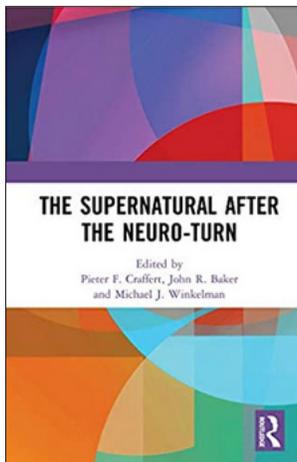


BOOK REVIEW

## *The Supernatural after the Neuro-Turn* edited by Pieter E. Craffert, John R. Baker, and Michael J. Winkelman

Reviewed by  
Gerhard Mayer

[mayer@igpp.de](mailto:mayer@igpp.de)



Routledge, 2021  
ISBN 978-0367777524

<https://doi.org/10.31275/20222491>

PLATINUM OPEN ACCESS



Creative Commons License 4.0.  
CC-BY-NC. Attribution required.  
No commercial use.

In the book chapter "Neurocognitive processes and supernatural beliefs," Andrew Newberg and David Yaden describe a basic cognitive process they call the "binary process." According to their model, this should contribute to the development of supernatural beliefs in addition to other processes. They understand this to be a general structuring process that organizes objects and abstract ideas into dyads; that is, into relations of two, e.g., good and bad, happy and sad, natural and supernatural, right and wrong. The latter dyad points precisely to a problem I have with large parts of the book. The texts of the authors involved—all of whom are men—are almost universally characterized by such a binary thought structure. One of the editors, Pieter Craffert, a neuroanthropologist who teaches in South Africa, puts it succinctly in Chapter, "The *supernatural*: A range of neuro-cultural phenomena," when he writes:

If transcendental theorists are correct, there is not only a whole range of entities and phenomena with powerful influences on the world that beg explanation, but the scientific enterprise as we know it needs radical transformation. If non-transcendental theorists are correct, their theories pose a challenge to nearly all religions as well as local and cultural explanations of the phenomena. (p. 24)

All authors of the book represent non-transcendental positions and attribute the category of the supernatural to "this-worldly" causes. It is not clear to me whether Craffert is aware that he leaves the area of scientific argumentation with the statement quoted above. With this escalation, there is only an either-or: Either they or we are right. It does not seem to occur to the authors that many of the non-transcendental explanations for supernatural interpretations of events and the arising of corresponding beliefs may be plausible and, in many cases, sufficient, but still do not capture the full picture. At least a more modest and reflective attitude that allows for this possibility is not reflected in the texts—with few exceptions.

The "Acknowledgements" state that some of the chapters collected in the book are based on papers presented at a symposium on *Where do we stand on the supernatural? An interdisciplinary exploration*, held at the University of South Africa in 2016. It seems to have been a very manageable group of participants. A group photo on the Internet shows 13 people. Only three of them, the three editors, contributed to the anthology. The presentations of the other participants obviously did not fit into its conception. Together they wrote the "Introduction;" Craffert contributed two chapters and medical anthropologist Michael Winkelman contributed three more. The remaining three chapters were written by anthropologist Charles Laughlin, neuroscientist Andrew Newberg, and psychologist David Yaden, as well as two psychologists, Yakov Shapiro and J. Rowan Scott. The selection of authors with a consistent, or at least for this occasion aligned, basic ideological stance with respect to the book topic under discussion—with one exception, which I will



discuss later—allows for a cursory treatment of the contents of each chapter and a focus on the underlying core ideas.

Chapters 1 and 6 are written by Craffert and provide an overview of cultural and religious concepts of the supernatural and ghosts. The author points out that these experiences and beliefs are reported in all cultures and during all time periods, and do not disappear with increasing [scientific] enlightenment and industrialization. Thus, the belief in ghosts and the belief in the supernatural are universal cultural anthropological constants.

In chapter 2, Laughlin uses a “neurophenomenological” approach and a biogenetic structural theory to describe the brain as a “cultural organ” whose primary function is to generate a “brainworld” (p. 42) that represents “a simplification of the real world” (p. 36). The complexity of our brain entails a high susceptibility to error. False causalities are produced because the true connections are invisible and remain hidden. Accordingly, the invisible is reified and attributed agency.

Chapters 3, 5, and 7, written by Winkelman, present his theory of the emergence of supernatural beliefs as part of the evolutionary process of human development in various aspects. The basic idea is that collective human rituals are evolutionarily biological and can also be found in primates. There, rituals strengthen group cohesion and therefore increase the survival chances of individuals and the group. In humans, they lead to religion and belief in the supernatural. The mimetic behavior of humans gives rise to shamanism. In Chapter 5, Winkelman discusses the neurophysiological basis for belief in the supernatural. Through innate and “hard-wired” cognitive operators, animism, archetypes, the collective unconscious, and even notions of supernatural powers are part of the human experience. For example, he describes animism as “a cultural universal that results from the interaction of several basic brain operators” (p. 92). Chapter 7 is devoted to one of Winkelman’s specialties, shamanism and the techniques of shamanic journeying linked to altered states of consciousness (ASC), which he largely equates with out-of-body experiences. He also sees these shamanic techniques of conscious induction of ASC as human universals that bring evolutionary advantages, such as insensitivity to pain, increased vigilance, and the idea of being able to foresee the future.

Chapter 4 includes the paper mentioned at the beginning, written by Newberg and Yaden, which describes eight fundamental neurocognitive processes that can be associated with the formation of supernatural beliefs. These are, in addition to the “binary process” already mentioned, the “holistic process” that leads to a perception of wholeness, a sense of Oneness; the “reductionist process,” which as a neurologically wired “Occam’s razor” counteracts the for-

mation of supernatural beliefs and promotes scientific approaches to the world; the “causal process” that searches for reasons and causes even where there are none; the “abstract process,” which is responsible for category and concept formation; the “emotional value process,” by which we evaluate our experiences and perceptions and come to fear or love supernatural beliefs and experiences; the “agency attribution process,” by which we determine which subjects or objects in the environment have agency; and finally, the “reality attribution process,” by which we determine what is real and what is merely imagination. Almost all of these processes are assigned a specific area of the brain and the brain is described as a “belief making machine” (p. 85). At least the authors admit that this assignment of brain structures, cognitive processes, and formation of supernatural beliefs is highly speculative.

This is particularly lacking in the contributions by Winkelman, who refers strongly to such concepts and uses them for apodictic statements, such as “This is the foundation of the human experience of the supernatural, something unseen but perceived to have mental capacities like our own” (p. 93). With the introduction and naming of various cognitive “operators” (social psychological operator, mimetic operator, isopraxic operator, etc.), his model seems to be assembled from a Lego set, with the plan and the result being fixed from the outset. Findings from evolutionary biology, anthropology, neurophysiology, cognitive and social psychology, religious studies, and cultural studies are taken into account only to the extent that they support his model. To take one example: Shamanism and imitation of the “other” (e.g., animals) play a major role in Winkelman’s model. Anthropologist Michael Taussig has done research on these topics and written an influential and widely received book, *Mimesis and Alterity* (1993). But since his approach to understanding culture and culture formation, including his critique of anthropological reductionism, does not fit Winkelman’s understanding, his theses are simply ignored. Or: Since Winkelman’s evolutionist conception sees a direct connection between the alpha animal in a primate horde and the shaman in early human groups (p. 59), he writes “the shaman is typically male” (p. 58), although there are shamanic cultures with a clear dominance of female shamans, and in general the change or dissolution of gender identity plays a major role in shamanism (Bleibtreu-Ehrenberg, 1984; Tedlock, 2004, 2006). It is pure speculation that all this was different in early human groups and that the shaman was at the same time the leader of the group and a role model for the development of a concept of God.

Thus, in many places, and this does not only concern Winkelman’s contributions, one can find simplifications that disregard essential discussions from the respec-

tive disciplines concerned. This concerns also and especially the findings of parapsychological and anomalistic research. If the authors would take these seriously, their constructions would suffer major cracks. Ultimately, they base their claim to absoluteness on the fact that psi phenomena can be traced back to perceptual illusions and cognitive dysfunctions. This blanking out is all the more surprising since both Craffert and Winkelman seem to be familiar with parapsychological literature and research. For example, Craffert suddenly cites experiments on *backward causation* and their “ample experimental evidence” (p. 42) and uses these findings situationally to support his model, but without considering them in their overall consequence for the existing non-transcendental worldview. His “reality” remains “classically three-dimensional” without, for example, admitting the possibility of further dimensions that elude our direct perception.<sup>1</sup> Winkelman also mentions in the context of shamanic practices “an enhanced ability to predict future conditions” (p. 142), although he is not clear about the underlying mechanism, except to say that future predictions are based on subconscious information.<sup>2</sup> One might conclude that the authors care more about their theoretical models than empirical facts, as is unfortunately not uncommon in the field of science.<sup>3</sup>

A few key statements can be distilled from the essays discussed:

- The formation of the belief in the supernatural brought evolutionary advantages (group cohesion, acceptance of hierarchical structures—alpha animal).
- The brain is extremely error-prone in its complexity and produces the supernatural (as misinterpretation). Complex brains are in some ways worse adapted to “reality” than simple ones.
- Nevertheless, the development of supernatural belief is not pathological or primitive, but a positive and often beneficial trait.
- Paranormal phenomena do not exist or do not enter into the models and therefore do not come into question as factors for the formation of beliefs.<sup>4</sup>

The overall positive assessment of the human inclination towards the supernatural fundamentally distinguishes the position of these authors from the classically skeptical and, in most cases, not scientifically but ideologically driven authors who have been waging the battle against superstition since the Enlightenment because it posed a massive threat to society.

What I have written so far has left out the last chapter of the anthology “Extraordinary knowing within the framework of natural science: Towards a theory of ‘scientific mysticism’” by the two psychologists, Shapiro and

Scott. Whoever reads the book until the end will be completely surprised with this text. With the exception of the fact that the authors take a non-transcendental position, give some importance to evolutionary biological considerations, and do not negatively evaluate supernatural beliefs, their approach has nothing to do with that of the other authors. For Shapiro and Scott, the findings of parapsychological research are central. They outline a model of dual-aspect monism and draw heavily on the ontological model of quantum mechanics of the U.S. physicist David Bohm (1917–1992). This chapter offers stimulating reading, which should not be seen as a supplement to the other contributions, but as a counterpoint and thus in a certain respect also represents a foreign body in the otherwise fairly homogeneous anthology. It contains sentences that are worth quoting, such as on the paradox of the *reductive epiphenomenalism of consciousness*: “I think reductively, therefore I am not” (p. 151) or a quotation from Charles Tart: “When data which make no sense in terms of the (implicit) paradigm are brought to our attention, the usual result is not a reevaluation of the paradigm, but a rejection or misperception of the data” (p. 156). They conclude their paper with well-considered sentences that also apply to parapsychological researchers:

While many questions remain to be answered, it is clear that the categories of “paranormal” and “supernatural” are only a reflection of our limited understanding of the full scope and complexity that natural processes entail. By these standards, there are no “supernatural” phenomena in Nature but only *as yet unknown* principles that will be incorporated within ever more encompassing naturalistic and trans-materialist paradigms. (p. 167; italics in original)

My conclusion: Despite the considerable criticism I have of the content of the contributions to the anthology, and even without considering the last “deviant” chapter, I can recommend the book for those seeking a good overview of non-transcendental reductionist explanatory models for the emergence of supernatural beliefs and extraordinary experiences. For example, it is helpful to know the basic cognitive processes that *may* promote the formation of such beliefs. Just keep in mind that the authors present a simplistic picture and do not bring up, let alone discuss, contradictory findings.

## NOTES

- <sup>1</sup> “Taking subjects seriously does not mean adopting their explanation but finding an explanation for their experi-

ences and phenomena. Similar to our experience of a flat earth, which is a reasonable and rational conclusion drawn from experience, spirit beliefs are rational and empirical—even though mistaken when viewed from an etic perspective . . . Anecdotal evidence, even a billion people claiming to experience a flat earth, is not sufficient evidence for a cosmology. There is a difference between the experience of and belief in a flat earth and an actual flat earth” (pp. 18–19). Exactly the same reasoning could be applied to his statement regarding the discrepancy of subjective evidence of perception and its explanation.

- <sup>2</sup> Michael Winkelman was invited by the Parapsychological Association in 2011 to give the Banquet Address at their 54th Annual Convention. It was entitled “Evolved Psychology and the Deep Structure of Psi: The Shamanic Paradigm.”
- <sup>3</sup> Of course, it could also be that the authors have chosen a simplistic presentation for reasons of publication strategy and have suppressed their actually more differentiated view.
- <sup>4</sup> On the importance of such experiences for the formation of heterodox beliefs, see Mayer and Gründer (2011).

## REFERENCES

- Bleibtreu-Ehrenberg, G. (1984). *Der Weibmann: Kultischer Geschlechtswechsel im Schamanismus. Eine Studie zur Transvestition und Transsexualität bei Naturvölkern*. Fischer.
- Mayer, G. (2022). Buchrezension zu Pieter F. Craffert, John R. Baker, Michael J. Winkelman (Eds.) (2019). “The Supernatural after the Neuro-Turn”. *Zeitschrift für Anomalistik*, 22(1), 184–189. <http://dx.doi.org/10.23793/zfa.2022.184> [German version of this book review]
- Mayer, G., & Gründer, R. (2011). The importance of extraordinary experiences for adopting heterodox beliefs or an alternative religious worldview. *Journal of the Society for Psychical Research*, 75.1(902), 14–25.
- Taussig, M. (1993). *Mimesis and alterity: A particular history of the senses*. Routledge.
- Tedlock, B. (2004). Gender in shamanism. In M. N. Walter & E. J. Neumann Fridman (Eds.), *Shamanism: An encyclopedia of world beliefs, practices, and culture: Volume I* (pp. 131–135). ABC-Clio.
- Tedlock, B. (2006). *The woman in the shaman's body: Reclaiming the feminine in religion and medicine*. Bantam.