



## **An adventurous expedition into the land of naturalistic ritual research**

**A review on Dimitris Xygalatas, *Ritual: How Seemingly Senseless Acts Make Life Worth Living*, London: Profile Books, 2022.**

Andrej Mentel

*Comenius University in Bratislava, Bratislava, Slovakia*

### **Abstract**

The book under review provides an overview of various aspects of ritual within evolutionary and cognitive religious studies. The almost exclusive focus on a naturalistic research program may, at first glance, appear as an inappropriate narrowing of perspective. However, it has the advantage that the different theoretical approaches within this program speak essentially the same language, allowing for productive discussion. The content of the book is based on a careful selection of both ethnographic and experimental research but is delivered in a lively narrative style. This makes the book pleasant to read even for the committed lay person.

### **Keywords**

Ritual, Evolution, Solidarity, Synchronization, Signalling Theory

### **Contact Address**

Andrej Mentel, Ústav sociálnej antropológie, Fakulta sociálnych a ekonomických vied UK  
Mlynské luhy 4, 821 05 Bratislava, e-mail: [andrej.mentel@fses.uniba.sk](mailto:andrej.mentel@fses.uniba.sk)

In many parts of the world, within various religious traditions but also outside the religious context, individuals perform acts which look at first sight strange and incomprehensible. They pierce their skin with dozens of metal hooks, to which they affix a burden, which they drag through hot streets. They expose themselves to the glow of hot coals. They have themselves nailed to a cross on the eve of Easter to commemorate the Crucifixion of Christ. For hours and hours, day after day, they drill a military march in the barracks courtyard, although present methods of warfare require markedly different skills. In the stadium of their favourite football team, they perform collective choreographies throughout the game, cheer their players with rhythmic chants and, when it comes to it, they do not hesitate to fight to blood with the fans of the rival team. What do these (and many other) manifestations

have in common? Why do people everywhere willingly undergo pain, hardship, and even the risk of harm to their health as part of rituals? And why, in fact, do rituals represent such a fascinating set of activities that accompany us literally all our lives? What would we lose if we gave up rituals altogether? Many social scientists (and, increasingly, natural scientists) have spent the last 100 years trying to find answers to these questions. Each of their answers has yielded some insight, very often extremely insightful, but always only partial. Nor does the book under review<sup>1</sup> pretend to come up with a coherent theory of ritual. Rather, it presents an overview of different perspectives and shows how they complement each other. The author of the book, Dimitris Xygalatas (b. 1977), does so with an exceptionally vivid narrative style that literally draws the reader's attention into the flow and holds it throughout the entire 268 pages of pure text.

Xygalatas is Associate Professor of Anthropology and Psychological Sciences at the University of Connecticut, where he also directs the Laboratory of Experimental Anthropology. He studied Religious Studies in his native Greece at the Aristotle University of Thessaloniki (B.A. in 2002), and then continued his studies at Aarhus University in Aarhus, Denmark (M.A. in 2004). He completed his PhD in 2007 at Queen's University, Belfast, under the supervision of Professor Harvey Whitehouse. He has worked as a researcher at Princeton University, Aarhus University, as well as at the Laboratory for Experimental Research on Religion (LEVYNA) at Masaryk University in Brno, Czech Republic.

Practically from the beginning of his scientific career, Xygalatas has studied extreme rituals, i.e. ritual activities that require a very high emotional and physical commitment. These include, for example, rituals involving walking on hot coals, piercing various parts of the body, or even intense group dancing. Based on his PhD thesis, in which he focused in particular on the fire-walking rituals of northern Greece and south-eastern Bulgaria, he published the monograph<sup>2</sup>. Xygalatas is also the author or co-author of several dozen scholarly studies. In addition, with William McCorkle he co-edited the book<sup>3</sup>. Most of these works are scholarly studies in which Xygalatas combines ethnographic field research with laboratory as well as field experiments. However, in addition to the actual scientific work, he has also engaged quite extensively in the popularization of science. And it is to this area of his work that the book under review belongs. Even a cursory glance at its pages reveals that it is primarily intended for an interested layperson. The author guides the reader through a great deal of scholarly research on various aspects of ritual, and does so in a very readable manner. It is just a pity that the book does not include photographic illustrations, for most of the examples the author gives are also visually impressive cultural

---

<sup>1</sup> Dimitris Xygalatas, *Ritual: How Seemingly Senseless Acts Make Life Worth Living* (London: Profile Books, 2022).

<sup>2</sup> Dimitris Xygalatas, *The Burning Saints: Cognition and Culture in the Fire-walking Rituals of the Anastenaria* (Sheffield: Equinox, 2012).

<sup>3</sup> Dimitris Xygalatas and William McCorkle, *Mental Culture: Classical Social Theory and the Cognitive Science of Religion* (London: Routledge, 2013).

manifestations. This omission is all the more unfortunate since the author is also known in the scientific community as a skilled photographer.

Although Xygalatas's book is based on a synthesis of a wide range of theoretical approaches and empirical studies, it does not pretend to attempt an all-inclusive synthesis. On the contrary, it moves consistently within a naturalistic research agenda, almost completely bypassing hermeneutical or interpretive approaches to ritual studies. This narrowing of perspective is made possible by two main factors. The theoretical-methodological orientation in which Xygalatas's book is included, i.e., Cognitive Science of Religion, is by now a sufficiently diversified field, with a variety of theoretical approaches covering different aspects of the phenomena under study. Then, these diverse approaches and sub-theories agree in their basic premises, what makes their mutual discussion productive. These starting points of this approach are Darwinian or evolutionary understandings of adaptation and functionalist thought<sup>4</sup>. It is characteristic of the naturalistic approach to social phenomena that it does not draw sharp dividing lines between humans and other animal species. Thus, Xygalatas assumes that even so-called typically human behavioural manifestations, such as rituals, have their precursors in non-human animals.

The book is divided into nine chapters. In the first chapter, entitled *The Ritual Paradox*, Xygalatas introduces readers to the issues he will address. He does this by using several descriptions of painful and energy demanding religious acts that may strike a person coming from a secular Euro-American civilization as unusual and incomprehensible. Xygalatas then engages in a dialogue with the reader where he briefly tells his story of how he came to study these types of religious acts.

The second chapter, *The Ritual Species*, is important in terms of framing the book within the realm of naturalistic thinking about cultural phenomena. Referring to several studies, Xygalatas shows how elements important for the acquisition of culture are represented in different species. He also links these findings to observations of young children, which inform us about the developmental aspects of these precursors of ritual activities. We learn here, for example, about courtship rituals in birds and mammals, or about learning new things by imitation. Several fundamental findings for ritual research emerge from these investigations. For example, an essential part of rituals is the performance of a series of acts in a prescribed order, without it being obvious how specifically these acts lead to the intended goal. In this regard, Xygalatas reports an interesting experiment comparing imitative learning in juvenile chimpanzees and in children<sup>5</sup>. As long as neither the young chimpanzees nor the children could see which specific steps of the more complex activity led to the goal, their ability to learn a series of steps without error was about the same. If, however, they could observe which particular actions led to the goal and which were superfluous, a marked difference became apparent. However, the difference was exactly the opposite of what we might intuitively expect. While the children mimicked the entire

<sup>4</sup> David S. Wilson, *Darwin's Cathedral: Evolution, Religion, and the Nature of Society* (Chicago and London: The University of Chicago Press, 2002), 6–7.

<sup>5</sup> Xygalatas, *Ritual*, 40–41.

series of steps as they saw it performed by the experimenters, the chimpanzees dropped the extra steps and adopted a direct path to the outcome<sup>6</sup>. Xygalatas sums it up almost aphoristically, “*So it appears that apes do not mindlessly ape, but that human children do.*”<sup>7</sup> It seems that it is precisely the tendency of children to ‘ape’ more consistently (even at the cost of imitating apparently ineffective actions) that is ultimately more effective for cultural acquisition. In addition to making it easier for us to learn to operate complicated devices more or less solely on the basis of trust in our teachers, this ability also allows us to disregard the causal opacity that is one of the essential components of rituals.

Other characteristics of rituals have their correlates in both normal and abnormal psychology, too. As early as Sigmund Freud observed that the rigidity, constant repetition, and redundancy of ritual activities closely resemble the behaviour of a person with so-called compulsive neurosis<sup>8</sup> (now diagnosed as obsessive-compulsive disorder; OCD). Freud’s hypotheses were followed up in the early 20<sup>th</sup> century by a number of empirical researchers, including anthropologists such as Bronisław Malinowski; however, research on rituals in relation to coping with anxiety continues until now. Xygalatas<sup>9</sup> mentions (among others) the research of Alan Fiske and his colleagues<sup>10</sup>.

Xygalatas links these findings from ethology and psychology with those from archaeology and prehistory, suggesting that collective ritual activity was a crucial factor catalysing, among other things, the Neolithic Revolution. An outstanding example here is the archaeological site of Göbekli Tepe in southern Anatolia. Xygalatas points out that this huge cult site pre-dates the emergence of agriculture<sup>11</sup>. Its significance for prehistory lies in the fact that it challenges wide-spread ideas about agriculture as the main reason for permanent human settlements and for the emergence of organized society. The discovery of Göbekli Tepe and related artefacts suggests that the key factors in Neolithic evolution should be sought in the world of social processes rather than the economic. In particular, it appears that, at least in this case, hunters and gatherers came from great distances to perform collective rituals in a huge temple complex. But the mere construction of such temples would have required massive social cooperation and organization. One of possible functions of collective rituals in that case was the coordination of the labour force.

Other chapters elaborate on the ideas raised in *The Ritual Species* chapter. Gradually they discuss the various functions of rituals, whether individual or collective. From the reader’s

<sup>6</sup> Derek E. Lyons et al., “The scope and limits of overimitation in the transmission of artefact culture.” *Philosophical Transactions of the Biological Society B: Biological Sciences* 366, no. 1567 (2011).

<sup>7</sup> Xygalatas, *Ritual*, 41.

<sup>8</sup> Sigmund Freud, “Zwangshandlungen und Religionsübungen [1907].” In *Zwang, Paranoia und Perversion. (Studienausgabe) Bd. 7*, edited by Alexander Mitscherlich, 13–21. (Frankfurt am Main: S Fischer, 1989).

<sup>9</sup> Xygalatas, *Ritual*, 37–39.

<sup>10</sup> Siri Dulaney, and Alan P. Fiske. “Cultural rituals and obsessive-compulsive disorder: Is there a common psychological mechanism?” *Ethos* 22, no. 3 (1994): 243–283; Alan P. Fiske, and Nick Haslam. “Is obsessive-compulsive disorder a pathology of the human disposition to perform socially meaningful rituals? Evidence of similar content,” *The Journal of Nervous and Mental Disease* 185, no. 4 (1997): 211–222.

<sup>11</sup> Xygalatas, *Ritual*, 32ff.

point of view, it is not entirely obvious according to what logic the individual chapters (and thus the functions of rituals) are arranged. We can only guess that this order reflects to some extent the author's assessment of their relative importance in human life. Taking into account Xygalatas's own research work, he seems most interested in ritual as a means of creating symbolic order. Thus, after introducing humans as a biological species directly oriented to and by rituals and ceremonies, the third chapter, *Order*, address precisely that concept. Using many examples from ethnography, psychology, and other disciplines, Xygalatas shows in this chapter that one of the basic functions of ritual is to induce a sense of control. He draws extensively on Malinowski's research on the Trobriand Islands, whose inhabitants performed a number of magical rites accompanying the construction of boats for fishing on the open seas. But at the same time, Xygalatas also pays attention to top athletes, gamblers and other people who face unpredictable circumstances upon which their success or failure depends. Rituals (both collective and individual) are presented as an effective psychological technology. Indeed, rituals have distinctive properties that create a sense of predictability. These characteristics include, in particular, rigidity (fidelity to a prescribed script that cannot be deviated from), repetition (whether within the ritual itself or in the organization of activities over time), and redundancy with respect to the putative effects. These features make it possible to attract a person's attention, to calm their mind, and, due to this, help them make fewer mistakes. Xygalatas attributes this benefit to the fact that the human brain is not only an 'information-processing device' but above all a 'predictive device.'<sup>12</sup> Unpredictability induces anxiety because it is associated with threats for which one cannot prepare. Even an illusory sense of predictability can diminish anxiety, allowing great focus on the ritual performance.

The next chapter is entitled *Glue*; a reference to the function of ritual to increase the cohesion of social groups. First, however, he adds two more characteristics to those already mentioned in order to distinguish ritual from ordinary activities. These properties are causal opacity and goal demotion. Ordinary activities are generally causally transparent. Although we often do not know exactly how an action achieves its effect (for example, when we press a button on the remote control to turn on the TV), we expect that our action is linked to its outcome by a series of mechanistic and potentially comprehensible steps<sup>13</sup>. In contrast, for ritualized activities, it is often not clear how they should achieve their intended effects, e.g., when we knock on wood to avoid 'summoning misfortune.' Goal demotion is a property of a different kind and is tied to the observer's ability to guess the reason (or purpose) for performing an action. For example, during a Catholic Mass, a priest wipes the ceremonial bowl (paten) with a three times-folded piece of white cloth during the act of purification. This activity, although causally transparent, has no intuitively clear purpose (the paten was already clean before, so it is not obvious why the priest is cleaning it). Usually, however, in ritualized activities, these two properties converge. When we observe such activities, we evaluate them as 'something special.' As research conducted

---

<sup>12</sup> Xygalatas, *Ritual*, 83.

<sup>13</sup> Xygalatas, *Ritual*, 88.

with young children<sup>14</sup> shows, such activities are attention-grabbing and children repeat them more faithfully than ordinary activities.

However, it is not yet entirely clear what this dynamic has to do with group cohesion and cooperation. The key ingredient here is *phenotypic matching*. The idea is that, as in other animals forming complex social arrangements, humans have evolved mechanisms for recognizing related individuals (or members of one's own group) on the basis of similarity. This similarity relates to both appearance and behavioural manifestations. Even strangers who look like us are therefore usually more willing to help us than those who look or behave differently from us. Of course, the specific features by which we evaluate 'similarity' and 'dissimilarity' depend on a number of factors. Xygalatas<sup>15</sup> reports here the results of experiments he and his colleagues conducted on the island of Mauritius. They showed that the phenotypic matching effect also extended to symbolic similarities: people showed more trust towards anonymous strangers if they wore symbols of their own group membership. For example, Christians showed greater trust in those who wore a cross pendant, while Hindus better trusted those who wore a coloured mark (*tilak*) on their foreheads. Uniforms, folk costumes, or dialects, for example, probably have the same function.

In this context, rituals prove to be a particularly effective signal of belonging to a particular group. By being able to easily distinguish them from ordinary activities, and at the same time to recognize when they are performed 'correctly,' they represent a hard-to-pretend behavioural sign of mutual similarity. Yet these need not be elaborate ceremonies. Even seemingly nonsensical military marching exercises are very effective here. Through coordinated rhythmic activity with no apparent practical purpose, a sense of togetherness is created and reinforced in the military<sup>16</sup>. Other research has yielded similar results. Not every collective ritual contains a pronounced rhythmic component that causes synchronization of movements among its participants. However, those groups whose rituals do contain such synchronization seem to be particularly effective in creating a sense of belonging, mutual trust, and a willingness to cooperate with other members. This bonding effect leads to the content of the next chapter, entitled *Effervescence*.

The fact that shared rhythmic synchronized activity promotes group cohesion and mutual trust among group members is supported by several research studies. Many of them note mainly prosocial consequences in the form of strengthening cooperation<sup>17</sup>; others also point to effects such as reinforcement of conformity, obedience to the leader, and other precursors

---

<sup>14</sup> Mark Nielsen, Keyan Tomaselli, and Rohan Kapitány, "The influence of goal demotion on children's reproduction of ritual behavior." *Evolution and Human Behavior* 39, no. 3 (2018): 343–348.

<sup>15</sup> Xygalatas, *Ritual*, 98.

<sup>16</sup> William H. McNeill, *Keeping Together in Time: Dance and Drill in Human History* (Cambridge, Mass: Harvard University Press, 1995).

<sup>17</sup> Michele J. Gelfand, Nava Caluori, Joshua C. Jackson, and Morgan K. Taylor, "The cultural evolutionary trade-off of ritualistic synchrony," *Philosophical Transactions of the Royal Society B* 375, no. 1805 (2020). 20190432; see also Andrej Mentel, "Rituals and Group Solidarity: An Ethnographic Case Study," *Slovenský národopis* 70, no. 2 (2022), 228–247.

for the emergence of an aggressive mob<sup>18</sup>. However, there may also be a reverse process, i.e., that during the performance of a collective ritual, a certain synchronization occurs among the participants. Such results might be expected especially in rituals accompanied by an intense emotional experience of unification among the participants. Whether it's a fire-walking ceremony or, say, a big football match, participants in such collective activities experience a massive collective enthusiasm where they momentarily forget themselves and literally merge with the group. This collective effervescence was already considered an important part of indigenous rituals by the French sociologist Émile Durkheim<sup>19</sup> (1915 [1912]). Xygalatas, based on his fieldwork, shows that in situations where this collective arousal occurs, there is indeed a kind of synchronization between the participants in the ritual and even the observers. This synchronization, however, happens at a deeper physiological level. The researchers observed the matching of the heartbeats of participants. However, Xygalatas and his team noticed that this effect was more pronounced among those participants who were socially closer, for example among family members or close friends<sup>20</sup>. Conversely, for the spectators who were not members of the community in question, this effect was much weaker. This difference suggests that the phenomenon, which Durkheim had noticed more than a century earlier, may have a distinct physiological substrate. The question remains, however, how to interpret these findings from an evolutionary perspective. What we observe is a connection between collective ritual and an increase in group cohesion. This connection is strengthened in one direction by synchronized rhythmic activity and in the opposite direction by spontaneous synchronization of physiological processes. However, the question is whether there is an adaptive function of ritual, or whether ritual activity appears here as a by-product of other adaptive mechanisms, such as the neurophysiological basis of empathy. From several remarks in the text of the book, Xygalatas seems to lean towards the first option, that is, that ritual is an effective social technology that, by fostering cooperation within a group, helps people to better adapt to environmental conditions<sup>21</sup>.

The chapter *Effervescence* is also important from a methodological point of view. If I wrote above about the interdisciplinary approach that Xygalatas uses in his research work, it is in this chapter that it is most obvious. It is precisely here that he most extensively refers to those studies in which he combines ethnographic observation with field experiments, in this case mainly the simultaneous measurement of physiological indicators during a collective ritual.

The second half of the book develops the ideas outlined in the first five chapters, providing a wealth of empirical findings as well as theoretical considerations. In the sixth chapter, *Superglue*, the author discusses the subset of rituals to which he has devoted most of his

---

<sup>18</sup> Scott Wiltermuth, "Synchrony and destructive obedience," *Social Influence* 7, no. 7 (2012), 78–89.

<sup>19</sup> Émile Durkheim, *The Elementary Forms of the Religious Life*, trans. Joseph Ward Swain (London: Allen & Unwin, 1915).

<sup>20</sup> Xygalatas, *Ritual*, 135 and 139.

<sup>21</sup> Xygalatas, *Ritual*, 150 and 174.

own research, namely painful and emotionally intense rituals. The chapter opens with an overview of painful initiation rituals both in tribal societies and in other societies based on a high degree of mutual loyalty and commitment, such as military units or criminal gangs. Next, Xygalatas discusses ethnographic examples of other periodically recurring rituals characterized by extreme personal commitment. He details, for example, his own observations from among the Tamils of Mauritius participating in the Hindu festival of *Thaipusam Kavadi*. Using these examples, he shows that the higher the level of loyalty required in a given group, the harsher the initiation rituals. However, the opposite is also true: the higher the personal involvement in painful rituals, the more willingly the participants and their accompanying loved ones cooperate with others. Xygalatas concludes that while frequently repeated low-intensity rituals act as ‘social glue’ increasing the cohesion of society, adding a high degree of personal investment in the form of pain, exhaustion and intense emotional experience greatly increases the ‘social glue’ effect. Extreme rituals become a social ‘superglue’.

The seventh chapter, *Sacrifice*, gives an overview of some current theoretical views that attempt to explain this effect of extreme rituals. Xygalatas begins by describing the handicap principle<sup>22</sup> originating with the Israeli evolutionary biologist Amotz Zahavi. He then introduces the costly signalling theory, which several researchers have applied to the study of rituals. If we consider that one of the functions of rituals is to communicate certain messages (both to other participants and to the audience), then the question becomes what is actually being communicated. The theory of costly signalling assumes that the communicated content is comprised of characteristics of the ritual participants that are not directly visible. These include, for example, loyalty to the community, willingness to abide by its rules, etc. Such qualities increase the success of the adaptation of the whole group (and thus of its individual members) by reducing the likelihood of freeriding. But rituals requiring a high personal investment may also have another function, namely to increase the reliability of cultural transmission of contents that cannot be directly verified. Such contents are, for example, religious or metaphysical claims. If their dissemination is to be successful, the credibility of the persons who act as disseminators (e.g. preachers, missionaries or even ordinary believers) needs to be enhanced. According to Joseph Henrich, religious acts requiring high personal involvement are a suitable tool to increase the credibility of disseminators of metaphysical content<sup>23</sup>; he called them *Credibility Enhancing Displays* (CREDs). The idea of CREDs is based on simple logic. Although one cannot prove the authenticity of their beliefs, performing certain costly activities in connection with those beliefs is at least indicative of a degree of commitment to them. According to Xygalatas, CREDs are effective not only towards convincing others but also towards those

---

<sup>22</sup> Amotz Zahavi, "Mate Selection: A selection for a handicap," *Journal of Theoretical Biology* 53, no. 1 (1975), 205–214.

<sup>23</sup> Joseph Henrich, "The evolution of costly displays, cooperation and religion," *Evolution and Human Behavior*, 30, no. 4 (2009), 244–260.



who produce them themselves<sup>24</sup>. Many rituals serving as CREDs are causally opaque, so it is not evident in what way they are intended to achieve their intended goal. They therefore need interpretation (exegesis). By devotedly performing such causally opaque rituals, even in private, individuals literally convince themselves of the ideas which explain the rituals. This affirmation both substantiates their belief and helps them to find meaning in life. In addition to worldviews, such confirmation can have direct or indirect consequences for improving well-being and ultimately health.

The penultimate chapter of the book, *Well-being*, is devoted to the topic of potential influences on the psycho-social and physical health of a person. The central question of this chapter is the seemingly paradoxical question of whether the extreme rituals discussed in previous chapters can be in some sense beneficial to health. These are extremely exhausting activities, in which there is a relatively high risk of serious injury or infection. However, several studies show that in most cases the opposite happens to the participants: an intense wave of stress during the ritual itself is followed by a significant relaxation that results in an improvement in well-being. In this context, Xygalatas mentions two possible mechanisms acting in parallel. The first relates to the fact that these rituals are accompanied by a range of recreational activities that take people out of their daily routine. The second, however, is directly related to the nature of the extreme rituals; the painful stimuli and exhaustion represent a significant stimulus for the production of endorphins and also for a kind of ‘reboot’ of the serotonin-dopamine system as well as the immune system. Here, Xygalatas sympathizes with the speculation that before our ancestors discovered the methods of healing historically evolving to modern medicine, they found a certain self-healing potential in shamanic rituals associated with high arousal to altered states of consciousness<sup>25</sup>. But it is not only intense rituals that can have a positive effect on the health of their participants. According to various studies, regularly repeating rituals of low intensity, such as Sunday Mass, daily home prayers or meditation exercises, the rhythm of ordinary days, fasting days and holidays, etc., also have a beneficial effect. Practicing these practices regularly requires a high level of effort and commitment, which helps practitioners develop self-discipline and self-control. As a result, these people tend to lead an overall more moderate and orderly life, which brings undeniable health benefits<sup>26</sup>.

The last chapter, *Harnessing the Power of Ritual*, considers the function of rituals in modern 21<sup>st</sup> century society. The chapter opens with a look at the Covid-19 pandemic and its accompanying phenomena: a sense of threat that humanity has not experienced for a long time, lockdowns and other anti-pandemic measures that severely limited social life, and often contradictory and illogical decisions by politicians. Xygalatas shows how it was precisely in these moments of uncertainty that people found a source of resilience in rituals of various kinds. Although the standard venues for performing rituals (whether spaces

---

<sup>24</sup> Xygalatas, *Ritual*, 213.

<sup>25</sup> Xygalatas, *Ritual*, 233.

<sup>26</sup> Allen Ding Tian et al., "Enacting rituals to improve self-control," *Journal of Personality and Social Psychology* 114, no. 6 (2018), 851–876.

for worship or for various civil ceremonies) were closed in many countries, people found creative ways to perform these rituals in spite of the restrictions. Whether it was online services, processions or wedding ceremonies in cars, or private celebrations at home, all these solutions reflected people’s ingenuity on the one hand and their deep need to frame important moments in their lives with ritual on the other. But Xygalatas goes further: what form do contemporary rituals take? From the *Burning Man* festival in the Nevada desert to elements of corporate culture in Danish companies or university workplaces, Xygalatas shows how these modern festivals and routines, set in a contemporary context, fulfil the functions of the rituals discussed in the previous chapters. However, he also indicates that not all such rituals have a chance of surviving the process of cultural selection. In the first place, it is not possible to mechanically adopt ancient ritual practices and implant them without context into the contemporary world. Xygalatas writes on this at the end of the book:

*It is one thing to go through an arduous coming-of-age ceremony that has been enacted by your ancestors for ages, accompanied by your peers and guided by the elders of your community; it is another altogether to be humiliated by a group of second-years in a fraternity initiation. Confessing your sins to a priest may be cathartic, but being asked personal questions by your boss in a corporate team-building session may feel embarrassing<sup>27</sup>.*

Although Xygalatas’ book is primarily intended for a lay audience, it can be inspiring for professionals as well. It contains a large number of references to empirical research (either his own or that of other researchers), as well as an overview of basic theoretical approaches within the naturalistic-functionalist paradigm. From this perspective, it can also be recommended to students of the humanities and social sciences as an introduction to the study of ritual from the perspective of cognitive science of religion.

## Bibliography

Dulaney, Siri, and Alan P. Fiske. “Cultural rituals and obsessive-compulsive disorder: Is there a common psychological mechanism?” *Ethos* 22, no. 3 (1994): 243–283.

Durkheim, Émile. *The Elementary Forms of the Religious Life*. Translated by Joseph Ward Swain. London: Allen & Unwin, 1915.

Fiske, Alan P., and Nick Haslam. “Is obsessive-compulsive disorder a pathology of the human disposition to perform socially meaningful rituals? Evidence of similar content,” *The Journal of Nervous and Mental Disease* 185, no. 4 (1997): 211–222.

Freud, Sigmund. “Zwangshandlungen und Religionsübungen [1907].” In *Zwang, Paranoia und Perversion*. (*Studienausgabe*) Bd. 7, edited by Alexander Mitscherlich, 13–21. Frankfurt am Main: S Fischer, 1989.

<sup>27</sup> Xygalatas, *Ritual*, 267.

- Gelfand, Michele J., Caluori, Nava, Jackson, Joshua C., and Morgan K. Taylor. “The cultural evolutionary trade-off of ritualistic synchrony,” *Philosophical Transactions of the Royal Society B* 375, no. 1805 (2020). 20190432.
- Henrich, Joseph. “The evolution of costly displays, cooperation and religion,” *Evolution and Human Behavior*, 30, no. 4 (2009), 244–260.
- Lyons, Derek E. , Damrosch, Diana H., Lin, Jennifer K., Macris, Deanna M., and Frank C. Keil. “The scope and limits of overimitation in the transmission of artefact culture.” *Philosophical Transactions of the Biological Society B: Biological Sciences* 366, no. 1567 (2011): 1158–1167.
- McNeill, William H. *Keeping Together in Time: Dance and Drill in Human History*. Cambridge, Mass.: Harvard University Press, 1995.
- Mentel, Andrej. “Rituals and Group Solidarity: An Ethnographic Case Study,” *Slovenský národopis* 70, no. 2 (2022), 228–247.
- Nielsen, Mark, Tomaselli, Keyan, and Rohan Kapitány. “The influence of goal demotion on children’s reproduction of ritual behavior.” *Evolution and Human Behavior* 39, no. 3 (2018): 343–348.
- Tian, Allen Ding, Schroeder, Juliana, Häubl, Gerald, Risen, Jane L., Norton, Michael I., and Francesca Gino. “Enacting rituals to improve self-control,” *Journal of Personality and Social Psychology* 114, no. 6 (2018), 851–876.
- Xygalatas, Dimitris. *The Burning Saints: Cognition and Culture in the Fire-walking Rituals of the Anastenaria*. Sheffield: Equinox, 2012.
- Xygalatas, Dimitris, and McCorkle Jr., William W. (eds.). *Mental Culture: Classical Social Theory and the Cognitive Science of Religion*. London: Routledge, 2013.
- Xygalatas, Dimitris, *Ritual: How Seemingly Senseless Acts Make Life Worth Living*. London: Profile Books, 2022.
- Wilson, David S., *Darwin’s Cathedral: Evolution, Religion, and the Nature of Society*. Chicago and London: The University of Chicago Press, 2002.
- Wiltermuth, Scott. “Synchrony and destructive obedience,” *Social Influence* 7, no. 7 (2012), 78–89.
- Zahavi, Amotz. “Mate Selection: A selection for a handicap,” *Journal of Theoretical Biology* 53, no. 1 (1975), 205–214.