For example, derivation of the idea "I-ONE-FREE MOVEMENT" arises as a consequence of early attempts to label the experience of "pure intention in a field of nothingness". As soon as one idea is generated as a consequence of intention re-entering nothingness, a whole new process of abstraction and derived relational responding begins. It is from here that the concept "spirituality" arises.

Spirituality

Consistent with Hayes and colleagues, the word "spirit" can be used as a synonym for the limitless field (or unbounded *state space*) within which "FREE MOVEMENT" is generated. Spirit is the "no-thing" that permeates *everything*, it being derived in this context from the *conscious state* under-girding goal pursuit, thus *ever-present* when in the conscious state[11]. Other ideas can be derived, for example, the idea that "finding spirit" leads to the "discovery of freedom", and philosophically, by pointing to the metaphysical, the "spirit" concept can become an implicit/explicit part of a "transcendental idealism" [69]. Ultimately, the new process of abstraction and the concept (spirit) itself can play a defining role in the constructions of one's worldview [70].

However, more critical in this context, that is, for the pragmatist, in the context of "intention", "action", and "skill development", is the word "spirituality", which is used to refer to actions enacted in this field of "free movement". Here, in the path outlined above, "spirit" becomes more than a *simple*[12] abstraction – it possesses unique functional significance. And much like other lines of skill development [66], spirituality "grows" as a consequence of both the skills generated and the *inferences*[13] abstracted during the practice of actions in this field [61]. This developmental process has no pre-defined end or "upper-limit", and it can include, amongst other things, an emerging understanding of values-in-action [14,71] by reference to transcendence-in-action. Also, in the context of abstraction and inference generation, a new merger of logos (the exercise of rationality) and mythos (freedom of imagination and depth of human feeling) can be created [72], where both styles of thinking, the rational and the intuitive [73], are viewed as part of general symbol processing activity, which is appreciated and understood more fully by reference to no-mind, and which offers the thinker a field of awareness both broader and deeper than the field of abstraction and inference itself.

"Spirituality" vanishes from use when it becomes a mode of perception that permeates action [27].

Endnotes

[1] Spirit.

[2] Although Ho and Ho make the following pronouncement in the absence of any empirical evidence, consider the following quote as an example of something other – a conceptual mess – and note in particular the various assumptions made: "Spirituality lies at the core of a person's value system. It belongs to the domain of supraordinate or cardinal values underlying all aspects of life. A cardinal value may be conceived as a metavalue, that is, a value of values. We may illustrate this idea with the following statements, each of which expresses a metavalue: "I hold the defense of liberty as supreme in my scale of political values," "Spiritual fulfillment is more important to me than sensual or material gratification," and "Nothing is more valuable than human life." It may be seen that each statement asserts a priority among different values. As a transcendent value, spirituality defines one's relationships with oneself, others, humanity, society, nature, cosmos, and (to believers) the divine, God, or Ultimate Reality. (Thinking about these relationships does not necessarily qualify as spirituality; only when the thinking entails the core of one's value system does it qualify.) Viewed in this light, spirituality is the wellspring from which selfhood and identity grow into maturity; it guides the formation of worldviews; it confers meaning and adds color to life". (p. 69)

[3] In some cultures the tendency to project thoughts onto unseen actors does not occur. For example, the Pirahã tend to focus only on what can be directly observed. Thus, when a family member rounds the path and vanishes into the Amazon they say, 'They have gone out of experience'. There is no reference made to the perspective of unseen actors and there are no stories in their culture used to describe the creation of the

world, or any metaphysical beings that 'live' in the world. However, language use in most cultures is more complex, in the sense that the language itself fosters the development of abstract thinking. Neither science nor religion would be possible in the absence of this linguistic tendency. For example, the Pirahã have little or no concept of number, nor do they have any art, nor do they engage in any kind of forward planning, such as storing food in advance of predicted shortages. [See Everett, D. L., 2005]. Cultural Constraints on Grammar and Cognition in Piraha: Another Look at the Design Features of Human Language. *Current Anthropology* 46(4): 621-634).

[4] Heinz Werner characterises unity without sufficient complexity as "globality", a non-functional cognitive-emotional profile in light of any requirement to adapt to subtle variations in a complex, changeable environment. Gisela Labouvie-Vief describes a correlated personality profile called "the self-protective personality structure", which describes a person who protects themselves from ambiguity, complexity, and doubt. The person who possesses the more adaptive personality profile called "integrated complexity" demonstrates both coherence and complexity in their self-schema and they do not suffer as much negative emotion as the self-protective type when operating in an environmental field dominated by ambiguity, complexity, and doubt.

[5] Notably, Hayes and colleagues point to one functional correlate of their conceptualization of spirituality: transcendence implies the ability to shift perspective and thus weaken verbal control – that is, when necessary, the person has the ability to weaken the analytical and evaluative functions that characterize most human verbal behaviour. Hayes and colleagues also suggest that there is a desperate need for a type of 'spirituality' that will allow our behaviour to come under more effective control by the *direct* contingencies.

[6] A proposed relation between brain state and states of consciousness does not imply a one-to-one correspondence, such that certain brain states always correspond to certain states of consciousness (see Rose, 2006, for a critique of this idea). A more realistic view given our current understanding of brain systems is the homoncular functionalist view, which assumes that different states of consciousness emerge from different functional states regulated by multilevel hierarchically organized brain systems.

[7] This is similar to the state Gebser refers to when he works to define his 4-dimensional spiritual consciousness structure, one critical aspect of which is the idea that the *spiritual is not only given emotionally, imaginatively, abstractly, or conceptually…it is also perceptible concretely as it begins to coalesce with our consciousness.*

[8] The final drawing in the Zen oxherding drawings is the drawing of a man greeting another man on a woodland path. It is sometimes called 'Return to the World'. It is necessary to return to the world after "nothingness" has been experienced such that everyday goals can be pursued.

[9] Austin asks: what could explain this staying power? And he answers: "Ultimately, it could reflect the stability of a whole new simplified neurophysiological baseline" (p. 309). Consistent with Bishop et al.'s (2004) view that mindfulness is a *mode* or "the manner in which a thing is done…a psychological process…a skill that can be developed with practice" (p. 234), I assume that consistently accessing level 7 states will reconfigure and make automatic patterns of sensorimotor experience that are instantiated in the neocerebellum and the frontal cortex (Hogan, 2004), thus altering the nature of goal pursuit behaviour considerably, that is, outside of level 7 states and inside of normal day-to-day states of consciousness. At the same time, having experienced level 7 states consistently for a time, normal day-to-day states of consciousness are readily connected to an unbounded external and internal awareness. But regular practice of meditation (or Taijiquan) is needed to maintain automaticity.

[10] I am uncertain of Austin's (2000) precise meaning when he uses the word "unbounded", but I use the word to refer to the 'sense' of being unbounded. I do not think that no-mind offers, in objective terms, an "unbounded" internal or external awareness. For example, in executing our standing thousands upon thousands of nerve-fibres and muscle-fibres co-act, each neurochemically and neuroelectrically controlled, and our awareness tells us little about how it is this happens. Having said that, the 'sense' of being unbounded is very beneficial to the 'internal' martial artist (i.e., in terms of the ability to move the mind through the body in any direction, at a very fast or very slow pace, by reference to increasingly subtle movement intentions). Similarly, the 'sense' of being unbounded is very beneficial to the observer of 'external' reality – for example, the scientist is 'free to see' (or at least speculate about) the relations between objects, actions, and events in the world and test the reliability of their observations and the extent to which relations can be established as law-like 'regularities' or 'probabilities'.

[11] Outside of language as the 'common denominator' here, there are many different paths of development that can lead to the same conclusion. This is known as the principle of equifinality, that is, the principle that in open systems a given end state can be reached by many potential means.

[12] *Simple* in the sense of being conceived as somehow distinct from one's action state and goal pursuit.

[13] Note that inference abstraction is a more complex process than is concept abstraction, as it requires the use and some semblance of understanding of logic, formal or otherwise.

References

1. Zinnbauer, B.J., et al., *Religion and spirituality: Unfuzzying the fuzzy*. Journal for the Scientific Study of Religion, 1997. **36**(4): p. 549-564.
2. Pargament, K.I., et al., *Patterns of positive and negative religious coping with major life stressors*. Journal for the Scientific Study of Religion, 1998. **37**(4): p. 710-724.
3. Mc Cullough, M.E. and S.M. Boker, *Dynamic Modeling for Studying Self-Regulatory Processes: An example from the study of religious development over the life span*, in *Oxford Handbook of Methods in Positive Psychology*, A.D. Ong and M.H.M. Van Dulmen, Editors. 2007, Oxford University Press: Oxford.
4. Warfield, J.N., *Linguistic Adjustments: Precursors to Understanding Complexity*. Systems Research and Behavioral Science, 2004. **21**: p. 123 - 145.
5. Warfield, J.N., *A Proposal for Systems Science*. Systems Research and Behavioral Science, 2003. **20**: p. 507 - 520.
6. Atchley, R.C., *Everyday mysticism: Spiritual development in later adulthood*. Journal of Adult Development, 1997. **4**(2): p. 123-134.
7. Cacioppo, J.T., et al., *Sociality, spirituality, and meaning making: Chicago health, aging, and social relations study*. Review of General Psychology, 2005. **9**(2): p. 143-155.
8. Koenig, H.G., *Religion, spirituality, and medicine: Application to clinical practice*. Jama-Journal of the American Medical Association, 2000. **284**(13): p. 1708-1708.
9. Koenig, H.G., et al., *Religion, spirituality, and medicine: A rebuttal to skeptics*. International Journal of Psychiatry in Medicine, 1999. **29**(2): p. 123-131.
10. Marcoen, A., *Religion, Spirituality, and Older People*, in *The Cambridge Handbook of Age and Ageing*, M.L. Johnson, Bengtson, V.L., Coleman, P.G., Kirkwood, T.B.L., Editor. 2005, Cambridge University Press: Cambridge. p. 363 - 70.
11. Seifert, L.S., *Toward a psychology of religion, spirituality, meaning-search, and aging: Past research and a practical application*. Journal of Adult Development, 2002. **9**(1): p. 61-70.
12. Dawkins, R., *The God delusion*. 2007, London: Black Swan. 463.
13. Ho, D.Y.F. and R.T.H. Ho, *Measuring spirituality and spiritual emptiness: Toward ecumenicity and transcultural applicability*. Review of General Psychology, 2007. **11**(1): p. 62-74.
14. Hogan, M., *Review of Character psychology and character education*. The

Journal of Positive Psychology, 2006. **1**(4): p. 230-233.
15. Hogan, M., *Advancing the way of the positive psychologist*. PsycCRITIQUES, 2007. **52**(34).
16. Hogan, M., *Thinking About Thinking*. PsycCRITIQUES, 2007. **52**(11).
17. Hogan, M., *The Choice of Character*. PsycCRITIQUES, 2005. **50**(51).
18. Lewis, M.D., *Bridging emotion theory and neurobiology through dynamic systems modeling*. Behavioral and Brain Sciences, 2005. **28**: p. 169 - 194.
19. Tomasello, M., A.C. Kruger, and H.H. Ratner, *Cultural Learning*. Behavioral and Brain Sciences, 1993. **16**(3): p. 495-511.
20. Richerson, P.J. and R. Boyd, *Not by genes alone : how culture transformed human evolution*. 2005, Chicago: University of Chicago Press. ix, 332.
21. Zinnbauer, B.J., K.I. Pargament, and A.B. Scott, *The emerging meanings of religiousness and spirituality: Problems and prospects*. Journal of Personality, 1999. **67**(6): p. 889-919.
22. Lutz, A., et al., *Long-term meditators self-induce high-amplitude gamma synchrony during mental practice*. Proceedings of the National Academy of Sciences of the United States of America, 2004. **101**(46): p. 163-73.
23. Cahn, B.R. and J. Polich, *Meditation states and traits: EEG, ERP, and neuroimaging studies*. Psychological Bulletin, 2006. **132**(2): p. 180-211.
24. Hogan, M.J., *Consciousness of brain*. The Irish Psychologist, 2006. **33**(5,6): p. 126 - 130.
25. Dalby, P., *Is there a process of spiritual change or development associated with ageing? A critical review of research*. Aging & Mental Health, 2006. **10**(1): p. 4-12.
26. Hayes, S.C., D. Barnes-Holmes, and B. Roche, *Relational frame theory : a post-Skinnerian account of human language and cognition*. 2001, New York: Kluwer Academic/Plenum Publishers. xvii, 285 p.
27. Gebser, J., *The ever-present origin*. 1985, Athens, Ohio: Ohio University Press. xxxii, 614 p.
28. Hogan, M., *Leibniz and Spinoza*. PsycCRITIQUES, 2007. **52**(4).
29. Austin, J., *Zen and the Brain*. 2000: MIT Press.
30. Sim, D.S.-V. and D. Gaffney, *Chen Style Taijiquan: The Source of Taiji Boxing*. 2002, Berkeley, CA.: North Atlantic Books.
31. McCracken, L.M. and C. Eccleston, *A prospective study of acceptance of pain and patient functioning with chronic pain*. Pain, 2005. **118**(1-2): p. 164-169.
32. van Wicklan, J.F., *Conceiving and measuring ways of being religious*. Journal of Psychology and Christianity, 1990. **9**: p. 208 - 219.
33. Pargament, K.I., *The bitter and the sweet: An evaluation of the costs and benefits of religiousness*. Psychological Inquiry, 2002. **13**(3): p. 168-181.
34. Pargament, K.I. and C.L. Park, *Merely a defense? The variety of religious means and ends*. Journal of Social Issues, 1995. **51**(2): p. 13-32.
35. Hogan, M.J., *The Spirit of Joykungtai: Returning to Mood, Method, and Reality*. 2002: Galway. p. 287.
36. James, W., *The varieties of religious experience*. 1985, Cambridge, Mass.: Harvard University Press. li, 669 p.
37. Warfield, J.N., *An introduction to systems science*. 2006, Singapore: World Scientific.
38. Labouvie-Vief, G. and M. Márquez González, *Dynamic Integration: Affect Optimization and Differentiation in Development*, in *Motivation, emotion, and cognition: Integrative perspectives on intellectual functioning and development*., D.Y. Dai and R.J. Sternberg, Editors. 2004, Lawrence Erlbaum.: Mahwah, N.J. p. 1 - 36.
39. Werner, H., *Comparative psychology of mental development*. 1940, New York: International Universities Press.
40. Bensley, A.D., *Critical Thinking in Psychology*. 1998, London: Brooks/Cole.
41. Hogan, M.J., *The Point Below*. PsycCRITIQUES, 2007. **52**(3).
42. Pinker, S., *How the mind works*. 1997, New York: Norton. xii, 660.
43. Wilson, E.O., *Consilience : the unity of knowledge*. 1st ed. 1998, New York: Knopf : Distributed by Random House. 332.
44. Baggini, J. and J. Stangroom, *Do you think what you think you think?* 2006, London: Granta Books.
45. Gebser, J., *The Ever-present origin*. 1986, Athens, OH: Ohio University Press.
46. Siu, R.G.H., *The Tao of science : an essay on Western knowledge and Eastern wisdom*. 1957, Cambridge, Mass.: M.I.T. Press. xii, 180.
47. Ó Nuallàin, S.O., *Inner and outer empiricism in consciousness research*. New Ideas in Psychology, 2006. **24**: p. 30 - 40.
48. Dennett, D., *Quining qualia*, in *Consciousness in comtemporary science*, A.J. Marcel and E. Bisiach, Editors. 1988, Oxford University Press: Oxford.
49. Chiesa, M., *Radical behaviorism : the philosophy and the science*. 1994, Boston: Authors Cooperative. xiii, 241.
50. Carver, C.S. and M. Scheier, *On the self-regulation of behavior*. 1998, Cambridge, UK ; New York, NY, USA: Cambridge University Press. xx, 439.
51. Rose, D., *Consciousness : philosophical, psychological, and neural theories*. 2006, Oxford ; New York: Oxford University Press. xix, 452.
52. Bohm, D. and L. Nichol, *On dialogue*. 1996, New York: Routledge. xviii, 101 p.
53. Coward, A., *A System Architecture Approach to the Brain*. 2005, New York: Nova.
54. Huang, A.C.I., *Embrace tiger, return to mountain: the essence of t°ai chi*. 1973, New York Bantam Books,. xvii, 170 , [8] leaves of plates.
55. Davidson, R.J. and J. Kabat-Zinn, *Alterations in brain and immune function produced by mindfulness meditation: Three caveats - Response*. Psychosomatic Medicine, 2004. **66**(1): p. 149-152.
56. Adam, D., *Plan for Dalai Lama lecture angers neuroscientists*, in *The Gaurdian*. 2005.
57. Metzinger, T., *Being no one : the self-model theory of subjectivity*. 2003, Cambridge, Mass.: MIT Press. xii, 699.
58. Frankfurt, H.G., *On bullshit*. 2005, Princeton, N.J.: Princeton University Press. 67.
59. Miltner, W.H.R., et al., *Coherence of gamma-band EEG activity as a basis for associative learning*. Nature, 1999. **397**: p. 434-436.
60. Pulvermuller, F., et al., *Spectral responses in the gamma-band physiological signs of higher cognitive processes?* NeuroReport, 1995. **6**(2059-2064).
61. Pascual-Leone, J., *Mental attention, consciousness, and the progressive emergence of wisdom*. Journal of Adult Development, 2000. **7**(4): p. 241-254.
62. Bishop, S.R., et al., *Mindfulness: A proposed operational definition*. Clinical Psychology-Science and Practice, 2004. **11**(3): p. 230-241.
63. Hayes, S.C., K. Strosahl, and K.G. Wilson, *Acceptance and commitment therapy : an experiential approach to behavior change*. 1999, New York: Guilford Press. xvi, 304 p.
64. Langer, E.J., *Mindfulness : choice and control in everyday life*. 1991, London: Harvill. 226.
65. Hogan, M.J., *The cerebellum in thought and action: A fronto-cerebellar aging hypothesis*. New Ideas in Psychology, 2004. **22**(2): p. 97-125.
66. Fischer, K.W. and T.R. Bidell, *Dynamic development of action, thought, and emotion*, in *Theoretical models of human development. Handbook of child psychology*, W. Damon and R.M. Lerner, Editors. 2006, Wiley: New York. p. 313 - 399.
67. Hayes, J.R., *The complete problem solver*. 1989, Hillsdale, NJ: Erlbaum.
68. Kakigi, R., et al., *Intracerebral pain processing in a Yoga Master who claims not to feel pain during meditation*. European Journal of Pain, 2005. **9**(5): p. 581-589.
69. Kant, I., P. Carus, and J.W. Ellington, *Prolegomena to any future metaphysics that will be able to come forward as science*. 1977, Indianapolis: Hackett Pub. Co. xv, 136 p.
70. Koltko-Rivera, M.E., *The psychology of worldviews*. Review of General Psychology, 2004. **8**(1): p. 3-58.
71. Peterson, C. and M.E.P. Seligman, *Character strengths and virtues : a handbook and classification*. 2004, Washington, DC; New York: American Psychological Association ; Oxford University Press. xiv, 800 p.
72. Labouvie-Vief, G., *Psyche and Eros: Mind and Gender in the Life Course*. 1994: Cambridge University Press.
73. Sternberg, R.J., *Thinking styles*. 1997, Cambridge ; New York: Cambridge University Press. xi, 180.