

Version of Record:

Asprem, Egil and Markus Altena Davidsen (2017), "Editor's Introduction: What Cognitive Science Offers the Study of Esotericism", *Aries – Journal for the Study of Western Esotericism* 17(1), 1-15.

*Aries Special issue: Esotericism and the Cognitive Science of Religion*

## **What Cognitive Science Offers the Study of Esotericism**

### **Editors' Introduction**

*Egil Asprem, Stockholm University*

*Markus Altena Davidsen, Leiden University*

#### **1. Introducing the Cognitive Science of Religion to the Study of Esotericism**

In tandem with the professionalization of research on esotericism over the past two decades, another sub-discipline has risen to prominence within the study of religion: the cognitive science of religion (CSR).<sup>1</sup> Both of these fields, CSR and the study of esotericism, have made significant impact on how we study religion. Research on esotericism, as *Aries* readers well know, has deepened our understanding of the historical complexities of religion and its others in the West (the European countries and their spheres of influence), identifying blind spots relating to heterodox religion, radically experiential practices, and overlaps between "religion", "magic", and "science" that may look curious with the hindsight of history. Meanwhile, CSR is changing the way scholars think about and approach key aspects of religious thought and practice while adding new experimental and analytical tools to the scholar's toolbox, by grounding the study of religion in our best current theories of how the human mind works. This special issue is the first collaborative attempt to date at exploring the potential of bringing these two innovative fields together.<sup>2</sup> Two questions motivate this endeavour. First, what can CSR approaches add to the study of empirical material from the field of esotericism? Secondly, and conversely, can key problems in the study of esotericism, such as the

---

<sup>1</sup> For a fairly up to date overview of the CSR field, see Pyysiäinen, 'Cognitive Science of Religion'.

<sup>2</sup> But see Asprem, 'Reverse-Engineering "Esotericism"', and The Occult Minds Project ([www.occult-minds.com/](http://www.occult-minds.com/)) funded by the Netherlands Organization for Scientific Research (NWO).

notion of experiential *gnosis*, correspondence thinking, the role of imagination, and the use of esoteric hermeneutical strategies applied to obscure texts contribute to the development of CSR approaches?

Our main ambition, however, is to introduce CSR to readers of *Aries* and to demonstrate that CSR's style of approaching research questions can be useful to scholars working with historical sources. One challenge is that CSR has primarily been developed by anthropologists and psychologists, with attempts at building a cognitive historiography of religion being of more recent vintage.<sup>3</sup> Moreover, there are many examples of researchers in disciplines like cognitive anthropology, psychology, and linguistics doing useful work on religion without situating themselves within CSR in the narrow sense.<sup>4</sup> Our authors have therefore been instructed to introduce the key concepts and theories they use in an accessible manner that makes different research traditions visible to readers, and, more importantly, to highlight what their adopted perspective allows *historians* of esotericism to do that they are not doing already.

Before we introduce the topics that these articles raise, it might be useful to first address a more basic question: What is CSR, anyway? What are its goals, which methods does it favour, and what are its theoretical assumptions?

The basic assumption of CSR is that religion cannot be understood in historical and social terms alone, but must be grounded in the ultimately biological constraints that apply to all of human thought and behaviour. Classic areas of inquiry such as religious experience, the persistence of religious beliefs, and the cross-cultural ubiquity of ritualisation can only be explained if historical and sociological models are complemented by, and rooted in, what we know about human cognition. CSR is therefore an interdisciplinary endeavour that seeks to address questions originating in the anthropology, sociology, and history of religion from the perspective of what is collectively known as the cognitive sciences.

Cognitive science is itself a complex research tradition, spanning psychology (especially evolutionary, developmental, and social psychology), linguistics,

---

<sup>3</sup> Landmarks in this development include Whitehouse and Martin, *Theorizing Religions Past* (2004), Sørensen and Martin (eds.), *Past Minds* (2011), Martin, *The Mind of Mithraists*, and Biró and Czachesz (eds.), *Changing Minds* (2011), as well as the foundation of the *Journal of Cognitive Historiography* in 2014.

<sup>4</sup> Examples include Tanya Luhrmann (anthropology, e.g., *When God Talks Back*), Miguel Farias and Pehr Granqvist (psychology; e.g., 'The Psychology of the New Age'), and Zoltán Kövecses (linguistics; e.g., 'The Biblical Story Retold').

anthropology, neuroscience, artificial intelligence, robotics, and the philosophy of mind.<sup>5</sup> Among these streams, CSR has been particularly rooted in evolutionary psychology, starting from the assumption that the mind, like other aspects of the human organism, is the product of evolution by natural selection.<sup>6</sup> Researchers typically assume the “massive modularity thesis”<sup>7</sup>, which holds that the mind does not function as a neatly unified, general-purpose CPU, but consists of a hotchpotch of individual mental mechanisms (“modules”) that have been selected over the course of evolutionary history for their ability to solve some specific problem sufficiently well to provide an evolutionary advantage. The best examples of mental adaptations are found in relation to perception, notably the ability to detect agents in our environment (agent detection), or the ability to spot, identify, and analyse faces (face recognition). Our evolved tendency to over-attribute agency, facial patterns, and other forms of structure to the world around us is at the basis of several influential theories in CSR. Examples include Stewart Guthrie’s theory about religion’s basis in anthropomorphism,<sup>8</sup> and the theory that a “hyperactive agent detection device” (HADD) makes humans (and possibly other species as well)<sup>9</sup> prone to postulate invisible agents as explanations for events, which may become the basis for secondary elaborations in the form of religions.<sup>10</sup> Another mental adaptation that has been central to CSR is our ability to explain other people’s behaviours by attributing intentions and mental states, the so-called Theory of Mind module (ToMM). Research on the ToMM has, for example, been central for cognitive studies of prayer practices (where practitioners attempt to manipulate the mental states of invisible agents), and there is evidence that people suffering from ToMM deficits, such as in certain autism spectrum disorders, are less religious and, when they are religious, are more likely to view the divine in impersonal, non-psychologistic ways.<sup>11</sup>

The modularity thesis has primarily led researchers to formulate hypotheses about religious *representations*, attempting, for example, to explain why god concepts are so similar in certain respects across cultures (e.g., the “minimally counterintuitive

---

<sup>5</sup> On the historical development of this interdisciplinary research tradition, see Miller, ‘The Cognitive Revolution’.

<sup>6</sup> See especially Barkow, Cosmides, and Tooby (eds.), *The Adapted Mind*; Carruthers, Laurence, and Stich (eds.), *The Innate Mind*.

<sup>7</sup> For a popular exposition, see Pinker, *The Blank Slate*.

<sup>8</sup> See Guthrie, ‘A Cognitive Theory of Religion’; idem, *Faces in the Clouds*.

<sup>9</sup> Guthrie, ‘Animal Animism’.

<sup>10</sup> E.g. Barrett, *Why Would Anyone Believe in God?*

<sup>11</sup> E.g., Norenzayan, Gervais, and Trzesniewski, ‘Mentalizing Deficits Constrain Belief in a Personal God’.

agents” thesis),<sup>12</sup> or why believers tend to deploy slightly different concepts in everyday practice than what their official theologies say they *ought* to believe (i.e., the notion of “theological incorrectness”).<sup>13</sup> Research on *memory* is particularly important here, as researchers make and test hypotheses about how certain kinds of representations (beliefs, narratives, concepts) spread in a population, constrained by how easily they are stored and how faithfully they are transmitted – a line of research that Dan Sperber has called the “epidemiology of representations”.<sup>14</sup>

Human memory is not, however, a monolithic faculty, but typically sub-divided into semantic, episodic, and working memory. The anthropologist Harvey Whitehouse used this distinction to develop a theory about how difficult-to-process, “cognitively costly” religious concepts can be sustained in a population. His “two modes theory” holds that religious traditions tend to develop one of two different types of social systems and ritual cultures that rely either on episodic memory or on semantic memory for stabilising worldviews in the minds of their adherents.<sup>15</sup> The “imagistic mode” is based on episodic memory and is associated with emotionally arousing, but relatively infrequent rituals and small-scale organisations. The “doctrinal mode”, by contrast, is based on memorising semantic content – a strategy that goes with frequent and repetitive rituals, a strict social organisation, and frequent checks on adherents’ beliefs.

While studies grounded in evolutionary cognitive psychology constitute the main stream in CSR, another, smaller stream, that is of particular relevance for historians, builds on cognitive linguistics and semiotics. Classic studies on how metaphors are grounded in embodied cognition have been particularly central to this stream,<sup>16</sup> as has the more recent theory of “conceptual blending”.<sup>17</sup> Historians of religions have adopted these theories to solve problems about, e.g., how to ground comparisons between different traditions,<sup>18</sup> how to understand the cognitive foundations of “magical” acts,<sup>19</sup> or to explain how “fiction-based religions” selectively draw on and blend elements from

---

<sup>12</sup> See Boyer, *Religion Explained*; Barrett, ‘Coding and Quantifying Counterintuitiveness in Religious Concepts’; Norenzayan et al., ‘Memory and Mystery’. For a recent critical assessment of some of this research, see Purzycki and Willard, ‘MCI Theory’.

<sup>13</sup> See Slone, *Theological Incorrectness*.

<sup>14</sup> Sperber, *Explaining Culture*.

<sup>15</sup> Whitehouse, *Modes of Religiosity*.

<sup>16</sup> E.g. Lakoff and Johnson, *Metaphors We Live By*.

<sup>17</sup> Fauconnier and Turner, *The Way We Think*.

<sup>18</sup> Slingerland, ‘Conceptual Metaphor Theory as Methodology for Comparative Religion’.

<sup>19</sup> Sørensen, *A Cognitive Theory of Magic*.

various sources in order to invent new traditions.<sup>20</sup> It has also influenced some work on ancient esotericism, most notably Hugo Lundhaug's and April DeConick's work on Gnosticism.<sup>21</sup>

More recently, neurocognitive research has started to make an impact on CSR, incorporating experimental methods that employ physiological measurement techniques such as EEG, fMRI, and eye-tracking, sometimes combined with interviews, field studies, and psychological scales.<sup>22</sup> This promising line of "mixed methods" research is currently expanding the range of phenomena studied, and challenging some of the older research. The new experimentalism has, for example, enabled researchers to look at previously understudied phenomena, such as the relationship between religious practices and subjectively persuasive experiences.<sup>23</sup> Tanya Luhrmann's team, for example, mixed experiments with fieldwork and interviews to uncover that Evangelical Christians who cultivate emotions and mental imagery in their prayer practices are more likely than their co-religionists to experience hearing the voice of God in response and reporting other unusual experiences.<sup>24</sup> Other experimentalists have picked up the recent neurocognitive theory of "predictive coding" (which holds that perceptions are produced in a two-way guessing game where the brain attempts to predict the stimulus coming in from the senses – more on this later) and produced compelling new evidence that expectations are a driving factor in producing experiences of, for example, seeing deceased relatives, or sensing an invisible presence.<sup>25</sup>

In sum: much like the study of esotericism has changed and renewed itself with a new generation of scholars following its professionalization in the 1990s,<sup>26</sup> CSR is currently undergoing a massive expansion and transition that involves theoretical development, new methods, and an expansion of the types of phenomena being studied.

## 2. Is a "Cognitive Science of Esotericism" Possible?

---

<sup>20</sup> Davidsen, *The Spiritual Tolkien Milieu*.

<sup>21</sup> Lundhaug, *Images of Rebirth*; see DeConick, this issue.

<sup>22</sup> Note that neuroscientific approaches to religion already made a false start in the 1990s, associated with the problematic "neurotheology" of researchers such as Andrew Newberg and Eugene D'Aquili, and the widely publicised (but non-reproducible) "God helmet" experiments of Michael Persinger. For a review, see Schjoedt, 'The Religious Brain'.

<sup>23</sup> The new vogue in the study of "experiences deemed religious" was sparked by Ann Taves, *Religious Experience Reconsidered*. See also Taves and Asprem, 'Experience as Event'.

<sup>24</sup> Luhrmann, *When God Talks Back*.

<sup>25</sup> Andersen et al., 'Mystical Experience in the Lab'.

<sup>26</sup> See Hanegraaff, 'Textbooks and Introductions to Western Esotericism'.

What does all this research offer the study of esotericism? What would a “cognitive science of esotericism” look like? As one of us argued in a recent article, it is not, strictly speaking, possible: we cannot hope to find psychological and cognitive explanations that cover esotericism *in toto*, for the simple reason that “esotericism” is a highly heterogeneous category.<sup>27</sup> Cognitive theorising must be grounded in the actual behaviours of individual human beings; it is not sufficient to speculate on the basis of entire “worldviews” or “cultural systems” alone. There must be a procedure for relating claims about the sociohistorical level with precise descriptions of behaviours, ideally in an observational setting that allows for some degree of control of the environment (i.e. experimentation). In the strict sense, this would seem to exclude traditional historical research altogether, so what *can* we do?

Saying that “esotericism” is a constructed category, that it has a problematic history, and that it covers a large set of very different practices and ideas does not mean that we cannot know anything about those individual practices, experiences, and beliefs that have been labelled “esoteric”. What we can do, then, is attempting to describe those practices *in behavioural terms*, and use those descriptions as a basis for theorising the practices in light of relevant research *on similar behaviours*. How far we can go with cognitive theorising will therefore largely depend on what sort of sources we have available. On the easy end of the spectrum, anything that involves texts can be usefully studied from the perspective of cognitive linguistics, as long as we can infer that the text has been produced by a human being using well-known cognitive mechanisms related to language processing. The more we know about the text’s mode of production (i.e. the specific behaviours involved), the events described, or the reference ambition of the author, the more we can say about it. If we have credible evidence that the text is the result of automatic writing, for example, or that it is taken on dictation from a channelling episode, additional theories can be brought in. In the absence of such credible evidence about the behavioural context, however, we must show restraint: it is little use, for example, to draw on fMRI studies of “apophatic experience” to shed light on apophatic discourse in gnostic or mystical literature where we know next to nothing about its material context. In these cases, we would be assuming too much on the basis of complex cultural concepts such as “mysticism”, “gnosis”, or even “altered states of consciousness”, which all lack a precise grounding in behavioural descriptions.

---

<sup>27</sup> Asprem, ‘Reverse-Engineering “Esotericism”’.

This process, of breaking deeply embedded concepts such as “esotericism” down into individual phenomena that can be rendered in behavioural terms, and using these to theorise about cognitive underpinnings and make comparisons with other phenomena, is what Asprem, following Taves, calls “reverse-engineering”.<sup>28</sup> This procedure helps us see what ought to be obvious: that different aspects of the field will require different explanations with reference to different cognitive building blocks. Interpreting an esoteric text using special hermeneutical tools engages cognitive mechanisms that are different from those used when conjuring the elementals to visible appearance. We are *not*, in other words, seeking the “uniquely esoteric” in cognitive terms, that which binds it all together and separates it from everything non-esoteric. We can look at how an individual practice of using “correspondences” (say, in Ficinian medicinal magic) is made possible by panhuman mental capacities to blend concepts and transfer meaning between domains via metaphors and analogies, but we cannot, like Brian Vickers famously did, support the idea that all of the “occult sciences” are based in a uniform, pathological tendency to confuse analogy with identity.<sup>29</sup> The primary contribution we can expect from adopting cognitive science approaches for studying esoteric subject matter, then, is to get a better understanding of particular mechanisms that are involved in particular practices.

### **3. Overview of the Special Issue**

The three research articles in this special issue deal with separate problems and introduce different theoretical literatures.

In the first article, ‘Explaining the Esoteric Imagination: Towards a Theory of Kataphatic Practice’, Egil Asprem addresses the problem of how and why esoteric practitioners are able to produce apparently realistic experiences of hidden worlds by cultivating the imagination.<sup>30</sup> The article introduces the “predictive coding” framework, a neurocognitive theory of perception that has recently gathered some interest in CSR, in order to help explain how the cultivation of the imagination in esoteric practices works. Predictive coding theory holds that the brain uses a probabilistic, inference-oriented strategy when processing sensory information: instead of “recording” the

---

<sup>28</sup> Cf. Taves, ‘Reverse Engineering Complex Cultural Concepts’; Asprem and Taves, *Building Blocks of Human Experience*.

<sup>30</sup> Asprem, ‘Explaining the Esoteric Imagination’.

outside world like images in wax (to use a classic metaphor), the brain actively creates internal models that aim to predict future inputs based on previous inputs. What we perceive – whether in vision, sound, or taste – is based in large part on “top down” expectations. This is why, for example, bad singers often believe that they sing purely when they in fact sing false. In this case, the final percept (what the singers consciously hear), is so strongly influenced by the brain’s expectation (pure notes) that this expectation overrides actual sensory input (false notes). Asprem uses the predictive coding perspective to analyse practices for cultivating mental imagery in order to experience other worlds, focusing on “clairvoyance” and “astral travel” experiences in the context of Golden Dawn style ritual magic. After placing Golden Dawn exercises in a broader category of “kataphatic” (i.e. image-based) practices, he argues that magicians learn to “fly” on the astral plane through stages that involve the internalisation of new conceptual systems, new representations of body and self, and, importantly, new ways of shifting attention to specific (internal and external) sensory cues, often propped up by material artefacts and various physiological techniques. For example, Asprem shows how a central Golden Dawn visualisation practice likely relied on “afterimage” effects, and that the physiology of the human eye combined with the brain’s strategy for interpreting sense data from the retina therefore sheds new light on the order’s striking colour symbolism.

The second article, by Guðmundur Ingi Markússon, moves from experience to text, and from research on perception to research on language. In this article, entitled ‘Indices in the Dark: Towards a Cognitive Semiotics of Western Esotericism, Exemplified by Crowley’s *Liber AL*’, Markússon addresses the problem of why incomprehensible passages may sometimes be tolerated, even venerated, in religious and esoteric texts, when they tend to be avoided in regular communication.<sup>31</sup> Using *The Book of the Law*, the founding document of Thelema, as a case study, the article asks why the “opacity” of an esoteric text sometimes seems to provide it with a selective advantage. Drawing on work in cognitive semiotics, especially Terrence Deacon’s cognitive reworking of C. S. Peirce’s semiotics, Markússon proposes what he calls ‘the relevant index effect’: When faced with an opaque text, whose importance and relevance is assumed beforehand, opaque features of the text (including *The Book of the Law*’s many cryptic statements, such as ‘The *Khabs* is in the *Khu*, not the *Khu* in the *Khabs*’) will no longer be processed

---

<sup>31</sup> Markússon, ‘Indices in the Dark’.



as *symbols* (in Peirce's sense), encoding some meaning to be deciphered, but as *indexes* of the text's authority. This phenomenon, as Markússon notes, is not exclusive to esoteric or even religious contexts: We even see it when academic writers who produce particularly obscure prose gather followings that treat them as great gurus, judging meaningless obscurities as signs (*indexes*) of true genius.<sup>32</sup>

In the third and last research article on 'Soul Flights: Cognitive Ratcheting and the Problem of Comparison', Gnosticism scholar April DeConick continues in the theoretical realm of cognitive linguistics, but turns to a very different problem and subject matter: How can we explain the commonalities among soul flight narratives in ancient Mediterranean literature?<sup>33</sup> DeConick notes that, while the cosmological and theological details of soul flight narratives are highly divergent, the basic notion of perpendicular ascent and descent, along with the moral connotations of the directions (up and down), are remarkably consistent across a large body of texts spanning 1000 years of history (ca. 550 BCE – 500 CE). In order to explain this stability, DeConick turns to George Lakoff and Mark Johnson's classic work on how language and meaning systems are structured through a set of basic metaphors grounded in embodied experience. DeConick assumes that embodied interactions with our environment give rise to "sensory-motor schemas" (often referred to as "image schemas"), which map out basic relations such as UP-DOWN, IN-OUT, and FRONT-BACK. From such spatial mappings general concepts like VERTICALITY and CONTAINMENT can be derived, which, in turn, may be used to structure other concepts – such as when we rank A and B on a continuum (A is higher than B), or when we conceptualise membership, participation, or scope (A contains B). DeConick focuses on how the UP-DOWN schema is used to structure relationships between a whole range of metaphysical, moral, and psychological concepts, from good vs. bad, to conscious vs. unconscious, and life vs. death. For example, while awake and conscious, we walk upright. UP therefore tends to be connected with AGENCY, which makes it "cognitively natural" that religious cosmologies see "god" as UP, and place his abode in "heaven". Since the soul stands for agency and consciousness, it is also "cognitively natural" to assume that the soul is UP, in the sense that it originates from UP/"the Heavens" and returns there when the body dies and goes DOWN (literally into the earth; symbolically into the underworld). DeConick moves on to discuss the process through which the

---

<sup>32</sup> On this topic, see also Sperber, 'The Guru Effect'.

<sup>33</sup> DeConick, 'Soul Flights'.

cognitively natural basic narrative of soul flight can be developed into culturally divergent and theologically complex narratives. She proposes a mechanism of “cognitive ratcheting” to explain how such complex narratives evolve and stabilise, by hooking on to embodied cognitive schemas.

#### 4. The Way Ahead

The issue concludes with a response article authored by Jesper Sørensen<sup>34</sup> – who has not only been involved with important developments in CSR over the past decade, but is also one of few people who has applied CSR to subject matter of interest to esotericism scholars.<sup>35</sup> If the research articles have succeeded in introducing some cognitive perspectives and theoretical tools into the study of esotericism, Sørensen’s comments provide the basis for a real dialogue with the field of CSR.

Finally, it is worth reflecting on the limitations of the studies presented here, and the road ahead. We wish to highlight two types of limitations. The first limitation regards scope: the articles in this thematic issue deal with three aspects of esotericism: *beliefs and narratives* (DeConick), *transmission and interpretation of texts* (Markússon), and *experiential practices* (Asprem). While this is a good scope under the circumstances, other important themes that are missing include ritual, initiation, and social organisation. These are important aspects of esotericism, where CSR offers valuable tools that have not been discussed in detail in this issue. It seems likely, however, that studies of ritualisation, as well as studies of initiation, could benefit from engaging with the ritual form hypothesis,<sup>36</sup> the two modes theory,<sup>37</sup> or the cognitive resource depletion theory.<sup>38</sup> Such studies should also bear on the social aspects of esoteric groups, which tend to be notoriously ephemeral, short-lived, and prone to schisms and innovation. We think that the study of esotericism, intimately tied to the sociological notion of the “cultic milieu”,<sup>39</sup> offers an important site for theorising religious innovation, and that such theorisation ought to draw on recent debates in CSR about the role of ritualisation and

---

<sup>34</sup> Sørensen, [RESPONSE].

<sup>35</sup> See, for example, Sørensen’s book on magic: Sørensen, *A Cognitive Theory of Magic*, in which he applies Fauconnier and Turner’s conceptual blending theory. See also Sørensen’s early article on Theosophy: Sørensen, ‘Theosophy: Metaphors of the Subject’ which uses the same conceptual metaphor theory by Lakoff and Johnson as DeConick applies in her article for this issue

<sup>36</sup> McCauley and Lawson, *Bringing Ritual to Mind*.

<sup>37</sup> Whitehouse, *Modes of Religiosity*.

<sup>38</sup> Schjoedt et al., ‘Cognitive Resource Depletion in Religious Interactions’.

<sup>39</sup> Campbell, ‘The Cult, the Cultic Milieu, and Secularization’.

experience in knitting small groups together,<sup>40</sup> the role of charisma in small-scale interactions,<sup>41</sup> or indeed the relation between “cognitively optimal” folk religiosity and esoteric concepts.<sup>42</sup> The three articles in this issue, then, have barely scratched the surface of what cognitive approaches have to offer the study of esotericism.

The second limitation that we want to call attention to concerns method. The intention of this issue has been to highlight the usefulness of CSR approaches to the historical study of texts. However, both Asprem and Markússon end their articles by pointing to the need for developing an experimental dimension to test the hypotheses they develop. This, we think, is the next frontier. As the study of esotericism – and especially *contemporary* esotericism – continues to embrace social-scientific methods in order to access and study real-time groups and individuals,<sup>43</sup> a golden opportunity is also created to expand the scope into, at the very least, semi-experimental, mixed methods approaches that blend field with laboratory. Promising paradigms for such studies are taking shape in CSR at the moment,<sup>44</sup> and scholars of contemporary esotericism should make an effort to create a transfer of knowledge and skills to their own field.<sup>45</sup> Only by initiating collaborative projects involving trained experimentalists as well as historians and anthropologists of esotericism can we start designing studies that test (to use examples from this *Aries* issue) how trained astral travel experiences might relate to hypnotically induced hallucinations, and what personality dispositions might characterise talented versus less talented astral travellers; or how real-time processing of opaque textual segments of *The Book of the Law* might differ between occultist and non-occultist readers. Experimental studies of esoteric practice may still be some way off, but aspiring to it is a worthy goal. Getting there requires a thorough effort to translate our research questions into a language that is amenable to theorising at the

---

<sup>40</sup> Konvalinka et al., ‘Synchronized Arousal between Performers and Related Spectators in a Fire-Walking Ritual’.

<sup>41</sup> Schjoedt et al., ‘The Power of Charisma’.

<sup>42</sup> On this see Hammer, ‘Cognitively Optimal Religiosity: New Age as a Case Study’.

<sup>43</sup> The best example of such an approach is still Luhrmann, *Persuasions of the Witch’s Craft*. For some recent examples, see e.g., Davidsen, *The Spiritual Tolkien Milieu*; Lycourinos, *Becoming the Magician*; Granholm, *Dark Enlightenment*. See also the entry by Crockford, ‘Ethnography’ in the forthcoming *Brill Dictionary of Contemporary Esotericism*.

<sup>44</sup> See especially the studies by Schjoedt, Xygalatas, Konvalinka and Andersen cited elsewhere in this introduction, but also van Elk, ‘An EEG Study of the Effects of Induced Spiritual Experiences on Somatosensory Processing and Sensory Suppression’; van Elk and Maij, ‘Can Agency Detection be Boosted With the God Helmet in Paranormal Believers?’

<sup>45</sup> As a first step to such transfer, see the entry by Andersen, ‘Experimental Methods’ in the forthcoming *Brill Dictionary of Contemporary Esotericism*.

level of individual cognition, and to formulate precise hypotheses that can interest experimentalists in CSR.

## **Bibliography**

- Andersen, Marc, Uffe Schjoedt, Kristoffer Laigaard Nielbo, Jesper Sørensen. 'Mystical Experience in the Lab'. *Method and Theory in the Study of Religion* 26 (2014), 217-245.
- Andersen, Marc, 'Experimental Methods', in Egil Asprem (ed.), *Dictionary of Contemporary Esotericism*, Leiden: Brill, forthcoming.
- Asprem, Egil. 'Reverse-Engineering "Esotericism": How to Prepare a Complex Cultural Concept for the Cognitive Science of Religion'. *Religion* 46:2 (2016), 158-185. DOI: 10.1080/0048721X.2015.1072589.
- Asprem, Egil, 'Explaining the Esoteric Imagination: Towards a Theory of Kataphatic Practice', *Aries* 17:1 (2017), pp.-pp.
- Asprem, Egil, and Ann Taves. *Building Blocks of Human Experience: A Contribution to the Explanatory Humanities*. Website URL: <bbhe.ucsb.edu/>. 2016. (Accessed 16 September, 2016).
- Barkow, Jerome H., Leda Cosmides, and John Tooby (eds.), *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*, Oxford and New York: Oxford University Press, 1992, 19-136.
- Barrett, Justin L., *Why Would Anyone Believe in God?*, Walnut Creek: AltaMira Press 2004.
- Barrett, Justin L., 'Coding and Quantifying Counterintuitiveness in Religious Concepts: Theoretical and Methodological Reflections', *Method and Theory in the Study of Religion* 20 (2008), 308-338.
- Biró, Tamas, and István Czachesz (eds.), *Changing Minds: Religion and Cognition Through the Ages*, Leuven: Peeters 2011.
- Boyer, Pascal, *Religion Explained: The Evolutionary Origins of Religious Thought*, New York: Basic Books 2001.
- Campbell, Colin, 'The Cult, the Cultic Milieu and Secularization', in Michael Hill (ed.), *A Sociological Yearbook of Religion in Britain* 5, London: SCM Press 1972, 119-136.
- Carruthers, Peter, Stephen Laurence, and Stephen Stich (eds.), *The Innate Mind: Volume 2: Culture and Cognition*, Oxford and New York: Oxford University Press 2006.

- Crockford, Susannah, 'Ethnography', in Egil Asprem (ed.), *Dictionary of Contemporary Esotericism*, Leiden: Brill, forthcoming.
- Davidson, Markus Altena, *The Spiritual Tolkien Milieu*. Doctoral dissertation, Leiden University, 2014. [Book version: idem, *Tolkien Spirituality: Constructing Belief and Tradition in Fiction-based Religion*, Berlin: De Gruyter forthcoming].
- DeConick, April, 'Soul Flights: Cognitive Ratcheting and the Problem of Comparison', *Aries* 17:1 (2017), pp.-pp.
- Elk, Michiel van, 'An EEG Study on the Effects of Induced Spiritual Experiences on Somatosensory Processing and Sensory Suppression', *Journal for the Cognitive Science of Religion* 2:2 (2014), 121-157.
- Elk, Michiel van, and David L. R. Maij, 'Can Agency Detection be Boosted With the God Helmet in Paranormal Believers?', *Open Science Framework*, ongoing research (2016), <https://osf.io/vtckr/>.
- Farias, Miguel, and Pehr Granqvist, "The Psychology of the New Age", in Daren Kemp and James R. Lewis (eds.), *Handbook of New Age*, Leiden: Brill 2007, 123-150.
- Fauconnier, Gilles, and Mark Turner, *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*, New York: Basic Books 2002.
- Granhölm, Kennet, *Dark Enlightenment: The Historical, Sociological, and Discursive Contexts of Contemporary Esoteric Magic*, Leiden: Brill 2014.
- Guthrie, Stewart, 'A Cognitive Theory of Religion', *Current Anthropology* 21 (1980), 181-203.
- Guthrie, Stewart, *Faces in the Clouds: A New Theory of Religion*, Oxford: Oxford University Press 1993.
- Guthrie, Stewart, 'Animal Animism: Evolutionary Roots of Religious Cognition', in Ilkka Pyysiäinen and Veikko Anttonen (eds.), *Current Approaches in the Cognitive Science of Religion*, London: Continuum 2002, 38-67.
- Hammer, Olav, 'Cognitively Optimal Religiosity: New Age as a Case Study', in Ingrid S. Gilhus and Steven J. Sutcliffe (eds.), *New Age Spirituality: Rethinking Religion*, Durham: Acumen 2013, 112-126.
- Hanegraaff, Wouter J. 'Textbooks and Introductions to Western Esotericism', *Religion* 43:2 (2013), 178-200.
- Konvalinka, Ivana, Dimitris Xygalatas, Joseph Bulbulia, Uffe Schjødt, Else-Marie Jegindø, Sebastian Wallot, Guy Van Orden, and Andreas Roepstorff, 'Synchronized Arousal

- between Performers and Related Spectators in a Fire-Walking Ritual', *Proceedings of the National Academy of Sciences* 108:20 (2011), 8514-8519.
- Kövecses, Zoltán, 'The Biblical Story Retold: Symbols in Action', in Mario Brdar, Stefan Th. Gries, and Milena Zic Fuchs (eds.), *Cognitive Linguistics: Convergence and Expansion*, Amsterdam: John Benjamins Publishing Company 2011, 325-354.
- Lakoff, George, and Mark Johnson, *Metaphors We Live By*, Chicago: University of Chicago Press 1980.
- Luhrmann, Tanya M. *Persuasions of the Witch's Craft: Ritual Magic in Contemporary England*, Cambridge, MA: Harvard University Press 1989.
- Luhrmann, Tanya M., *When God Talks Back: Understanding the American Evangelical Relationship with God*, New York: Vintage Books 2012.
- Lundhaug, Hugo, *Images of Rebirth: Cognitive Poetics and Transformational Soteriology in the Gospel of Philip and the Exegesis on the Soul*, Leiden: Brill 2010.
- Lycourinos, Damon Zacharias, *Becoming the Magician: A Phenomenological Anthropology of the Creation of the Ritual Body in Modern Western Magic*, doctoral dissertation, University of Edinburgh, 2015.
- Markússon, Guðmundur Ingi, 'Indices in the Dark: Towards a Cognitive Semiotics of Western Esotericism, Exemplified by Crowley's *Liber AL*', *Aries* 17:1 (2017), pp.-pp.
- McCauley, Robert N., and Thomas Lawson, *Bringing Ritual to Mind: Psychological Foundations of Cultural Forms*, Cambridge: Cambridge University Press 2002.
- Miller, George A. 'The Cognitive Revolution: A Historical Perspective'. *Trends in Cognitive Science* 7:3 (2003), 141-144.
- Norenzayan, Ara, Scott Atran, Jason Faulkner, and Mark Schaller, 'Memory and Mystery: The Cultural Selection of Minimally Counterintuitive Narratives', *Cognitive Science* 30:4 (2006), 531-553.
- Norenzayan, Ara, Will M. Gervais, and Kali H. Trzesniewski, 'Mentalizing Deficits Constrain Belief in a Personal God', *PLoS One* 7:5 (2012), e36880, DOI: 10.1371/journal.pone.0036880.
- Pinker, Steven, *The Blank Slate: The Modern Denial of Human Nature*, New York: Viking Books 2002.
- Purzycki, Benjamin Grant, and Aiyana K. Willard, 'MCI Theory: A Critical Discussion'. *Religion, Brain & Behavior* 6:3 (2016), 207-248.

- Pyysiäinen, Ilkka, 'Cognitive Science of Religion: State-of-the-Art', *Journal for the Cognitive Science of Religion* 1:1 (2012), 5-28.
- Schjoedt, Uffe, 'The Religious Brain: A General Introduction to the Experimental Neuroscience of Religion.' *Method & Theory in the Study of Religion* 21:3 (2009), 310-339.
- Schjoedt, Uffe, Hans Stødkilde-Jørgensen, Armin Geertz, and Andreas Roepstorff, 'The Power of Charisma: Perceived Charisma Inhibits the Attentional and Executive Systems of Believers in Intercessory Prayer', *Social Cognitive and Affective Neuroscience* 4:2 (2011), 199-207.
- Schjoedt, Uffe, Jesper Sørensen, Kristoffer Laigaard Nielbo, Dimitris Xygalatas, Panagiotis Mitkidis, and Joseph Bulbulia, 'Cognitive Resource Depletion in Religious Interactions'. *Religion, Brain, & Behavior* 3:1 (2013), 29-86.
- Slingerland, Edward, 'Conceptual Metaphor Theory as Methodology for Comparative Religion', *Journal of the American Academy of Religion* 72:1 (2004), 1-31.
- Slone, Jason, *Theological Incorrectness: Why Religious People Believe What They Shouldn't*, Oxford, NY: Oxford University Press 2004.
- Sperber, Dan, *Explaining Culture: A Naturalistic Approach*, Oxford: Blackwell Publishing 1996.
- Sperber, Dan, 'The Guru Effect', *Review of Philosophy and Psychology* 1:4 (2010), 583-592.
- Sørensen, Jesper, 'Theosophy: Metaphors of the Subject', *Temenos* 35-36 (1999-2000), 225-248.
- Sørensen, Jesper, *A Cognitive Theory of Magic*, Walnut Creek, CA: AltaMira Press 2007.
- Sørensen, Jesper, RESPONSE ARTICLE, *Aries* 17:1 (2017), pp.-pp.
- Sørensen, Jesper, and Luther Martin (eds.), *Past Minds: Studies in Cognitive Historiography*, in the series *Narrative, Cognition and Culture*, London: Equinox 2011.
- Taves, Ann, *Religious Experience Reconsidered: A Building-Block Approach to the Study of Religion and Other Special Things*, Princeton: Princeton University Press 2009.
- Taves, Ann, 'Reverse Engineering Complex Cultural Concepts: Identifying Building Blocks of "Religion"', *Journal of Cognition and Culture* 15:1-2 (2015), 191-216.

Taves, Ann, and Egil Asprem, 'Experience as Event: Event Cognition and the Study of (Religious) Experiences', *Religion, Brain, and Behavior* (2016), 1-25, DOI: 10.1080/2153599X.2016.1150327.

Vickers, Brian, 'Analogy versus Identity: The Rejection of Occult Symbolism, 1580-1680', in idem (ed.), *Occult and Scientific Mentalities in the Renaissance*, Cambridge: Cambridge University Press, 1984, 96-163.

Whitehouse, Harvey, *Modes of Religiosity: A Cognitive Theory of Religious Transmission*, Lanham: Altamira Press 2004.

Whitehouse, Harvey, and Luther H. Martin (eds.), *Theorizing Religions Past: Anthropology, History, and Cognition*, in the *Cognitive Science of Religion Series*, Walnut Creek: AltaMira Press 2004.