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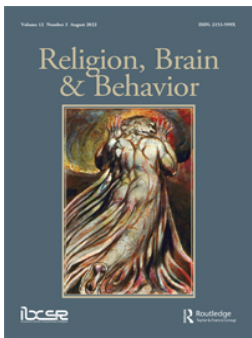
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COMMENTARY



## Explaining religion from the inside-out

Michiel van Elk 

Every time I read Tanya Luhrmann's work, including her latest book *How God Becomes Real*, I find myself completely absorbed in it. Next to her eloquence, her scholarly approach and the wealth of literature she draws from, she also somehow touches a sensitive chord. I have often asked myself the question of what makes Luhrmann's writing so compelling that it attracts attention not only from anthropologists, but from religious scholars, cognitive scientists and psychiatrists alike. Part of the answer I think is that Luhrmann, as the curious anthropologist she has always been, tends to approach experience from the inside out, rather than from the outside in. Her writing seems to go directly to the heart of what it takes to believe in God and to have a religious experience. Let me try to explain what I mean here, by first shortly elaborating on my own personal and intellectual journey that drew me to Luhrmann's work in the first place. Then, I will provide some critical reflections on the arguments presented in *How God Becomes Real*.

I grew up in an American-style Pentecostal church close to Amsterdam in the Netherlands. As a child I witnessed demons being cast out, people being prayed for that healed miraculously; people that were being slain in the spirit having epileptic-like seizures while shouting out the name of Jesus in complete ecstasy. These encounters have resulted in a deep and life-long fascination for the topic of religious and spiritual experiences. How do these experiences come about? Why do some people appear to have a talent for having these experiences, whereas others do not—despite their best efforts at having these peak experiences?

However, my first encounter with scientific theories of religion seemed to leave little room for personal experience. Much work in the so-called cognitive science of religion (CSR) aimed at explaining religion from an evolutionary point of view. Belief in moral gods who care about our daily concerns evolved as a solution to the free-rider problem, in order to foster cooperation and group cohesion (Norenzayan et al., 2016). Participation in extensive and often costly religious rituals served as a costly signal, which in turn fostered identification with the ingroup (Sosis & Bressler, 2003). Belief in supernatural agents, such as demons or angels, could be considered a by-product of the way our brain functions (Boyer, 2003). It was suggested, for instance, that humans have an innate tendency to detect agency around them, which in many cases triggers the perception of illusory and supernatural agents (Barrett, 2000).

Initially I set up an experimental research program to put some of these theoretical ideas to the test, but the results were not promising. We did not find evidence for the hypothesized relation between supernatural beliefs and agency detection, for instance (Maij & van Elk, 2019; Maij et al., 2017; Maij et al., 2019; van Elk et al., 2016; Van Leeuwen & van Elk, 2019). When we ran replication studies of initially promising findings, it often turned out that earlier findings could not be replicated (Hoogeveen et al., 2019; van Elk & Lodder, 2018; van Elk & Snoek, 2019). Moreover, we identified serious flaws in meta-analyses aimed to aggregate findings across different studies (van Elk & Lodder, 2018; van Elk et al., 2015), thereby further calling into question the empirical support for prevalent theories.

Next to these methodological struggles, also at a personal level I felt a deep dissatisfaction with the existing theories in the field. The theories seemed to bypass my encounters growing up as a child in the Pentecostal church, where I participated in lived religious experiences. As a teenager I served

as a praise and worship leader. I had a clear sense of God's presence and could often hear God speak in my head. I could speak in tongues and was convinced that I had the gift of prophecy. These experiences were key to being a Christian believer and are actively encouraged and highly valued in many Pentecostal and Evangelical churches. However, none of the existing theories in the field of the CSR seemed to do justice to this central aspect of religious life. By-product and adaptationist theories have largely ignored the role of religious experience (as has been pointed out by Taves & Asprem, 2017), approaching religion from the outside-in, by analyzing its potential functional significance or the mechanisms purportedly underlying it. Instead, approaching religion from the inside-out necessitates a first-person perspective.

Therefore I felt struck by surprise when I first read the ethnographic work of Tanya Luhrmann, who had spent years hanging out with Evangelical Christians in the U.S. (Luhrmann, 2012). Here was someone who truly understood what it was like to be a member of an Evangelical church and to have the vivid religious experiences that so many people within those churches desperately long for. In her latest book, *How God Becomes Real* (2021), she integrates decades of field research conducted in a variety of different religious groups and cultures. She argues that people who believe in the supernatural tend to adopt a faith frame that compartmentalizes their religious beliefs and practices from everyday reality. Cultural differences in porosity—whether the mind is viewed as a bounded vs. a porous entity—predict the prevalence whereby people can hear God speak in their heads. Through a process of inner sense cultivation and spiritual kindling, believers train their mental faculties and over time become better at having vivid experiences of the supernatural. Some people are better at this than others: a proclivity for absorption, for getting immersed in sensory experiences or one's mental imagery predicts the vividness and frequency of spiritual experiences. This observation resonates well with findings from my own and other people's research: the personality trait of absorption also predicts mystical-type experiences with a placebo God-helmet, feelings of awe and wonder in response to nature and peak experiences induced through psychedelics (Lifshitz et al., 2019).

### Connecting the dots between belief, practice, and experience

While I greatly enjoyed the fresh perspective provided in *How God Becomes Real*, I also found myself pondering over the plausibility of some of the claims made in the book. My first concern relates to the notion of inner sense cultivation as a causal process: it requires effort and practice and people tend to get better at it over time. The many examples and studies discussed in the book seem to imply causality, such that engaging in religious and spiritual practices and adopting a porous view of the mind indeed cause people to have more vivid experiences. Also, the title of the book implies a causal arrow from kindling to the felt presence of invisible others. However, this causal view is problematic for two reasons, the first one being conceptual and the second one methodological.

First, there is good reason to think that the relationship between kindling and supernatural experience is bidirectional. Feeling that God is real will further encourage people's inclination to engage in the mental practices giving rise to that experience. Similarly, whereas culturally prevalent ideas about the mind being a porous entity will likely have downstream consequences for experiences of the supernatural, these experiences in turn will reinforce one's beliefs that spirits can visit the mind (van Elk et al., 2020). There is even evidence that what Luhrmann calls "proclivity," the personality trait of "absorption," can be changed as a function of experience (Polito et al., 2019). Thus, instead of the causal model that appears central in *How God Becomes Real*, a nomological-network model might do more justice to the complex interrelatedness of beliefs about the mind, mental practice, proclivity, and spiritual and religious experiences. Recently, in the study of psychopathology, network-based models are gaining ground as a more plausible alternative to the rigid DSM classifications (Borsboom & Cramer, 2013). These network models propose that for instance depression, rather than being caused by one underlying common psychological or neurobiological

mechanism, should be understood through the self-sustaining loops of interrelated symptoms (e.g., sleep deprivation causes irritability, which in turn cause excessive rumination, etc.). Applying this logic to experiences of invisible others, it appears plausible that proclivity, mental practice, beliefs about the mind, and supernatural experiences are mutually reinforcing and part of an integrated network, thereby giving rise to the more frequent co-occurrence of “religious” symptoms.

This brings me to my second reason for concern, which is of a more methodological nature. Most of the evidence documented in *How God Becomes Real*, including a recent paper documenting a large-scale cross-cultural study (Luhmann et al., 2021), is cross-sectional. Across many different studies, conducted in different cultures, times, and places, positive correlations are reported for instance between absorption, a porous view of the mind, and spiritual practice and daily spiritual experiences. However, correlation does not imply causation. Instead of a causal model, again it should be considered whether these data are actually more in line with a nomological-network model, according to which these different “symptoms” are part of a continuous and self-sustaining feedback system. New religious converts immerse themselves in an environment that encourages specific beliefs and practices that will in turn increase the likelihood of encountering a supernatural experience. At the same time, for many people the starting point of their religious and spiritual journey is actually an extraordinary experience they had (e.g., hearing a voice; getting a special message) that triggered them to find a community of believers, in which their experience made sense and was accepted (van Elk, 2017).

In order to substantiate the claim that real-making and kindling are a causal process, training and longitudinal studies would be needed. Indeed Luhmann reports a training study showing that a visualized prayer exercise over a couple of weeks has direct cognitive effects on mental imagery (Luhmann et al., 2013). But also here, it seems more likely that mental practice and vividness of imagery are mutually reinforcing: people for whom the visualized prayer exercise was a rewarding experience in the first place (e.g., resulting in acute vivid imagery and inducing a “relaxation response”) were probably also more likely to put in more effort and motivation to sustain in this practice. In order to make sense of how religion becomes real, we thus need to connect the dots between belief, practice, and experience.

## Personal beliefs

Neil van Leeuwen and I recently developed the Interactive Religious Experience model, to take this interrelatedness into account (IREM; Van Leeuwen & van Elk, 2019). In this model we propose a bidirectional relationship between beliefs, practices, and experiences of the supernatural. To contextualize this relation, we argue that whereas culture can provide the raw material for what Luhmann calls the “faith frame,” it actually requires an active process to transform general religious beliefs that are acquired through one’s culture, into personal religious beliefs. We argue that general religious beliefs can instill a motivated tendency to seek out situations and practices that are likely to yield supernatural experiences. These experiences in turn provide believers with the potential to transform abstract theological insights (e.g., “Jesus died for the sins of all men”) into personal beliefs (e.g., “Jesus visited me last night during the mass”).<sup>1</sup> Personal religious beliefs are highly valued among many different religious denominations, ranging from the practice of worshiping prayer statues among Hindus (Bowker, 2006), contemplative meditation practices in modern Buddhism (Cook, 2010), and visiting hell houses in the U.S. (Jackson, 2009) to witchcraft practices in New Age movements (Luhmann, 1991) and sorcery beliefs in relation to the AIDS epidemic in Zimbabwe (Rödlach, 2006). As such, having those beliefs gives status within one’s community, as Luhmann points out in her book repeatedly. But these beliefs also subserve an existential and meaning-making function—for instance, by providing relief and reassurance in the face of disease, threat, uncertainty, and major life events. Also, personal and general religious beliefs and experiences are mutually reinforcing. Hearing God’s voice speaking to you in an audible way can be a rewarding experience (Schjodt et al., 2008), which in turn will make one more likely to attend

carefully to other teachings from one's religious community and to actively seek out situations that foster these experiences. Again, personal and general beliefs are part of an interrelated network including practices, beliefs, and propensities.

## Unraveling religion

In this groundbreaking work, Luhrmann has been able to nail down the different processes at play in enabling believers to experience that which must be imagined to be real. It is important to keep an open eye for the fact that the different components making up this process—including pretend-play, imagination, absorption, a porous view of the mind, kindling, and inner sense cultivation—are dynamic and interrelated. The ultimate aim of this process may not only be to “make God real” but to make abstract theological insights resonate with one's personal beliefs. That is at least the way it felt to me, while I tried to make sense of the religious teachings in my environment as a child. Doing justice to this transformative process may get us even closer to what it is to explain religion from the inside-out.

## Note

1. Personal religious beliefs are defined as: “beliefs that are directly and indexically about the very person who has the belief.” These personal religious beliefs “have first personal constituents and are about one's particular place within the wider religious narrative.”

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## References

- Barrett, J. L. (2000). Exploring the natural foundations of religion. *Trends in Cognitive Sciences*, 4(1), 29–34. [https://doi.org/10.1016/S1364-6613\(99\)01419-9](https://doi.org/10.1016/S1364-6613(99)01419-9)
- Borsboom, D., & Cramer, A. O. (2013). Network analysis: An integrative approach to the structure of psychopathology. *Annual Review of Clinical Psychology*, 9(1), 91–121. <https://doi.org/10.1146/annurev-clinpsy-050212-185608>
- Bowker, J. (2006). *World religions: The great faiths explored and explained*. Penguin Random House.
- Boyer, P. (2003). Religious thought and behaviour as by-products of brain function. *Trends in Cognitive Sciences*, 7(3), 119–124. [https://doi.org/10.1016/S1364-6613\(03\)00031-7](https://doi.org/10.1016/S1364-6613(03)00031-7)
- Cook, J. (2010). *Meditation in modern Buddhism: Renunciation and change in Thai monastic life*. Cambridge University Press.
- Hoogeveen, S., Wagenmakers, E. J., Kay, A. C., & van Elk, M. (2019). Compensatory control and religious beliefs: a registered replication report across two countries. *Comprehensive Results in Social Psychology*, 3(3), 240–265. <https://doi.org/10.1080/23743603.2019.1684821>
- Jackson, G. (2009). *The word and its witness: The spiritualization of American realism*. University of Chicago Press.
- Lifshitz, M., van Elk, M., & Luhrmann, T. M. (2019). Absorption and spiritual experience: A review of evidence and potential mechanisms. *Consciousness and Cognition*, 73, 102760. <https://doi.org/10.1016/j.concog.2019.05.008>
- Luhrmann, T. M. (1991). *Persuasions of the witch's craft: Ritual magic in contemporary England*. Harvard University Press.
- Luhrmann, T. M. (2012). *When God talks back: Understanding the American evangelical relationship with God*. Vintage.
- Luhrmann, T. M., Nusbaum, H., & Thisted, R. (2013). “Lord, teach us to pray”: Prayer practice affects cognitive processing. *Journal of Cognition and Culture*, 13(1-2), 159–177. <https://doi.org/10.1163/15685373-12342090>

- Luhmann, T. M., Weisman, K., Aulino, F., Brahinsky, J. D., Dulin, J. C., Dzikoto, V. A., Legare, C. H., Lifshitz, M., Ng, E., Ross-Zehnder, N., & Smith, R. E. (2021). Sensing the presence of gods and spirits across cultures and faiths. *Proceedings of the National Academy of Sciences*, 118(5), 1–8. <https://doi.org/10.1073/pnas.2016649118>
- Maij, D. L. R., & van Elk, M. (2019). Evolved priors for agent detection. *Religion, Brain & Behavior*, 9(1), 92–94. <https://doi.org/10.1080/2153599X.2017.1387591>
- Maij, D. L. R., van Harreveld, F., Gervais, W., Schrag, Y., Mohr, C., & van Elk, M. (2017). Mentalizing skills do not differentiate believers from non-believers, but credibility enhancing displays do. *Plos One*, 12(8), e0182764. <https://doi.org/10.1371/journal.pone.0182764>
- Maij, D. L. R., van Schie, H. T., & van Elk, M. (2019). The boundary conditions of the hypersensitive agency detection device: An empirical investigation of agency detection in threatening situations. *Religion, Brain & Behavior*, 9(1), 23–51. <https://doi.org/10.1080/2153599X.2017.1362662>
- Norenzayan, A., Shariff, A. F., Gervais, W. M., Willard, A. K., McNamara, R. A., Slingerland, E., & Henrich, J. (2016). The cultural evolution of prosocial religions. *Behavioral and Brain Sciences*, 39, 1–65. <https://doi.org/10.1017/S0140525X14001356>
- Polito, V., Stevenson, R. J., & Arnone, D. (2019). A systematic study of microdosing psychedelics. *PLoS One*, 14(2), e0211023. <https://doi.org/10.1371/journal.pone.0211023>
- Rödlach, A. (2006). *Witches, westerners, and HIV: AIDS & cultures of blame in Africa*. Left Coast Press.
- Schjodt, U., Stodkilde-Jorgensen, H., Geertz, A. W., & Roepstorff, A. (2008). Rewarding prayers. *Neuroscience Letters*, 443(3), 165–168. <https://doi.org/10.1016/j.neulet.2008.07.068>
- Sosis, R., & Bressler, E. R. (2003). Cooperation and commune longevity: A test of the costly signaling theory of religion. *Cross-Cultural Research*, 37(2), 211–239. <https://doi.org/10.1177/1069397103037002003>
- Taves, A., & Asprem, E. (2017). Experience as event: Event cognition and the study of (religious) experiences. *Religion, Brain & Behavior*, 7(1), 43–62. <https://doi.org/10.1080/2153599X.2016.1150327>
- van Elk, M. (2017). The self-attribution bias and paranormal beliefs. *Consciousness and Cognition*, 49, 313–321. <https://doi.org/10.1016/j.concog.2017.02.001>
- van Elk, M., & Lodder, P. (2018). Experimental manipulations of personal control do not increase illusory pattern perception. *Collabra: Psychology*, 4(1), 1–22. <https://doi.org/10.1525/collabra.155>
- van Elk, M., Maij, D. L. R., & Rutjens, B. (2020). Development and validation of a porous theory of mind scale. *Journal of Cognition and Culture*, 20(1-2), 41–65. <https://doi.org/10.1163/15685373-12340073>
- van Elk, M., Matzke, D., Gronau, Q. F., Guan, M., Vandekerckhove, J., & Wagenmakers, E. J. (2015). Meta-analyses are no substitute for registered replications: A skeptical perspective on religious priming. *Frontiers in Psychology*, 6, 1–7. <https://doi.org/10.3389/fpsyg.2015.01365>
- van Elk, M., Rutjens, B. T., van der Pligt, J., & van Harreveld, F. (2016). Priming of supernatural agent concepts and agency detection. *Religion, Brain & Behavior*, 6(1), 4–33. <https://doi.org/10.1080/2153599X.2014.933444>
- van Elk, M., & Snoek, L. (2019). The relationship between individual differences in gray matter volume and religiosity and mystical experiences: A preregistered voxel-based morphometry study. *European Journal of Neuroscience*, 51(3), 850–865. <https://doi.org/10.1111/ejn.14563>
- Van Leeuwen, N., & van Elk, M. (2019). Seeking the supernatural: The interactive religious experience model. *Religion, Brain & Behavior*, 9(3), 221–251. <https://doi.org/10.1080/2153599X.2018.1453529>