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Is There 'Spiritual Intelligence'? An Evaluation of Strong and Weak Proposals

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published in

Religions

2023

DOI (link to publisher)

[10.3390/rel14020265](https://doi.org/10.3390/rel14020265)

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Watts, F., & Dorobantu, M. (2023). Is There 'Spiritual Intelligence'? An Evaluation of Strong and Weak Proposals. *Religions*, 14(2), [265]. <https://doi.org/10.3390/rel14020265>

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Article

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Special Issue

Spiritual Intelligence: Problems, Challenges and Solutions

Edited by

Dr. Katarzyna Skrzypińska and Dr. Justyna Mróz



<https://doi.org/10.3390/rel14020265>

Article

Is There ‘Spiritual Intelligence’? An Evaluation of Strong and Weak Proposals

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Abstract: The debate about whether, and in what sense, there is ‘spiritual intelligence’ remains unresolved. We suggest it will be helpful to make a distinction between strong and weak versions of the claim. The strong version proposes that there is a separate and distinct spiritual intelligence that meets the criteria set out by Howard Gardner in his ‘multiple intelligences’ framework. This involves evidence from neuroscience, evolutionary psychology, cognitive psychology, developmental psychology, individual differences, experimental tasks, and psychometrics. We review the relevant evidence and conclude that there is no support for the strong proposal. The weak version of the claim assumes that the intelligence that is apparent in spiritual contexts is the same as is found elsewhere, but it is nevertheless deployed in a distinctive way. We suggest that the evidence supports the claim, and we review six key marks of spiritual intelligence: ineffability, embodiment, open-minded attention, pattern-seeking meaning-making, participation, and relationality. Our approach makes use of a cognitive architecture, Interacting Cognitive Subsystems (ICS), which has been proved useful in modelling spiritual practices. It will be helpful in the future to bring this approach into dialogue with other scientific approaches to spiritual intelligence from psychometrics and from experimental research.

Keywords: spiritual intelligence; Howard Gardner; interacting cognitive subsystems; embodied cognition; John Teasdale; Iain McGilchrist



Citation: Watts, Fraser, and Marius Dorobantu. 2023. Is There ‘Spiritual Intelligence’? An Evaluation of Strong and Weak Proposals. *Religions* 14: 265. <https://doi.org/10.3390/rel14020265>

Academic Editors: Katarzyna Skrzypińska and Justyna Mróz

Received: 10 January 2023

Revised: 9 February 2023

Accepted: 11 February 2023

Published: 16 February 2023



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1. Introduction

It has been over 20 years since the concept of ‘spiritual intelligence’ was proposed by Robert Emmons (Emmons 1999), debated in a special section of the *International Journal for the Psychology of Religion* (Emmons 2000a, 2000b; Gardner 2000; Kwilecki 2000; Mayer 2000) and popularised by Danah Zohar (Zohar and Marshall 2000). Nevertheless, the question of whether, and in what sense, there is a distinct spiritual intelligence remains unresolved, largely because of a lack of clarity about what is involved in the proposal. There is ambiguity about how strong a claim is being made when it is proposed that there is a spiritual intelligence.

There is a *strong* version of that claim for a particular intelligence to be added to the list of intelligences, such as verbal or mathematical intelligence (Gardner 1999). This version can be evaluated in relation to the eight criteria set out by Howard Gardner in his ‘multiple intelligences’ framework. The assumption of the strong proposal is that there is a distinct and separate kind of spiritual intelligence that is different from the intelligences that are used in other contexts. Gardner lists eight different criteria that must be met before accepting that there is a distinct kind of intelligence, involving approaches from neuroscience, evolution, developmental psychology, psychometrics, etc. Our analysis in this paper leads to a rejection of this strong version.

However, it is possible to put forward a more modest proposal that, although there is no separate spiritual intelligence, there are distinguishing characteristics in how intelligence

is exercised in the spiritual life. We call this the *weak* proposal. In one sense, it is obvious that people behave intelligently in the course of spiritual life. In doing so, they are, in a broad sense, exercising spiritual intelligence. However, that does not involve the claim that there is a wholly distinct and separate intelligence in the spiritual domain. Rather, the proposal is that human intelligence is deployed in distinctive ways in a spiritual context, either in spiritual practices or in everyday life. If so, it would be helpful to identify the marks or characteristics of how intelligence is exercised in the spiritual life. Although there is diversity in how intelligence is used in spiritual contexts, we suggest that there is enough commonality to reasonably claim that there are distinctive spiritual ways of exercising intelligence.

In this paper, we evaluate the strong claim that there is spiritual intelligence through the prism of Gardner's criteria, concluding that the criteria are not sufficiently met. We then turn to the weak theory and try to characterise how intelligence tends to operate in spiritual contexts and in people who are spiritually mature, focusing on six key characteristics of spiritual intelligence. As a background for these two main sections of the paper, we first briefly outline some of our theoretical assumptions. We propose a dual-process theory of human cognition that maps onto what in everyday phraseology is called 'head' and 'heart' (Watts 2013). We relate it to a dual-component conceptualisation of religion and spirituality (Watts 2017).

2. Dual-Process Cognition

Several theories have been proposed that state there are two fundamentally different modes of human cognition. One is intuitive and embodied, and has its origins in the cognitive processes of other species, including the higher primates. The other is more conceptual and analytic, and is related to the advanced language abilities that are characteristic of humans. One of the first theorists to make this kind of distinction was Seymour Epstein in his cognitive-experiential self-theory (CEST) (Epstein 1991). Iain McGilchrist (2009) also proposed a similar distinction between right-brain and left-brain cognition.

It is also a feature of some cognitive architectures, such as Philip Barnard's *Interacting Cognitive Subsystems* (ICS) (Teasdale and Barnard 1993). Teasdale used ICS in his cognitive modelling of mindfulness, and it is an important tool in understanding spiritual intelligence (Teasdale 2022). In Teasdale's ICS characterisation of the cognition involved in mindful attention, the key feature of mindful attention is a withdrawal from the usual prioritisation of cognitive-analytical intelligence, allowing for evolutionary-older, intuitive, embodied intelligence to take the lead. Our approach to spiritual intelligence in this article will make use of this particular cognitive architecture, namely, ICS, which has been proven useful in the cognitive modelling of spiritual practices.

Some might use the word 'intelligence' only for rational, analytic abilities, but we are here using 'intelligence' in a broader way to include the intuitive-embodied mode of cognition. We suggest that this is an important distinction in understanding the diversity of intelligence. Indeed, it may be helpful to make a distinction between two different groups of intelligences. Emotional, moral, aesthetic, social, and spiritual intelligence seem to be predominantly applications of the intuitive mode of intelligence. Verbal and mathematical intelligence involve the application of the distinctly human mode of rational, conceptual intelligence.

We also make a related distinction that maps roughly onto the common one between spirituality and religion (Watts 2017). One component of religion and spirituality is primarily experiential, while the other is more conceptual and behavioural. A distinction between experience and conceptualisation emerges, for example, in the factorial structure of Ralph Hood's mysticism scale (Hood et al. 2009). One factor includes items that are primarily experiential with relatively light conceptualisation, whereas the other factor includes conceptualisations that arise from religious traditions.

Our proposal is that a predisposition to spiritual experience is relatively hardwired, and not much affected by cultural context. It seems not to be specifically spiritual, but

correlated with ‘transliminality’, or a pervasive predisposition to be open to experiences that extend beyond ego boundaries (Watts 2017). In contrast, religious conceptualisations, and participation in religious activities, seem to be heavily influenced by cultural context. One line of evidence that points in this direction is that the percentage of people reporting significant personal spiritual experiences is strikingly similar in the different cultural contexts of the UK and US, despite the US being traditionally a much more religious nation in belief and practice (Watts 2017).

3. The Strong Theory: Howard Gardner’s Criteria

In *Intelligence Reframed* (Gardner 1999), Howard Gardner sets out eight criteria that need to be met for accepting a new candidate to be added to the list of multiple intelligences. There might be some debate about how far these criteria were met in their entirety by each intelligence in the original list of multiple intelligences, but they remain a helpful guide to the debate about spiritual intelligence.

3.1. Brain and Evolution

The first criterion is that we know the neural mechanisms that underpin a proposed intelligence. Gardner is especially interested in whether one intelligence can be dissociated from another in terms of how different intelligences are affected by different areas of brain damage. Is this the case for spiritual intelligence? We certainly know a good deal about the neural basis of religion and spirituality (e.g., Coles and Collicutt 2020; Yaden and Newberg 2022). Of course, the brain is involved in all sorts of ways in religion and spirituality, as it is in every human activity. However, religion and spirituality are diverse and multi-faceted; they include experiences, mental practices, beliefs, and religious behaviour. Different areas of the brain are involved in different aspects of religion and spirituality (Wildman and Brothers 1999). Indeed, it may be that almost every part of the brain is involved in some way or another. There is nothing there that establishes that there is a specific spiritual intelligence.

The most promising current candidate for a part of the brain that is frequently, perhaps always, involved in spiritual experience is the periaqueductal gray, a brainstem region previously implicated in fear conditioning, pain, and altruism (Ferguson et al. 2022). It is too soon for this research to be fully evaluated by the scientific community. However, even if it turns out to be the case that there is no spiritual experience without the periaqueductal gray, we already know some of the other things that this brain stem region is involved in. Spiritual intelligence is not the only thing it does; it also seems to be involved in moral and emotional intelligence. So, there is no evidence here for a distinct spiritual intelligence. In addition, there are probably aspects of religion and spirituality, such as church attendance, in which the periaqueductal gray is not much involved. It is probably more involved in the experiential than socio-cultural aspects of spirituality and religion.

Gardner’s second criterion concerns evolution. As with the brain, we now know a good deal about the evolution of religion and spirituality. Many anthropologists agree on a two-stage evolutionary story, beginning with shamanic religion and moving on to doctrinal religion (e.g., Dunbar 2022). Watts has suggested that these two stages of religion map onto the two modes of general cognition that we have already identified, experiential and rational. Shamanic religion seems to depend on experiential, intuitive intelligence, whereas doctrinal religion requires conceptual intelligence (Watts 2020). It might be claimed that the trance dancing practices of shamanic religion give rise to anomalous experiences, and that the attempt to explain them was the seed-corn from which the doctrinal religious framework emerged (Dein 2020).

The religion that is fading in Western society seems to derive from doctrinal religion, whereas the currently fashionable spirituality is in some ways (though not in every way) akin to shamanic religion. However, it is not clear that there is any specific spiritual intelligence involved in either shamanic or doctrinal religion. In both cases, we seem to be

dealing with the application of general-purpose intelligence in the domain of spirituality and religion, not with any specific spiritual intelligence.

3.2. Cognitive Symbols and Operations

We will take the next two of Gardner's requirements together, i.e., that there should be an identifiable core set of cognitive operations, and encoding in a symbol system. These requirements are most clearly met with mathematical and verbal intelligence. Mathematics has its own distinctive symbols (e.g., numbers), and there is an identifiable set of operations that can be performed with them, as in mental arithmetic. Something similar could be claimed for verbal intelligence. Can it be claimed for spiritual intelligence?

In religion and spirituality, there is a symbol system for conceptualising the transcendent, in terms of God, etc. There are various versions of this symbol system in different faith traditions, just as verbal intelligence can work with different languages, but in essentially similar ways. It is again helpful here to bear in mind the distinction between the two aspects of religion/spirituality that we made earlier. It seems that facility with religious symbol systems is largely a matter of cultural background, and is dependent on general intelligence, and it may become divorced from any personal spiritual experience.

More critically, it is not clear what set of cognitive operations are performed in spiritual intelligence, nor that leading a spiritual life intelligently necessarily involves cognitive operations at all. In mental arithmetic, numbers are manipulated, but it is not clear whether there is any comparable manipulation of symbols in the religious life. Indeed, many theologians might claim that it is a serious misunderstanding of the spiritual life to imagine that there could be. It seems to imply that humans can have a detached vantage point on God whereas, as the philosopher Hegel remarked, 'God does not offer himself for observation' (cited by Lash 1995). There is a near-consensus among spiritual practitioners that you cannot observe God, you can only participate in him. Of course, there might be another, deeper level of symbolisation in the more intuitive-embodied central subsystem, one that is specific to spiritual intelligence. However, this is inherently difficult to investigate, and as yet there is no strong evidence for it.

Another concern about the idea that there is a distinct set of cognitive operations in spiritual intelligence is that not all spiritual intelligence is concerned with a separate spiritual or religious domain; much spiritual intelligence is concerned with a spiritual perspective on everyday life. This is true of most popular literature on spiritual intelligence, from Zohar onwards (Zohar and Marshall 2000). Spiritual intelligence is about a distinctive way of knowing everyday things. It is more about knowing things differently than about knowing different things (Dorobantu and Watts forthcoming). This suggests that there might be a distinct spiritual way of engaging with everyday experience, even if there is no unique set of spiritual cognitive operations. It does indeed seem to be possible to characterise the spiritual mode of engagement, but it is questionable whether there is anything unique about the intellectual capacities involved.

One of the most widely used spiritual practices at the present time is mindfulness. The analysis of mindful attention that is most sophisticated in its use of cognitive psychology comes from John Teasdale. His analysis of mindful attention makes use of a general-purpose cognitive architecture, Philip Barnard's ICS (Teasdale and Barnard 1993). Teasdale does not propose a distinct module or subsystem for mindful attention or spiritual intelligence (Teasdale 2022). In his view, mindfulness involves switching to a predominant use of an intuitive, embodied, holistic, pattern-seeking mode of intelligence, rather than a referential, conceptual intelligence. His characterisation of mindful attention does not imply that there is anything unique to spiritual practices such as mindfulness. In a similar vein, Watts (forthcoming a) has set out the distinctive ways in which the same all-purpose ICS cognitive architecture is deployed in the use of the Jesus prayer, suggesting that the way the cognitive architecture is deployed in the Jesus prayer is different in detail from what occurs in mindfulness, but that it leads to a similar rebalancing between the two modes of central cognition

Gardner also looks for support from experimental psychological tasks in evaluating a claim for a distinct intelligence. For example, it would need to be shown that two tasks that use the same intelligence interfere with each other when performed simultaneously. There is no evidence to support that claim with spiritual intelligence.

3.3. *Development and Individual Differences*

Next, there are developmental criteria, including a distinct developmental history, along with an identifiable set of expert 'end-state performances'. Religious understanding does indeed have a distinct developmental path, beginning with what Piaget called concrete operations, and moving onto more abstract operations (Watts 2017). However, that does not substantiate the case for a distinct spiritual intelligence, as almost every application of intelligence follows the same trajectory.

As we have already noted, it is not clear that spiritual intelligence consists primarily of what might be called 'performances'. There is an identifiable and predictable pattern of change in religious understandings, but that is just an application in the religious domain of a much more general pattern of cognitive development and not something that is specific to spiritual intelligence. It is also not clear that more abstract religious understandings are an advance on earlier, more concrete, understandings, or that they represent an endpoint in the development of spiritual intelligence. Most teachers of spiritual life are resistant to the ideas about 'improvement' in the spiritual life.

There has been a good deal of interest in the spirituality of people's various cognitive limitations or atypical patterns of cognition, including, for example, people with neurodiversity, learning disabilities, or cognitive decline with advancing age (Bouman forthcoming). People with such cognitive limitations will have a restricted intellectual understanding of religious matters. This may affect some spiritual practices. However, there are spiritual practices such as mindful attention to the soles of the feet, which are not only possible but beneficial for people with learning difficulties (e.g., Felver and Singh 2020).

Gardner's next criterion for a specific intelligence is that there should be idiot savants, prodigies, and other exceptional people. There are indeed people who have exceptional spiritual gifts, and there is probably a good deal of agreement about at least some of the people who appear to be spiritually gifted (e.g., Mother Teresa). There can be spiritual prodigies, just as there can be musical prodigies. However, even where there is agreement about who counts as being spiritually gifted, it is not quite clear what this is based on; it is not as straightforward as judging someone to be a gifted pianist. What is more, evaluation of spiritual giftedness is always a subjective and collective process, underpinned by deep cultural, social, and political dimensions, as is obvious in the case of saints' canonisation in Eastern-Orthodox and Catholic Christianity. There is thus no clear link between being perceived as spiritually gifted and being clearly endowed with a distinct spiritual intelligence.

3.4. *Psychometrics*

Gardner's final criterion relates to psychometrics. There has been a good deal of psychometric work on spiritual intelligence, and we now have measures of spiritual intelligence with good psychometric properties. The measures have satisfactory internal reliability, and we know something about the factorial structure and the components that come together to make spiritual intelligence. For example, Skrzypinska (2014) has proposed that spirituality involves three components: a cognitive scheme, a dimension of personality, and an attitude towards life. King and DeCicco (2009) suggest four components: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. Negi and Khanna (2017) and Skrzypinska (2021), among others, have reviewed the ongoing debate about spiritual intelligence from the perspective of psychometrics, and it is beyond the scope of this paper to discuss this psychometric research in detail.

On the face of things, this is the area in which support for spiritual intelligence is the strongest. However, the main limitation of what has been established so far concerns the validity of measures of spiritual intelligence. Measures of spiritual intelligence clearly have face validity, but the key question is whether they have construct validity. To show this, it would be necessary to have a highly reliable measure of spiritual intelligence, and to show that it has relatively low correlations with measures of all other intelligences. We do not yet know that to be the case. Similarly, for measures of spiritual intelligence to have predictive validity, it would be necessary to show that there were performances that could be predicted from spiritual intelligence. The present measures of spiritual intelligence have not yet been shown to have construct or predictive validity.

3.5. Conclusion

Examining these eight criteria gives a rather mixed picture. Spiritual intelligence may come close to meeting some criteria. However, overall, there is no convincing case for concluding that there is a distinct spiritual intelligence that is separate from other intelligences. There is no compelling reason to think that there are distinctively spiritual intellectual tasks or performances, or that there is a separate faculty that is required for them.

Howard Gardner also concludes that there is no convincing case for spiritual intelligence (Gardner 1999). However, rather surprisingly, he then suggests that there is what he calls 'existential' intelligence. This seems to be a broader kind of intelligence that is less closely related to religion. Nonetheless, his proposal of an existential intelligence is rather casual, and he makes no serious attempt to argue that it meets his eight criteria. It is very doubtful whether he would be able to do so.

4. The Weak Theory: Marks of Spiritual Intelligence

Even though Gardner's criteria are not met where spiritual intelligence is concerned, human intelligence seems to operate in distinctive ways in the course of spiritual practices, and in the spiritual life more generally. We suggest that those who dedicate themselves to spiritual practices also use their intelligence in distinctive ways in a wide range of everyday contexts. Our purpose in what follows is to describe the marks of how spiritually mature people use their intelligence in the course of pursuing a spiritual life. We will not try to be comprehensive in identifying the relevant characteristics, as Watts has attempted elsewhere (Watts forthcoming b). Rather, we will discuss what we see as the six most important characteristics of spiritual intelligence: ineffability, embodiment, open-minded attention, pattern-seeking meaning-making, participation, and relationality. We approach this task in an interdisciplinary way, drawing on both scientific and religious literature.

4.1. Ineffability

Ineffability was one of the four marks of mystical experience identified by William James ([1902] 2012). It remains a striking feature of spiritual intelligence that people have a powerful sense of reaching a deeper understanding of things, but one that they are not able to articulate. However, there is something paradoxical about this sense of ineffability, in that mystics often write at length about their ineffable experiences, although with the sense that what they are writing is somewhat beside the point, and does not really capture the essence of what they experienced.

Sometimes, the process of translation and elaboration is cumulative and proceeds over quite a long period. For example, the late mediaeval English mystic, Julian of Norwich, received 'revelations' as a relatively young woman, and she wrote a brief account of them, known as the 'short book.' Later, she elaborated it into a much longer book, weaving her experiences together with subsequent theological reflection. It is possible to see here two kinds of material that correspond roughly to the experiential and interpretive factors that emerge from the psychometric research of Ralph Hood using the mysticism scale (Hood et al. 2009).

The theological explanation of ineffability is that the realities that are encountered in spiritual experience are transcendent, and defy being described in human language, a sort of profoundly apophatic dimension of spiritual experience. At a purely human level, it makes sense to argue that whatever is encountered in mystical experience is so out of the range of ordinary human experience that it cannot adequately be described in a language that was created for different, everyday purposes. However, we suggest that ineffability also arises from the structure of the human mind.

The cognitive architecture, ICS, has so far proven to be the most useful for developing a rigorous computational-level account of spiritual practices (Teasdale 2022). It proposes two central subsystems, one conceptual and the other more intuitive. Teasdale proposes that spiritual practices, such as mindfulness and other approaches to enlightenment, give rise to meanings in the intuitive subsystem, not the conceptual subsystem. However, it is only the conceptual subsystem that has a direct route into verbalisation (Teasdale and Barnard 1993). So, any spiritual understandings that are formed in the intuitive subsystem need to be translated into the different code of the conceptual subsystem before they can be verbalised. Verbalisation of spiritual experience is thus a two-stage process, and the extra step might be why there is a sense that what is being described is somewhat removed from the original experience (Watts forthcoming a).

4.2. Embodiment

Next, we propose that embodiment is an important feature of spiritual intelligence, and that spiritual meanings are characteristically embodied meanings. This also arises in part from the structure of mind and brain. In ICS, the bodystate subsystem feeds into intuitive intelligence, but not into conceptual intelligence (Teasdale and Barnard 1993). In Teasdale's cognitive science analysis of mindfulness, one of the important reasons practitioners focus on the body (breathing, for example) is that it helps them to prioritise intuitive intelligence over conceptual intelligence (Teasdale 2022). There is a related point about the structure of the brain in McGilchrist's lateralisation theory (McGilchrist 2009). He sees religion and art as drawing primarily on right-brain cognition, and makes the point that the right brain is much better connected with the rest of the body, whereas the left brain is tightly interconnected within itself, but has only weak connections with the rest of the body.

Embodied practices play an important role in religion and spirituality, which goes back to the trance dancing practices of hunter-gatherer societies. Dunbar proposes that synchronised movement in trance dancing gives rise to massive collective endorphin release (Dunbar 2022). There are indications that coordinated movement in religious practices continues to contribute to endorphin release and increased pain tolerance (Charles et al. 2021).

Posture and gesture also play an important role in religious practices. There has been a good deal of interest in psychology recently in embodied cognition. It seems that some cognition is more highly embodied than others, and that embodiment is especially important in religious practices (Watts 2021). Van Cappellen has investigated the role of posture and gesture in religious practice and experience, concluding that expansive, upward postures are associated with praise and positive affect, whereas constructive and downward postures are associated with humility, prayer, and reverence (Van Cappellen and Edwards 2021; Van Cappellen et al. 2021).

Lakoff and Johnson (2003) have pointed out that meanings are inherently metaphorical, and meaning-making often involves linkages between psycho-spiritual meanings and physical movements or experiences. The social psychologist Solomon Asch found that the same linkages in 'double-aspect' terms can be found in historically independent languages (Asch 1958). It is often assumed that words begin with literal meanings, and are later extended by metaphorical usage. However, Owen Barfield's etymological research concluded that words generally begin with figurative, double-aspect meanings, and that literal usages are a later development (Barfield 1973). Double-aspect concepts seem to be particularly important in religious thinking. A classic example is the Hebrew word *ruach*,

which simultaneously means wind, breath, and spirit. The Aramaic language spoken by Jesus is filled with double-aspect concepts, and it seems clear that Jesus was a double-aspect thinker (Douglas-Klotz 2001). All this goes to show that even when religious cognition deals with abstract concepts, these are still mediated through the particular way in which human persons are embodied. Spiritual intelligence is thus deeply embodied even in its most linguistic/propositional manifestations.

4.3. Open-Minded Attention

Next, we propose that intelligence in spiritual contexts is characterised by a particular kind of open-minded attention. This is seen most clearly in the practice of mindful attention, which is 'open-minded'. The standard advice to those practising mindful attention is to simply notice whatever sensations occur, but to avoid discursive or evaluative thought about them (e.g., Kabat-Zinn 2013). People often choose to have a particular focus for their attention, such as breathing, or the soles of their feet. Inevitably, from time to time, they will notice other things, which gives them an opportunity to practice simply noticing them relatively briefly and moving on, without 'locking on' to whatever has attracted their attention. In terms of ICS, this can be formulated in terms of the distinction between glance and look (Su et al. 2011). In mindfulness, people may 'glance' at other things apart from their chosen focus, but they do not 'look' with sustained and deliberate attention.

In religious life more generally, including the Christian tradition, there is an open-mindedness that is willing to be surprised by whatever is encountered, and an attentional stance that is well captured in the title of the widely-read book by the Jesuit, Gerard Hughes, *God of Surprises* (Hughes 2008). It is part of spiritual intelligence to be open to unexpected experiences of spiritual significance. It is rather similar to a birdwatcher going to a nature reserve, not knowing exactly what they will see, but with an open-minded curiosity that is prepared to be surprised by the unexpected, and to delight in it.

4.4. Pattern-Seeking Meaning-Making

Alongside this open-minded attention, spiritual intelligence brings rich interpretive resources to making sense of things, but often does so in ways that characteristically make use of intuitive and conceptual intelligence. We propose that pattern-seeking is characteristic of spiritual intelligence. Teasdale (2022) characterises intuitive intelligence as 'holistic', as it proceeds by seeking significant patterns in experience, rather than by conceptualising experience. The assumption is that this intuitive intelligence is older in evolutionary terms, and is the intelligence used by other species, including non-human primates, in finding a workable path through the practical challenges of life.

Religious conceptualisations often involve finding the same pattern in different contexts. One common religious schema concerns life coming out of death, and joy coming out of suffering. In the Christian tradition, this is seen in the crucifixion of Jesus leading to resurrection, and in the immersion of baptism leading to a rising up to new life. The same basic schema can be applied in many everyday contexts.

Teasdale suggests that the difference between prose and poetry is analogous to the distinction between conceptual and intuitive intelligence. Whereas conceptual intelligence seems to be primarily referential and denotative, and to proceed by identifying what is in the field of experience, intuitive intelligence pays more attention to connotations and to the implications of what is experienced. In this sense, it is a broad-spectrum mode of attention, rather than the highly-focused and somewhat constricted mode of attention that is employed under conditions of high arousal or threat.

Even when religious meanings are elaborated in what appears to be a highly intellectual way, it often turns out that language is being used in a distinctive way. There has been a growing awareness that, in religious doctrine, language is not used in a straightforward descriptive or propositional way, as it might be used in science (Lindbeck 1984). Rather, it seems to be used in a way that is emblematic, expressivist, or incantatory (Watts 2021).

4.5. Participation

Next, spiritual intelligence is characterised by a participatory rather than an objectifying mode of intelligence. Here, it is helpful to sketch in some historical context. There seems to have been a significant change in human consciousness, at least in the West, in the 17th century, the period of 'early modernity' and the scientific revolution. It was a period that saw the development of a new kind of 'onlooker' consciousness (Davy 1951), or 'spectorial' consciousness (Lash 1995). It is arguable that this new kind of objectifying consciousness underpinned the development of modern science in this period, but it also had significant implications for spiritual intelligence and religious thinking.

Lash suggests that, impressed by the effectiveness of this kind of objectifying approach in science (or 'natural philosophy'), there was an attempt to apply the same approach in the religious domain. This led, in the 17th century, to the development of a new kind of natural theology, in which arguments were advanced for the existence of God. The arguments were not actually new, and were mostly derived from the five ways of Aquinas. However, in Aquinas, they were rational arguments for the support of faith, whereas in the 17th century, they became free-standing arguments that could lead people to faith. This gave rise to a theologically inappropriate idea that theology was in the business of studying God in a quasi-objective way. Rowan Williams has remarked that it is a misunderstanding to assume that pre-moderns were reporting on a spiritual world as detached observers, when they were really participating in an expanded reality (Williams 2019).

There is a near-consensus among spiritual teachers that there is no possibility of detached observation of a spiritual world through religious practices. People may indeed come to have an expanded understanding of reality through spiritual practices, but that only comes about through participating in the spiritual world rather than studying it in a detached way. In as far as contemplative inquiry is possible at all, it is through committed and emotionally-engaged participation; it is an 'epistemology of love' (Zajonc 2009).

Modern thinking about intelligence, from the latter part of the 19th century onwards, has been highly individualistic. The earlier assumption was that intelligence was transpersonal, and something people could participate in (Barfield 1953), rather than being a property of individuals (or devices). Various developments, such as the use of intelligence testing in education, led to increasingly individualistic assumptions about intelligence. Spiritual intelligence often adheres to earlier assumptions about intelligence being transpersonal, whereas current assumptions about intelligence are usually individualistic. To understand spiritual intelligence, it may be necessary to recover the older sense of intelligence being something in which people can participate (Wiseman and Watts 2022).

4.6. Relationality

Finally, spiritual intelligence is characteristically something that arises from human relationships, and is closely linked to personhood. Persons are defined by the capacity for relationships, and relationships are defined by the persons who participate in them (Clocksin forthcoming a). Personal spiritual experiences may play an important role in the spiritual life of individuals, but there has been a growing recognition that spiritual experiences always arise in the context of a cultural tradition. Even the life of a hermit is often supported by a wider spiritual community. Following Emmons's definition of spirituality in terms of a focus on 'ultimate concerns' (Emmons 1999), Clocksin (forthcoming a) sees spiritual concerns as the preferences, attitudes, and values that people value most highly and find most meaningful. Most people seek out others with whom they can share such ultimate concerns.

The highly individualistic nature of recent work on intelligence makes this difficult to formulate in a rigorous way. Theorising about intelligence has been much influenced by the development of artificial intelligence (AI). So far, AI has made individualistic assumptions, and has for the most part developed computer intelligence in a non-interactive way. However, it does not seem necessary to proceed in this way. The bottom-up approach to robotic intelligence developed by Rodney Brooks (1991) is intrinsically interactive. Recent work in computational social science by Clocksin shows that it is possible to use affinity

modelling in programming the interactive intelligence that characterises human friendships (Clocksin forthcoming b). Theological reflection on the nature of human intelligence, when done in conversation with cognitive science and AI, leads to a similar conclusion: relationality is instrumental for the development of human-like intelligence, and not just a side-effect of interactions between intelligent agents (Dorobantu 2021).

These issues are particularly important when it comes to spiritual intelligence because of the intrinsically interactive nature of the spiritual life. A spiritual life employs a mode of cognition that is socially embedded, and spiritual intelligence is inherently interactional. Formalising this theoretically remains a significant challenge. However, Clocksin's affinity modelling of human friendships could be used to develop a computational theory of spiritual friendship. There is also a helpful body of computational modelling locating religious beliefs in social networks (Shults and Wildman forthcoming).

5. Conclusions

We suggest that it will prove helpful in arguing the case for spiritual intelligence to make the distinction we have made here between strong and weak versions of the claim that there is spiritual intelligence. Objections to the claim for spiritual intelligence often turn out to be objections to the strong version (Wilks forthcoming). We accept that those objections are well-founded, and we see no prospect of successfully arguing the case that there is a distinct and separate spiritual intelligence that meets the criteria set out by Howard Gardner.

Such objections can deflect attention from the weaker version of the claim, which we suggest is potentially much more fruitful. This can also proceed, as we have done here, by trying to identify the marks of spiritual intelligence. Our approach here has made use of a particular cognitive architecture that is proving useful in modelling spiritual practices. Other methodologies are also useful for characterising spiritual intelligence, such as the development of psychometric measures, as well as experimental research of the kind recently conducted by Patty Van Cappellen on embodied spiritual cognition. One of the tasks for the future is to bring these different scientific approaches to spiritual intelligence into closer dialogue with each other.

Author Contributions: Conceptualization, F.W. and M.D.; methodology, F.W. and M.D.; writing—original draft preparation, F.W.; writing—review and editing, M.D.; project administration, F.W. and M.D.; funding acquisition, F.W. and M.D. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the TEMPLETON WORLD CHARITY FOUNDATION, grant number TWCF0542.

Acknowledgments: The authors are indebted to their colleagues in the “Understanding Spiritual Intelligence” project: Philip Barnard, Michiel Bouman, Roberta Catizone, William Clocksin, Gregory Grafenstette, Vanessa Matthews, Nicholas Ostler, Catherine Pickstock, Michael Reiss, Sara Savage, Léon Turner, Mark Vernon, Jordan Joseph Wales, Yorick Wilks, Rowan Williams, and Harris Wiseman.

Conflicts of Interest: The authors declare no conflict of interest.

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