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**The question of the relationship between religious ritual and
religious beliefs in the cognitive science of religion**

Związek między rytuałem religijnym a wierzeniami religijnymi

w ujęciu kognitywistyki religii

DOCTORAL DISSERTATION IN THE DISCIPLINE OF COMMUNICATION AND MEDIA STUDIES

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Summary

The dissertation examines an understudied issue in cognitive science of religion: the relationship between religious ritual and religious beliefs. Although both phenomena are central to religious life, CSR typically treats them in isolation, focusing either on beliefs as a system of representations or on rituals as a form of action with social and cognitive consequences. This methodological division obscures the ways in which ritual and beliefs mutually shape and support each other in actual religious practice. The present study takes this interdependence as its primary object of analysis and aims to develop a cognitive model explaining how religious beliefs are intertwined with ritual actions.

The first chapter reinterprets Lawson and McCauley's work *Rethinking Religion*. The chapter demonstrates that ritual action requires only a subset of beliefs — those directly related to ritual performance — while more abstract, metaphysical beliefs, including beliefs in a supernatural agent, play a secondary role. To clarify this problem, the chapter proposes an extension of the original model by introducing two mediating mechanisms: a concept selection system and a belief selection system.

The second chapter is devoted to the social dimension of ritual and examines the gap between individual participation and the collective outcome of ritual. Building on Whitehouse's concept of ritual stance, the chapter argues that ritual actions do not require a special cognitive module designed specifically for rituals. Instead, ritual behaviour can be understood as a specific case of intentional stance, where beliefs and motives for action are borrowed from others.

The third chapter examines the relationship between ritual and beliefs from an enactivist perspective, analyzing the relationship between bodily participation and symbolic meaning in ritual practice. The chapter proposes a typology of different ways in which physicality and religious symbolism interact, ranging from symbolic embodiment to forms of practice in which physical activity generates religious meaning. This concept is applied to cases of ritual transfer, illustrating how ritual practices can create a sense of the “realness” of religious phenomena.

The fourth chapter builds upon the findings of previous analyses and outlines the dissertation's primary contribution: the idealizational model of the structure of religious beliefs system and their connection to ritual. The model distinguishes three types of beliefs — core, justifying, and procedural — and argues that only procedural beliefs are directly connected to the initiation of ritual performance. This model enables the relationship between ritual and religious beliefs to be defined more precisely. This is expressed in two theses: (1) Procedural beliefs are directly involved in the initiation of the religious ritual; (2) The performance of religious ritual results in the generation of justifying experiential and core beliefs.

Based on this, the dissertation argues that ritual and beliefs reinforce each other without giving structural priority to either.

Keywords: cognitive science of religion; religious ritual; belief system; religious belief; ritual stance

Streszczenie

Celem rozprawy jest rozważenie i zaproponowanie rozwiązania problemu relacji między rytuałem religijnym a przekonaniem religijnym. Kwestia ta nie została do tej pory dostatecznie opracowana w kognitywistyce religii. Choć oba zjawiska – rytuał i przekonania religijne – odgrywają zasadniczą rolę w funkcjonowaniu systemu religijnego, kognitywistyka religii zajmuje się nimi jako odrębnymi formami życia religijnego. Koncentruje się albo na badaniu przekonań religijnych, albo na badaniu rytuałów, które traktuje jako szczególny rodzaj ludzkiego działania, podlegający takim samym prawidłowościom jak codzienne działania pozareligijne. Takie metodologiczne oddzielenie dwóch podstawowych form aktywności religijnej przesłania związku pomiędzy nimi, jakie pojawiają się w rzeczywistych ludzkich praktykach religijnych. Niniejsza praca traktuje tę współzależność jako główny przedmiot analizy, a jej celem jest opracowanie modelu kognitywnego, który pozwoli wyjaśnić, w jaki sposób przekonania religijne są splecione z działaniami rytualnymi.

Rozdział pierwszy zawiera reinterpretację fundamentalnej dla kognitywistyki religii pracy Lawsona i McCauleya *Rethinking Religion* (1990). Pokazuje się w nim, że udział w rytuale religijnym wymaga uprzedniej aktywacji przekonań religijnych należących do pewnej podklasy. Są to te przekonania, które bezpośrednio określają procedurę wykonania rytuału. Natomiast bardziej abstrakcyjne przekonania metafizyczne, a w szczególności wiara w istotę nadprzyrodzoną sprawcę, odgrywają na tym etapie, co najwyżej, rolę wtórną. W celu doprecyzowania tego ujęcia proponuje się rozszerzenie oryginalnego modelu Lawsona i McCauleya przez dodanie dwóch mechanizmów pośredniczących: systemu selekcji pojęć oraz systemu selekcji przekonań.

Rozdział drugi poświęcony jest społecznemu wymiarowi rytuału i pokazuje jak można wypełnić lukę między indywidualnym uczestnictwem w rytuale, a rezultatem, jaki pojawia się na skutek praktykowania go przez wiele jednostek. Odwołując się do koncepcji nastawienia rytualnego Whitehouse'a (2001), pokazuje się, że działania rytualne nie wymagają specjalnego modułu poznawczego zaprojektowanego wyłącznie dla nich. Zachowanie rytualne traktować można jako szczególny przypadek nastawienia intencjonalnego, które charakteryzuje się tym, że przekonania i motywy działania są przejęte od innych uczestników.

Rozdział trzeci ujmuje relację między rytuałem a przekonaniem religijnym z perspektywy enaktywistycznej. Polega to na ukazaniu roli, jaką w praktyce rytualnej odgrywa związek między cielesnym uczestnictwem a znaczeniem symbolicznym. Rozdział ten proponuje typologię różnych sposobów interakcji między cielesnością a symboliką religijną. Wyróżnia się cztery typy interakcji, które rozpięte są pomiędzy ucieleśnieniem symbolicznym a formami praktyk religijnych, w których samo cielesne zachowanie generuje znaczenie religijne. W rozdziale tym pokazuje się także jak można zastosować koncepcję enaktywistyczną do objaśnienia przypadków transferu rytuału, a w szczególności do pokazania jak praktyki rytualne wytwarzają poczucie „realności” zjawisk religijnych.

Rozdział czwarty zawiera autorską propozycję idealizacyjno-kognitywnego modelu systemu przekonań religijnych oraz pokazuje, które z przekonań należących do systemu powiązane są z rytualnymi praktykami religijnymi. W modelu tym wyróżnione zostają trzy typy przekonań: przekonania podstawowe, uzasadniające oraz proceduralne. Wyróżnienie to pozwala dokładniej określić, w jaki sposób określone typy przekonań powiązane są z rytuałem religijnym. Na podstawie powyższych ustaleń sformułowane zostają dwie tezy: pierwsza z nich określa, jakie przekonania pełnią sprawczą funkcję w

inicjowaniu rytuału. Natomiast druga określa, jakie przekonania pojawiają się jako rezultat zakończonego rytuału. Tezy te przyjmują następującą postać: (1) Przekonania proceduralne są bezpośrednio powiązane z inicjowaniem rytuału religijnego; (2) Efektem zakończonego rytuału jest wystąpienie przekonań uzasadniających oraz przekonań podstawowych.

Słowa kluczowe:

kognitywna nauka o religii; rytuał religijny; system wierzeń; wierzenia religijne; postawa rytualna

Introduction

Religion poses a persistent puzzle to cognitive science. It puts the core assumptions of cognitive theories to the test by confronting them with cases that resist standard explanations. Why have humans, for thousands of years, believed in entities that cannot be detected through the senses? Why do they engage in rituals — actions with no obvious practical or instrumental purpose? Why do beliefs in the unseen and actions without evident outcomes form such a tight association in religion? For science, such gaps in explanation are not a weakness but an invitation — to revise existing models or develop new ones that can better account for these phenomena (Emmerson, 2022). These difficult questions have, unsurprisingly, drawn increasing interest from researchers and led to the formation of a new field at the intersection of cognitive science, psychology, and anthropology: the cognitive science of religion (CSR), which began to take shape over thirty years ago (Whitehouse & Laidlaw, 2007).

Religious experience brings together diverse dimensions of human life: the body and the mind, imagination, culture, and collective practices. Faced with this complexity, cognitive science must resort to methodological simplification to render religious phenomena tractable for scientific inquiry (Bechtel & Richardson, 2010). One common approach is to decompose religiosity into discrete, analyzable components, each of which can be studied in isolation. As a result, the cognitive mechanisms behind the formation and transmission of religious belief are typically studied in isolation from the cognitive structure and processing of ritual behaviour (Boyer, 1994, 2001; Barrett et al., 2003; Boyer & Barrett, 2005; Lawson & McCauley, 1990; Sørensen, 2005).

The cognitive science of religion has made significant progress in studying issues related to ritual, such as the cognitive representation of ritual (Lawson & McCauley, 1990; Sørensen, 2007), the mechanisms responsible for the social evaluation and recognition of ritual (Sosis & Alcorta, 2003), the cognitive causes of ritual efficacy (Taves, 2009; Xygalatas, 2022), ritualization (Boyer & Liénard, 2006), the involvement of memory in ritual (Whitehouse, 2004), and the role of embodiment in ritual (Barsalou et al., 2005; Teehan, 2024), among others. Even more extensive theoretical and empirical research has been devoted to the cognitive study of religious belief. These include investigations into the evolutionary origins of religious beliefs (Boyer, 2001; Atran, 2002), their cognitive structure (Boyer, 1994; Barrett & Nyhof, 2001), the relationship between religious beliefs and general cognitive mechanisms such as agency detection or

mentalizing (Barrett, 2004; Norenzayan & Gervais, 2013), the influence of analytic thinking on religiosity (Norenzayan, 2012), and the impact of religious beliefs on conceptions of social order (Purzycki et al., 2016), among others. However, the relationship between ritual and belief is touched upon in these works only in passing and has not been treated as an independent research problem.

The separation of religious belief and ritual is evident not only in theoretical approaches but also in the structure of academic research. For example, in the programs of conferences belief and ritual are often addressed in separate panels, as if they belonged to distinct areas of investigation¹. This separation can make it more difficult to grasp religiosity as an integrated human phenomenon. Models of religious belief typically focus on processes of representation and inference, while ignoring the embodied and performative aspects of religiosity; in contrast, models of ritual emphasize the behavioural patterns and social effects of ritual practice, overlooking the mental content that underpins it.

Before the emergence of the cognitive science of religion, which focuses on mental processes involved in religious practice, religiosity was studied within anthropology, where beliefs and rituals were generally examined in their mutual interdependence. Different anthropological theories approached this relationship in distinct ways, yet they typically understood them as elements of a unified, institutionalized cultural-worldview system. For example, Edmund Leach (1968) viewed ritual as the primary means through which religious ideas — forming the foundation of culture — are expressed and reproduced. Victor Turner (1967) similarly treated beliefs and their transformation as internal components of the ritual process. In the same vein, Clifford Geertz (1973), developing a line of cultural functionalism, demonstrated how the symbolism of belief and ritual constitutes a coherent model of society that provides meaning to both individual and collective layers of experience.

While the methodology of anthropology — which examines cultural systems and collective forms of experience — enables beliefs and ritual to be treated as two interrelated aspects of human religiosity without particular theoretical difficulty, the cognitive science of religion, with its focus on specific, delineated mental processes, tends to treat belief and ritual as two distinct modules with different psychological and cognitive

¹ See, for example, conference programs of the International Association for the Cognitive and Evolutionary Sciences of Religion: <https://iacesr.com/>

underpinnings. However, while this separation allows for the construction of empirically testable models of specific aspects of religiosity, it also risks distorting the lived reality, in which these elements are deeply interwoven. Ritual practices are clearly rarely independent of the religious representations that shape and sustain them. At the same time, all major religious traditions prescribe the obligatory participation of their followers in ritual. This evident and enduring interrelation between ritual and belief suggest that, to advance our understanding of human religiosity, we should examine how these two fundamental components are interconnected. This dissertation takes that connection as its point of departure, aiming to identify the cognitive mechanisms that link religious ritual with religious belief.

On this basis, the present research aims to develop a cognitive model of the relationship between religious ritual and religious belief. This investigation is deliberately limited to rituals performed within religious contexts and does not extend to non-religious forms of ritualized behaviour, such as secular ceremonies, rituals in sports, politics, education, or ritualized behaviour in animals. This limitation is intended to maintain theoretical consistency in exploring the connection between ritual and belief. It is within the religious domain that beliefs, symbolism, and normative frameworks play a central conceptual role in the functioning of ritual, whereas in non-religious contexts, these elements are often secondary or altogether absent.

To achieve the stated research goal, this study undertakes a reconstruction and critical analysis of existing theoretical models concerning the cognitive foundations of ritual, with a focus on how they account for the role of belief, their contributions to understanding this relationship, and their limitations. The theoretical investigation draws on three key perspectives, each offering a distinct lens on the cognitive dimension of ritual: the linguistic perspective (Lawson & McCauley, 1990), the ritual stance theory, which connects ritual with mechanisms of social cohesion and group formation (Whitehouse, 2021) and the enactivist perspective (Barsalou et al., 2005; Teehan, 2024). This multi-theoretical approach is based on the assumption that such a complex question cannot be adequately addressed through a single methodological framework. The use of multiple perspectives is not intended to answer several separate research questions, but rather to support an integrative strategy (Seawright, 2016), in which each approach contributes complementary insights into the complex relationship between ritual and belief. Methodologically, the study combines conceptual analysis, comparative evaluation of competing theories, and the method of idealization aimed at constructing an

abstract model that highlights the fundamental mechanisms linking ritual practice with religious belief.

Although the relationship between belief and ritual is rarely the primary focus of scientific inquiry, certain assumptions about this connection can be inferred from existing cognitive approaches to religion. However, doing so requires a thorough reconstruction of these approaches in order to articulate the link between religious representations and ritual action from within these theoretical frameworks. The first three chapters of this dissertation are devoted to that task. Accordingly, Chapter One examines the linguistic approach developed by Lawson and McCauley in their book *Rethinking Religion* (1990), one of the earliest works to explore ritual from a cognitive perspective. Although the authors deliberately avoided addressing the category of belief directly, it is implicitly embedded in their model of ritual action. The aim of this chapter is therefore to reinterpret the structure of ritual representation proposed by Lawson and McCauley in light of the role that belief plays within it.

Chapter Two turns to the social dimension of ritual action and its role in shaping ritual intentionality. It takes as its starting point Harvey Whitehouse's theory of ritual action (Whitehouse, 2012; 2021), which is analyzed in terms of the intentional structure it presupposes. The chapter then examines the relationship between ritual and belief by addressing the gap between individual and collective levels of ritual action. It reinterprets Whitehouse's notion of ritual stance as a variant of Dennett's intentional stance, proposing that ritual behaviour stems not from a special cognitive mechanism related to ritual, but from adopting the intentions of other participants.

Chapter Three approaches the relationship between ritual and belief through the lens of the mind-body problem, examining how the enactivist principle of a direct connection between meaning and action (Varela, Thompson & Rosch, 1992) can be applied to religious representations in ritual practice. Within this analysis, I propose a typology of the ways in which embodiment and religious symbolism interact in ritual contexts. The chapter illustrates how the proposed typological scheme can be applied in ritual studies, demonstrating its usefulness for analyzing ritual transfer to another environmental context and for understanding how different ritual practices create a sense of the realness of religious phenomena for participants.

Chapter Four serves as the concluding synthesis of the study, bringing together the results of the preceding theoretical analyses and advancing my own approach to the

relationship between belief and ritual. The chapter proposes an idealizational model that explains how religious beliefs become integrated into ritual practice. Whereas the preceding chapters concentrated on the properties of ritual relevant to the problem of its relationship with belief, this chapter shifts the focus to the characteristics of belief that enable its integration with ritual practice. I begin by outlining three main assumptions: (1) ritual action entails adopting a ritual stance, understood as the suspension of causal relationship between component of actions; (2) ritual and belief are interdependent; and (3) ritual action is motivated by deontic necessity or sense of duty. I then present a classification of religious beliefs — procedural, justifying, and core — and argue that only procedural beliefs are directly involved in initiating ritual performance, while justifying and core beliefs are generated as the effect of ritual participation. Based on the principles outlined above, I propose the general model of the relationship between religious beliefs and rituals that takes into account all three types of beliefs and their specific places within this structure.

Chapter 1. Ritual and belief through a linguistic lens: a reinterpretation of *Rethinking Religion* by E. T. Lawson and R. N. McCauley

One of the earliest strands in the cognitive study of religion was the linguistic approach to ritual analysis. This perspective views ritual actions as a system analogous to language, in which the sequence of actions and the roles of participants are governed by specific structural rules, much like the syntax of linguistic systems. The development of this approach was shaped, first, by the prevailing orientation in cognitive science at the time towards symbol-processing models of the mind (Watson & Coulter, 2008; Arponen & Ribeiro, 2014), and second, by the emergence of ritual theory formulated by Robert Lawson and E. Thomas McCauley in their book *Rethinking Religion: Connecting Cognition and Culture* (1990). This work was one of the first systematic attempts to explain religious ritual from the standpoint of cognitive science, and many of its foundational insights remain relevant today. In this chapter, I reconstruct the theory of ritual proposed by Lawson and McCauley, with particular emphasis on the role of religious beliefs in their model. As the authors did not devote sufficient attention to this aspect, a comprehensive analysis requires a critical rethinking and extension of their approach.

To explore the relationship between religious beliefs and rituals within the cognitive science of religion (CSR), an analysis of *Rethinking Religion* is essential. This pioneering work represents the first comprehensive examination of the cognitive aspects of religious rituals and serves as a foundational text that catalyzed the development of CSR (Barrett, 2011). It played a crucial role in shaping key theories in the field and contributed to defining central concepts among CSR scholars, including the structure of ritual action and the notion of superhuman agency (Schjødt & Geertz, 2017). Although the authors later expanded their original framework in *Bringing Ritual to Mind: Psychological Foundations of Cultural Forms* (2002) by incorporating cognitive insights from the works of Pascal Boyer (1994, 2001) and Harvey Whitehouse (1995), my primary focus is on critically examining the foundational assumptions and original structure of their cognitive model of religious ritual.

Rethinking Religion was largely inspired by the approach of French cognitive anthropologist Dan Sperber, as evidenced by the allusion in the title of the book to Sperber's *Rethinking Symbolism* (1975). Sperber's main idea was precisely to apply a cognitive perspective to the study of symbolic-cultural systems. Lawson and McCauley extended Sperber's cognitive approach to the structure of religious material, focusing on the cognitive mechanisms underlying that structure. The authors challenged Sperber's disanalogy between linguistic and symbolic mechanisms, arguing for a more comprehensive view that recognizes the substantial theoretical and cognitive overlap between these fields. In essence, their application of Sperber's approach involves utilizing a cognitive perspective to understand religious rituals, namely considering the structure of cognitive representations and competencies of ritual participants.

Lawson and McCauley focus exclusively on the mental representation of ritual, suggesting that it should be seen as a logical formula, with its own rules, grammar and syntax. Their approach posits that the structural organization of ritual systems mirrors that of belief systems, a parallel drawn from the structural characteristics common to natural language. This alignment echoes Noam Chomsky's theories in "Syntactic Structures," where he argues that cognitive symbolic structures stem not only from environmental factors but from the brain's innate, genetically ingrained capacity for language, particularly in recognizing syntactic rule systems (Chomsky, 1957). In a similar vein, Lawson and McCauley adapt Chomsky's concept of linguistic competence to the domain of religious rituals, examining ritual competence as a critical area of study.

In Lawson and McCauley's theoretical framework, rituals are perceived as components of a symbolic-cultural system, regulated by implicit formal rules, or "ritual competence." These rules are intuitively adhered to by practitioners within religious contexts. Within this framework, rituals are primarily viewed as mechanisms for semantic transformation within religious behavioural patterns, aiding in the establishment of novel symbolic relationships and statuses among religious entities. Lawson and McCauley's analysis shifts away from the dynamics of ritual performance, centering instead on how ritual actions, along with their constituent elements — ritual agents and objects — are cognitively represented. By employing the notion of mental representation, they formulated a distinct model of ritual action, which has since laid the groundwork for ongoing research and discussions in the CSR field. However, *Rethinking Religion* offers limited insights into how the representation of ritualized actions intertwines with immediate religious representations, particularly beliefs. Notably, authors invoke the

concept of belief primarily when discussing previous theories of religion, such as intellectualism and structuralism. In their own conceptual structure, however, this concept is absent. My reconstruction of the place of beliefs in the Lawson and McCauley system in this chapter has the following structure. First, I introduce Lawson and McCauley's Ritual Form Hypothesis and its action-representation architecture. The following section turns to the place of belief within this framework, asking whether and how different types of belief accompany ritual practice and shape its structure. I then propose a revision of the original model by introducing two mediating systems — the Concept Selection System and the Belief Selection System — and situate the Ritual Form Hypothesis within the wider field of the cognitive science of religion.

1.1 An introduction to the structure of ritual action by Lawson and McCauley

Lawson and McCauley proposal, which they call Ritual Form Hypothesis (RFH), commences with the authors delineating a general Action Representation System before specifically addressing the representation structure of ritual action. The authors explore the analogy between ritual and language, focusing in particular on Austin's (1962) concept of performative utterance. They consider language not only as a means of communication, but also as a form of action itself. Austin's notion of performative statements — statements that do not simply describe a state of affairs but actively lead to new situations — is used to understand how ritual language can establish new social conditions. For example, the statement “I pronounce you husband and wife” during a wedding ceremony is an action that joins two people in marriage within the conventions of a particular religious system. The authors refer to the work of Benjamin Ray, who criticizes the common separation of verbal statements and actions in rituals. This performative aspect of ritual language is seen as instrumental, challenging the notion that rituals operate merely symbolically or metaphorically. Thus, by finding common ground with linguistic theory, the authors seek to offer insights into the cognitive representation of religious acts.

The authors emphasize that for an event to be classified as an action, it must originate from an agent. Actions are not solely based on physical events but also involve complex hypotheses about the agents' states of mind. The recognition of actions and their objects presupposes the recognition of agents, underscoring that agency is an intrinsic

property, not merely relational. This model, a universal framework for depicting any action, encompasses elements like the agent, the action itself, the patient of the action, and the mediating instrument. The fundamental assumption here is that action performance resembles sentence utterance because both kinds of activity rely on a concealed grammar structure projected within mental processes (referred to by the authors as representations), which remains unconscious in the vast majority of cases. The function of the action representation system is to determine the order of action components, similarly to how the language representation system determines the order of sentence components. The authors then shift their focus to the peculiarities of ritual action, unveiling the formal structure of the ritual representational system. Termed the idealized cognitive representation of the ritual system, this structure functions akin to an internal grammar of rituals. It aids in distinguishing specific actions as rituals and helps define the variety of ritual forms. This system, comprehensible only to an idealized agent who possesses complete knowledge of its rules, is integral in directing the appropriate execution of ritual behaviours.

The content of the RFH boils down to the idea that the position of superhuman agent (SA) in the structure of a ritual determines how frequent the ritual will be repeated, whether it will be reversible, how central it will be in a given religion, and how commonplace or solemn it will be. A SA in the context of religious rituals and systems is an entity with abilities and attributes beyond those of ordinary human beings. An example would be God, deities, or powerful spirits. These patterns concerning repetition, reversibility and ordinariness of rituals are seen as universal to the different religious cultures of the world and originating not in cultural traditions, but in the basic patterns of human cognition.

Thus, in Lawson and McCauley's theory, religious ritual is a distinct kind of action that retains the formal structure of all actions, while constraining the accompanying conceptual systems to religious contexts. Religious rituals have a basic action structure similar to everyday actions, but differ from them through the involvement of SA, which is a central aspect of many religious systems. These rituals, although part of a broader set of actions, have a characteristic causal structure influenced by the unique beliefs of each religion. This includes both the instrumental dimension, where rituals are intended to effect change in the religious world, and the distinction between ritualized behaviours and true religious rituals. It extends the ritual representation system through two characteristic

universal religious principles. The differences between general form of action and religious ritual form were illustrated by the authors in the figures below:

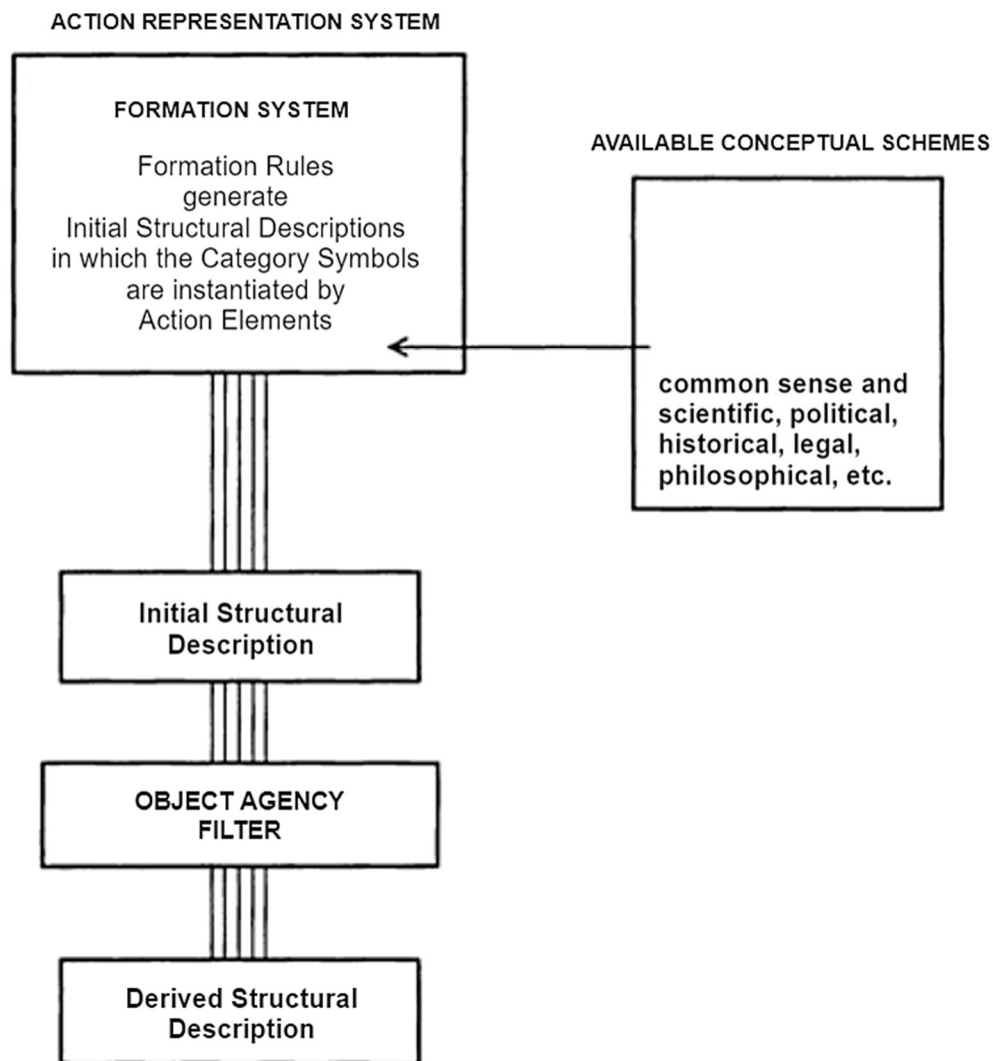


Figure 1. The functional architecture of a system for the representation of action

(Lawson & McCauley, 1990, p.88)

According to the model, action is grounded in the formation system that creates the initial blueprints for it. It integrates various conceptual structures that imbue the system with the complex specifics of the action being represented. This results in accurate representations of the key elements of an action system, including agents, actions and objects, as well as relevant attributes important to the execution of the action. The integrity of the structure is monitored by a specialized Object Agency Filter that evaluates the output of the formation system and filters out descriptions with unacceptable entities (objects) acting

as agents. Religious action is distinguished by the fact that it is penetrated by a religious conceptual scheme (Figure 2).

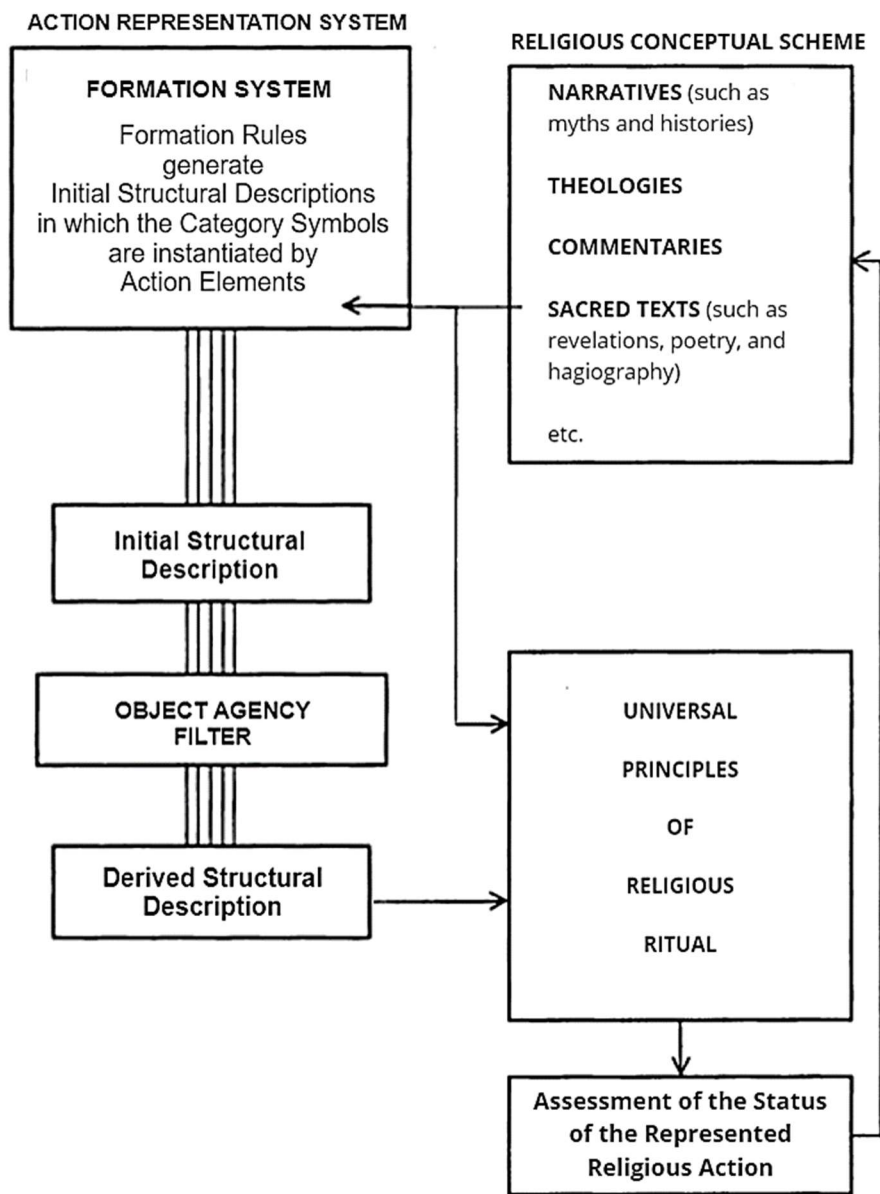


Figure 2. The structure of the representation and assessment of religious action (Lawson & McCauley, 1990, p.90)

When we compare the formation system that generates the mental representation of the structure of any action (left column in Figure 1) to the formation system that generates the mental representation of the structure of a religious action (left column in Figure 2), we can observe that they are identical. This implies that in the theory of Lawson and McCauley, the mental generation of the structure of a planned performance of a religious ritual engages the same cognitive mechanism that is active in the generation of the structure of any other non-religious action. The authors express this view as follows:

“The theory's first commitment is that the cognitive apparatus for the representation of action in general is the same system deployed for the representation of religious ritual form. The differences between everyday action and religious ritual action turn out to be fairly minor from the standpoint of their cognitive representation. This system for the representation of action includes representations of agents. Whether we focus on an everyday action such as closing a door or a ritual action such as initiating a person into a religious group, our understanding of these forms of behaviour as actions at all turns critically on recognizing agents” (Lawson & McCauley, 1990, p.154).

To reveal the essential difference between a religious ritual² and any other non-religious action, one must shift to a domain of objects belonging to the supra-individual cultural level of religious phenomena. The differences only become apparent upon comparing the right columns of Figures 1 and 2. In Figure 2, which displays the religious action structure, the action form generated by the formation system is common to actions of any type, but the manifest difference is in the range of conceptual systems that provide concepts for categorizing actions. Whereas in the description of a general system for the representation of action all available conceptual schemes are admissible (see Figure 1), in the description of a system for the representation of religious action (Figure 2) only religious conceptual systems are admissible.

Furthermore, despite the diversity of religious conceptual frameworks, there are invariants that are common to all of them. These invariants are generated by symbolic-cultural regularities that Lawson and McCauley refer to as universal principles of religious ritual. These principles give rise to two fundamental invariants and consequently dictate the representation of the final structure of a religious ritual: the Principle of Superhuman Agency and the Principle of Superhuman Immediacy.

By 'invariants,' I mean those components of a ritual that must be present in every instance of it, irrespective of the religious system from which it originates. Both of these

² For Lawson and McCauley (1991, p.125) religious ritual is a special kind of religious action. They consider prayer to be a religious action but not a ritual. In their definition, a religious ritual consists of three components: an agent, an action and an object (patient), whereas in prayer there is no object (“It is worth noting that [...] prayers are religious actions but not religious rituals.” 1991, p. 125). Note that Lawson and McCauley’s distinction has been criticized by Barrett and Malley (2007, p.206-207). They suggested that ritual form theory applies to all religious actions.

principles explicitly introduce the culturally postulated superhuman agent (CPSA) as an inherent component of any religious ritual. The Principle of Superhuman Agency specifies the nature of the superhuman agent's (SA) involvement in the ritual. When CPSA plays an active and direct role, the ritual holds central significance in a religious system. Conversely, when CPSA functions as a passive participant (as seen in rites of offering to a deity), the ritual holds less significance in the religious system. The Principle of Superhuman Immediacy governs the proximity of the superhuman agent's actions to the primary ritual actions performed by human agents. In other words, the shorter the distance between the main human action and the CPSA's action, the more integral the ritual is to the religious system.

1.2 Exploring the role of belief system in Ritual Form Hypothesis

After the brief exposition of the main ideas of Lawson and McCauley's theory, I can now return to the fundamental question of this chapter: What kind of relationship between religious belief and ritual can be derived from their theory? It's important to emphasize that Lawson and McCauley aimed to construct an idealized theory of religious ritual. Consequently, it's not surprising that they did not directly address how religious belief relates to ritual. Notably, in *Rethinking Religion* they invoke the concept of belief primarily when discussing previous theories of religion, such as intellectualism and structuralism. In their own conceptual structure, however, this concept is absent.

One could argue that despite the absence of the term 'belief' in the explicit formulation of their theory, its essence has been retained and can be inferred from how expressions like 'culturally postulated superhuman agent' or 'superhuman agency' are expounded upon and how they are utilized in articulating the universal principles of religious ritual structure. I will pursue this suggestion and attempt to interpret statements about the properties and functions of superhuman agents in order to ascertain how they correlate with religious beliefs. To avoid misunderstandings, I should note that when we speak of beliefs related to religious rituals, we are referring to those of human agents. Religious rituals are a special type of human action, and attempts to explain them should take into account the mental representations of their agents. Lawson and McCauley's inclusion of superhuman agents in the representation of ritual structure may suggest that the mental states of such agents, particularly their beliefs, should be considered in the

explanation of religious rituals. However, presented analysis rather focuses exclusively on mental representations of human origin.

When we refer to 'belief,' we are alluding to a mental event or process involving the adoption of a specific attitude towards propositional content. While beliefs can be articulated verbally, they do not necessarily require linguistic expression. Further I will focus exclusively on beliefs that directly accompany actions, meaning those that together with intentions and desires form a mental complex that is causally related to the performance of action. These beliefs include those that are necessary to: (i) modify action's structure or modify its components, (ii) determine the goal of the intended action, or (iii) execute it.

Beliefs of the first kind, which we refer to as 'modifying beliefs' because of their capacity to alter the current mental representation of an action, play a role in determining the composition and sequence of actions. These beliefs are particularly characteristic of instrumental actions, where they often arise in cases of repeated attempts. In such situations, the actual effect of the instrumental action may deviate significantly from the intended effect; consequently, a belief emerges that the intended goal can still be achieved — or at least the discrepancy between the intended and the actual effect reduced — by modifying the previous action. Modifying beliefs also play an important role, when the agent realizes that the action actually performed goes in the wrong direction and the intended goal will not be achieved. In such cases, the belief that the action will fail unless its course is changed leads to a modification in the action performed. Beliefs of the second kind, referred to as 'goal-directed beliefs', relate to the feasibility of an action under specific circumstances and the estimated value of its outcome. Beliefs of the third kind, referred to as 'execution-directed beliefs', together with intention and desire, are responsible for initiating an action. Notably, cognitive science research on action predominantly focuses on beliefs of the second and third kinds. This emphasis is evident in classical and contemporary models of intentional action (Bonicalzi & Haggard, 2019), which frequently center on how agents evaluate the feasibility of an action (goal-directed beliefs) and then commit to carrying it out (execution-directed beliefs).

Applying this tripartite division to religious ritual, understood as a specific type of action, raises a fundamental question regarding the nature of the beliefs that directly accompany ritual practice. Specifically, it remains to be determined whether these beliefs function as ordinary beliefs that accompany any action or whether they are religious

beliefs derived from a broader religious conceptual system. This question will be revisited in the following sections. For now, it is sufficient to note that these beliefs can be categorized as follows: (i) those that modify the mental representation of the ritual structure, (ii) those that evaluate the anticipated outcome of the ritual, and (iii) those that motivate individuals to initiate and engage in ritual participation.

Before considering whether any of the above types of belief could be useful in formulating Lawson and McCauley's theory of religious ritual, it is important to recall that, in their framework, the structure of religious ritual mirrors the general structure of action and consists of three components: agent, action, and object (Lawson & McCauley, 1990, pp.85, 87; McCauley & Lawson, 2002, pp.14, 27). In this view, such a description of action—and, consequently, of religious ritual — appears overly general. This is particularly evident in relation to the component referred to as the act³. Although Lawson and McCauley acknowledge that acts possess an internal structure⁴, they assume that this structure is determined by a conceptual scheme specific to a given field of activity. This implies that, within their theory, the conceptual scheme is responsible not only for assigning appropriate referents to the components of action but also for specifying the internal structure of each component, including acts. As a result, any attempt to describe the structure of a religious ritual must assume that a religious conceptual scheme plays a decisive role in attaching appropriate semantic categories to the components of a ritual's formal structure. According to this theory, the conceptual scheme not only delineates the class of agents and patients but also specifies the structure of the religious act⁵. This leads to the key thesis of Lawson and McCauley's theory: the representation of religious ritual differs from the representation of other types of actions in that the structure of the former includes superhuman agents and/or objects endowed with counterintuitive properties imparted to them by superhuman agents. In contrast, superhuman beings and objects with superhuman properties are absent in non-religious representations of actions.

By introducing this key thesis, Lawson and McCauley began developing their

³ In Lawson and McCauley (1990), the authors used the term 'action' but because of its ambiguity they replaced it by 'act' in McCauley and Lawson (2002).

⁴ "Actions [Acts] do not turn solely on the occurrence of certain physical events. Their identification and differentiation assume complex hypotheses about the states of mind of the agents involved." (Lawson, McCauley, 1990, p. 86)

⁵ "The representation of any action, religious or otherwise, requires access to available conceptual schemes for the specification of the action elements. Hence, religious actions and religious ritual actions in particular are distinguished by a religious conceptual scheme's penetration of the formation system for the purpose of specifying the action elements. The religious conceptual system supplies the formation system with elements appropriate to religious actions." (Lawson & McCauley, 1990, p. 88-89)

theory by describing the roles of superhuman agents, superhuman patients, and objects endowed with superhuman properties in the representation of religious ritual. The fact that Lawson and McCauley focused their attention on the “superhuman factor,” the feature they considered fundamental to religious ritual, meant that much less attention was paid to the “human level” of ritual. In other words, by concentrating on the role of superhuman components in the representation of religious ritual, the authors devoted relatively little space to the question of whether and how the introduction of the “superhuman factor” affected the process of representing *human* action in religious ritual. One might get the impression that, for Lawson and McCauley, the “human components” of ritual representation are no different from the components of the general representation of action and therefore do not require any special analysis. Roughly speaking, if human ritual action is considered in isolation from the actions of superhuman agents, there will be no component in it that is not present in ordinary non-religious action. This is not to suggest that Lawson and McCauley ignored the human factor in their characterization of religious ritual, but their efforts were primarily directed at determining how the “superhuman factor” could be used to explain the typical, observable properties of religious ritual. An example of this is their attempt to explain properties commonly attributed to ritual, such as repeatability, reversibility, and substitutability. They argue that these properties are determined by the Principle of Superhuman Agency (McCauley & Lawson, 2002, pp.30-33), and by which superhuman component — agent, patient, or instrument — plays a decisive role in the ritual. In all these cases, the mundane properties of the ritual actions of human agents (repeatability, reversibility, and substitutability) are fully explained by the roles of the superhuman factors of the ritual (agents, patients, instruments). One can get the impression that, in this explanatory approach, the a priori rules assigning roles and positions to superhuman components in the structure of ritual are used to reveal the human cognitive mechanisms involved in religious ritual. This relationship, however, should be reversed: it is the functions of the human cognitive mechanism that should be used to reveal the roles and locations of the superhuman factors in the ritual’s structure.

The discussion can now return to the main concern: whether Lawson and McCauley’s theory allows for a space for religious belief. Upon closer examination of their proposal, it becomes evident that they do not explicitly refer to beliefs; instead, they employ the term “conceptual schemes”:

“For the purposes of theorizing, we construe a religious system as a symbolic-cultural system of ritual acts accompanied by an extensive and largely shared conceptual scheme that includes culturally postulated superhuman agents.” (Lawson & McCauley, 1990, p.5)

Within their framework, the pivotal constituent of a religious conceptual scheme is the symbolic-cultural concept of a superhuman agent. In essence, neither the explicit formulation of their theory of religious ritual nor the authors' commentary directly alludes to religious beliefs or their interplay with ritual. Does this imply that the theory of religious ritual form can be articulated without resorting to the concept of religious belief? While this is indeed the approach taken by Lawson and McCauley, in what follows I will argue that their theory would remain incomplete without the incorporation of a belief component.

Lawson and McCauley correctly assert that the representation of religious ritual follows the same regularities as any human action. However, the interpretation of this claim differs here from theirs. Religious ritual retains the fundamental traits of any intentional action (under the assumption that religious ritual actions are intentional). This implies that the cognitive representation of religious ritual action includes intention, desire, and belief, which together motivate human participants to perform religious rituals. A question arises as to how this general model of intentional action can be specified and applied within Lawson and McCauley's theory, in which it is the action of the superhuman agent that renders human action a religious ritual. A partial answer is provided by Sørensen (2007), who postulated that the participation of superhuman beings in religious rituals presupposes a belief in their activity in the mundane human world:

“McCauley and Lawson argue that religious rituals are defined by the role of Culturally Postulated Superhuman agents (e.g., gods) and as such, this is the most important aspect distinguishing them from ordinary actions. [...] Thus, beliefs in acting gods, spirits and ancestors are prior to their participation in ritual actions, whether as agents or patients” (Sørensen, 2007)

Sørensen aptly observed that the theory of religious ritual form requires the assumption of the active commitment of a superhuman agent. However, he did not elaborate on how this assumption influences the structure of ritual itself. In his remark, he stopped short of asserting that “beliefs in acting gods” precede their presence in human religious rituals.

Instead, his own proposal reverses the order of belief and ritual, arguing that ritual precedes belief: “I claim that it might very well be the other way around: That ritual actions are the primary context of acting superhuman agents and that this subsequently leads to representations of gods acting in life generally” (Sørensen, 2007). Given the present focus, a discussion of Sørensen’s solution will be set aside, as the aim here is to examine Lawson and McCauley’s theory in greater depth to assess its capacity for situating belief within the structure of ritual.

Let us illustrate this with a brief reference (which will be expanded upon later) to Lawson and McCauley’s analysis of the complex structure of the blessing ritual performed by the parishioner upon entering a church. The authors demonstrate how the superficial structure of this ritual is connected, through several enabling rituals, to the final ritual in which the superhuman agent is Jesus. The action of Jesus – instituting the church – justifies the action of the parishioner⁶. Thus, while a complete description of the structure of the blessing ritual includes a series of enabling rituals, culminating in Jesus instituting the church, the focus of explanation is the ritual behaviour of the parishioner. Here we encounter a problem: when explaining the earthly behaviour of the parishioner, we must determine which belief belongs to her representation of the ritual structure. The following list of beliefs can be extracted from Lawson and McCauley’s proposal (1991, p.114): (1) the belief that the water used to make the sign of the cross is blessed and therefore can purify the parishioner, (2) the belief that the water took on superhuman qualities because it was consecrated by a priest, (3) the belief that the priest was ordained by the church, (4) the belief that Jesus instituted the church, and (5) the belief that Jesus is God.

In the theory under discussion, each of these beliefs could in principle be associated with a separate ritual. The ritual to be explained is the act of making the sign of the cross with water from the font at the entrance of a church. This ritual is preceded

⁶ “Absent that ritual [i.e., Jesus instituting the church], the structural description fails to show how the original parishioner has access to superhuman agency and, therefore, how their blessing could have been efficacious. (...) The efficacy of this ritual (and, therefore, the acceptability of its form) depends upon the ability of the manifest agent (viz., the parishioner) to enlist the aid of agents possessing superhuman qualities in this religious conceptual scheme. The religion’s conceptual system is solely responsible for specifying the agents who qualify. The parishioner’s ability to enlist the superhuman arises from previous ritual acts, some of which have actually occurred and others of which may prove entirely hypothetical. (...) Making the sign of the cross with the water is the only surface manifestation of the various embedded rituals in the structural description of this ritual act. Of course, the cross is a conventional symbol for Jesus Christ, who, on this representation, is ultimately responsible for this ritual's efficacy.” (Lawson & McCauley, 1990, p. 111.)

by the belief (1), that the water used has a superhuman property of purifying the one who uses it properly. This belief directly accompanies the blessing ritual. The situation is different for beliefs (2) to (5): although they correspond to the enabling rituals described in *Rethinking Religion*, none of these beliefs can be attributed to agents of enabling rituals. In the spirit, if not the letter, of Lawson and McCauley's theory all of beliefs from (2) to (5) are also held by the parishioner because they sequentially support belief (1) attributed to the blessing ritual. For this reason, we can call them supporting beliefs. The final belief, (5), identifies Jesus as God and constitutes a core, metaphysical belief. In my view, beliefs of the metaphysical kind — which assert that something is a superhuman being or agent — do not directly accompany the ritual action of a human agent. Instead, their principal role is to support other beliefs, either by reinforcing further beliefs or by underpinning beliefs that are directly linked to ritual performance. In the case of the blessing ritual discussed here only the belief (1) is directly related to it. All other beliefs from (2) to (5) play only supporting roles and are not essential in motivating the human agent to perform the blessing ritual.

It may be asked: What is the basis for claiming that only belief (1) is directly related to the blessing ritual? It can be argued that only this belief pertains to the components of the action of making the sign of the cross with a hand dipped in water. According to Lawson and McCauley, this action takes on the form of a ritual because one of its components, the water, possesses a superhuman property, the only element capable of transmuting an action into a ritual. Consequently, only belief (1) determines the conditions necessary to achieve the goal of purification. None of the other beliefs refer directly to the components of the blessing ritual. A question might arise as to why belief (2), which states that the priest's action makes the water holy, is not directly related to the parishioner's blessing ritual. The answer lies in the fact that this belief pertains to a different action, in which the agent is the priest, who transfers superhuman property to the water. The water becomes holy as a result of the priest's action, not during the performance of the parishioner's ritual. Belief (1) assumes that the water used in the parishioner's ritual is already blessed, while belief (2) defines the condition under which this assumption is fulfilled. Therefore, belief (2) validates and supports belief (1), but does not refer directly to the blessing ritual. This series of validations continues with beliefs (3), (4), and (5).

The approach proposed here differs from the one expressed in *Rethinking Religion*. Lawson and McCauley's theory assumes that the significance of the ritual reflects the

significance attributed to superhuman beings and their properties in the religious conceptual system. This means that if a superhuman being, e.g., Jesus, belongs to the most significant agents in the hierarchy postulated by the Catholic religious conceptual system, then the ritual in which Jesus institutes the church belongs to the most important rituals. The authors expressed this idea in *The Principle of Superhuman Immediacy*:

“This principle concerns the immediacy of the superhuman agent's involvement in any ritual, rather than the character of that involvement. The principle can be summarized as follows: the fewer enabling actions to which appeal must be made in order to implicate a superhuman agent, the more fundamental the ritual is to the religious system in question. Hence, rituals in which a superhuman agent is directly involved even in some role other than that of the agent are more essential to the religious system than are those where the superhuman agent appears in the structural description only in some embedded, enabling action that has occurred previously. Hence, the parishioner's blessing is less important to the Catholic system than is Jesus's institution of the church” (Lawson & McCauley, 1990, p.125-126).

The authors define the significance of ritual within the religious system by its distance from a ritual in which the role of the agent is played by a superhuman being. The fewer enabling rituals there are, the more important the ritual becomes. If the Principle of Superhuman Immediacy is applied to the blessing ritual, it would follow that it is the least important of the three rituals that enable it. One might ask if the significance of a ritual, defined by its distance from the action of a superhuman agent, is reflected in the hierarchy of beliefs held by the parishioner performing the blessing ritual. Following the above principle, the parishioner's beliefs (some of them accepted tacitly (Lawson & McCauley, 1990, pp.77, 112)) can be ordered by decreasing significance in the sequence: (5), (4), (3), (2), (1). This means that the most significant belief is (5) (Jesus is God), while the least significant belief is (1) (the water is blessed). It has been shown earlier that when the parishioner prepares to perform the blessing ritual, the only belief directly related to it is belief (1), the least significant for the religious system. This indicates that the significance of a belief for the system becomes inverted when the belief concerns a specific religious ritual. The belief directly related to the ritual is more significant for that ritual than the beliefs that are related indirectly through a supporting relationship.

The argumentation formulated here is supported by the empirical result of Malley and Barrett (2003), who put Lawson and McCauley's theory to the test. Summing up their study, they wrote:

“Our research did, however, raise a serious difficulty for the Lawson-McCauley theory. Frequently informants did not know how a ritual implicated a superhuman agent. (...) This poses a significant challenge to the Lawson-McCauley theory because Lawson and McCauley have proposed a cognitive model in which people use information about the link to a superhuman agent to produce judgments about the repeatability, reversibility, and relative centrality of a ritual. But our informants made these judgments without seeming to have this information” (Malley & Barrett, 2003).

This result shows that informants from different religions were able to correctly list rituals and their properties but could not link them to the action of a superhuman agent. In my view, the difficulty in linking a religious ritual with a superhuman agent arises because informants are familiar with the rituals, their properties, and the beliefs directly related to them, but do not know how to attach the concept of a superhuman agent to these beliefs.

These findings underscore the need to clarify how beliefs about superhuman agents fit into the broadly defined Religious Conceptual Scheme (Figure 2). An extension of the theory of ritual form is proposed, which includes the beliefs of humans who perform the rituals. The goal is to outline how this can be achieved without radical changes to the modified theory. Let us return to Figure 2, which illustrates the structure of the theory of religious action. One striking aspect is the precise characterization of the Action Representation System, contrasted with the somewhat vague depiction of the Religious Conceptual Scheme, which encompasses a wide array of religious sources. The question arises: why do the authors incorporate such disparate elements as myths, histories, theologies, commentaries, and sacred texts within the Religious Conceptual Scheme? It is evident that none of these components individually can be labeled a conceptual scheme. The challenge becomes even more pronounced when attempting to amalgamate them all into a unified Religious Conceptual Scheme. The authors might argue that their focus was primarily on the formal structure of religious rituals rather than the linguistic forms that express religious ideas. What they required were concepts related

to ritual agents, ritual objects, and so forth⁷. Given that the Religious Conceptual Scheme introduced by the authors in *Rethinking Religion* could encompass a multitude of significant religious texts, the task of extracting from them the concepts necessary to construct a semantic counterpart to the formal structure of a particular religious ritual is not a straightforward endeavor. The challenge arises from the fact that the idealizational model of religious ritual proposed by Lawson and McCauley does not incorporate the rules for extracting concepts from religious sources. The lack of a clear explanation of the process of extraction and subsequent use of these concepts in constructing a representation of ritual structure is a significant obstacle. Thus, the hypothesis that ritual structure instantiates the overall structure of action becomes arbitrary without a clearly defined process of concept extraction. This lack of clarity impedes empirical testing of Lawson and McCauley's hypothesis because it leaves the mechanism for extracting and using concepts to represent ritual open to interpretation. Therefore, clarification of this process is necessary to strengthen the empirical foundation of the theory and increase its applicability in understanding the complex relationship between ritual action structures and religious conceptual schemes.

Thus, the hypothetical response of the authors outlined above might not provide a comprehensive understanding, as it doesn't elucidate their understanding of the religious conceptual scheme or the manner in which it is utilized by an idealized human agent in planning and executing ritual actions. The objective here is to highlight that what the authors delineate as the Religious Conceptual Scheme requires substantial revision. Without such a revision, their theory of religious ritual risks falling short in explaining the formation of ritual structures. It is insufficient merely to assert that the structure of religious ritual constitutes a distinct subtype of the general structure of action. What is required is a specification of the mechanism by which religious content is processed and transformed into the concepts necessary for the formulation of ritual structures.

The second major issue discussed above pertains to the structure of the religious ritual system as outlined in *Rethinking Religion*. Specifically, the two essential components — the Action Representation System and the Religious Conceptual Scheme — are presented as objective mechanisms that govern the behaviour of the human

⁷ “‘Ritual agents’, ‘ritual objects’, ‘ritual acts’, ‘ritual properties’, and ‘ritual action properties’ simply refer to those agents, objects, acts, properties, and action properties that can, as a matter of fact, appear in the structural description of at least one religious ritual within the system.” (Lawson & McCauley, 1990, p.94).

participant in the ritual. The first of these mechanisms regulates human mental processes, while the second provides religious concepts. These concepts are viewed as cultural products that function as pre-formed “data”, delivered to the mind and processed through a mechanism that applies universally across all actions. As previously highlighted, the mental mechanism of action is presented by the authors in a clear and relatively simple manner⁸. However, the mechanism responsible for supplying religious concepts, which emerge within cultural systems, is only briefly outlined. Even if this mechanism were more clearly defined, it would not significantly alter the position of the human participant in the ritual. The human agent would still be treated as a passive entity, mechanically adhering to pre-established ritual actions.

One could argue that this approach reflects the computational paradigm dominant in cognitive science during the 1980s, the period when *Rethinking Religion* was written. However, even in computational theories, the human agent is assumed to possess the ability to select goals and make independent decisions regarding the performance of actions. In my view, the impression that human participants in Lawson and McCauley’s theory lack the freedom to make decisions arises from the authors’ primary focus on the role and position of superhuman agents within the structure of ritual action. By emphasizing the superhuman agents, the authors appear to have relinquished the freedom of choice for human participants in favor of the superhuman agents. Our objective, therefore, is to partially restore autonomy to the human participants by allowing them to hold beliefs that can causally influence the performance of rituals. We have sought to demonstrate that such beliefs are derived from a specialized belief selection system, which operates independently of the concept selection system. The separation of the belief selection system from the concept selection system helps explain why the belief in the primacy of the superhuman agent in religious rituals need not be shared by the human participant. For the participant, the beliefs most directly relevant to the ritual they are about to perform are those that should primarily shape their ritual action.

⁸ This is the result of building an idealizational model.

1.3 Uncovering the interplay between belief and ritual: a revised perspective on Lawson and McCauley's theory

In this section, an extension of the model of ritual action discussed above is proposed through the introduction of a belief system. To this purpose, a scheme has been developed (Figure 3), which modifies Figure 2 by introducing two new systems that play a mediating role between the Action Representation System and the Religious Conceptual Scheme: the Concept Selection System and the Belief Selection System. A comprehensive theory of religious ritual form should encompass both a formation system, which determines the general structure of actions, and a specialized system that supplies religious concepts corresponding to the components of the general structure of action.

This proposal modifies Lawson and McCauley's idea that the religion's conceptual system directly supplies religious concepts to the formation system. According to their view, religious concepts "saturate" the action components with content produced within the religion's conceptual system⁹. However, in practice, religious concepts cannot be easily extracted from the multitude of religious sources and directly applied to the elements of the formation system. Their meaning and applicability depend on processes of selection, interpretation, and mediation, rather than on straightforward transfer. This task necessitates a mediating system — the selection system — which fulfills two functions. First, it extracts from religious sources those concepts that align with the components of the general structure of action (e.g., ritual agent corresponds to *agent*, ritual object corresponds to *object*, etc.¹⁰). Second, the extracted concepts undergo a selection process of a Darwinian type (Dennett, 1995). This means that, from the variety of religious concepts applicable to agents, actions, objects, properties, and so forth, only a limited subset "survives" and is incorporated into the Formation System to construct the structure of the religious ritual. Additionally, these concepts can then serve as the conceptual foundation for the belief selection system. This preliminary outline of the concept selection system underscores that, without such a system, the selection of

⁹ "The representation of any action, religious or otherwise, requires access to available conceptual schemes for the specification of the action elements. Hence, religious actions and religious ritual actions in particular are distinguished by a religious conceptual scheme's penetration of the formation system for the purpose of specifying the action elements. The religious conceptual system supplies the formation system with elements appropriate to religious actions." (Lawson & McCauley, 1990, pp. 88-89)

¹⁰ "In this regard we shall refer (generally) to ritual elements and (specifically) to ritual agents and ritual objects (which jointly constitute the class of ritual participants), ritual acts, ritual properties, and ritual action properties" (Lawson & McCauley, 1990, p. 93)

concepts necessary for generating ritual structures congruent with the general structure of action becomes implausible.

The concept selection system provides the basic conceptual elements for constructing a structure of a religious ritual. In Lawson and McCauley's theory, some of these concepts are more significant than others. The most significant are those that denote superhuman beings. The order of significance is determined by the distance of any given concept from the concept denoting the superhuman agent. Consequently, their theory focuses on the role and place of the superhuman agent in the structure of the religious ritual, and thus deals only to a limited extent with the ritual actions of a mundane human agents. This gap in the theory requires further elaboration.

The first step in addressing this issue involves introducing a mechanism into the theory of ritual form that accounts for the religious beliefs of the human participant. In Figure 3, this mechanism is represented by the belief selection system, whose function is to furnish the participant with beliefs that are directly related to the ritual. A belief directly related to a ritual refers to a religious belief that, together with other mental processes such as intentions and desires, prompts a mundane agent to perform the ritual. The belief selection system is assumed to operate in a manner similar to the concept selection system, though they remain distinct. The concept selection system is linked to the input of the Action Representation System and functions at the level of relatively simple components of the religious conceptual system — such as the concept of holy water. By contrast, the belief selection system operates within the same domain — the religious conceptual system — but engages with beliefs, which are more complex than concepts, such as the belief that water in the font at the church entrance is consecrated and conveys divine blessing. Additionally, it is linked to the output of the Action Representation System. The belief selection system functions by extracting beliefs from religious sources and selecting those that effectively motivate the participant to perform the ritual and contextualize the ritual action. In light of these considerations, the proposed refined structure of the theory of religious ritual may take the following form:

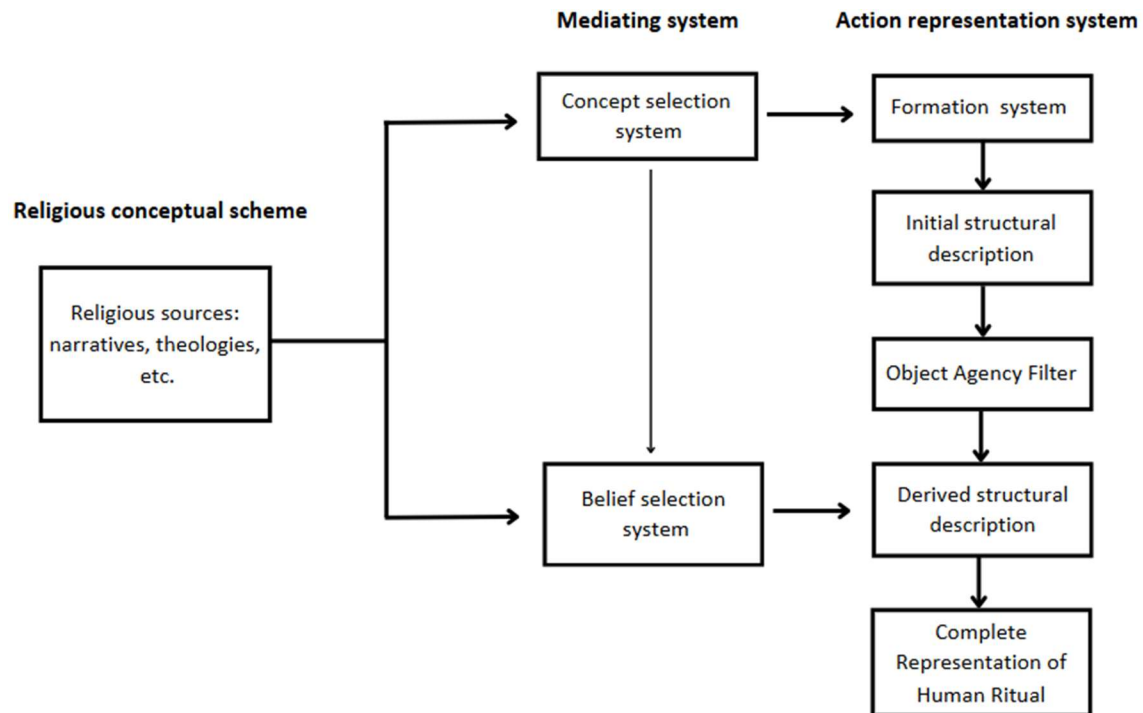


Figure 3. The structure of the religious ritual system.

This proposal can be illustrated with an example discussed in detail by Lawson and McCauley.

“A Christian parishioner enters the vestibule of the church, and having dipped his fingers into a receptacle containing some water, makes the sign of the cross on himself. The water has enabled the parishioner to bless himself ritually. The formation rules specified in the previous section can generate a structural description of an idealized participant’s representation of this apparently simple ritual act. We can illustrate that structural description in the form of a tree diagram” (Lawson & McCauley, 1990, p.96).

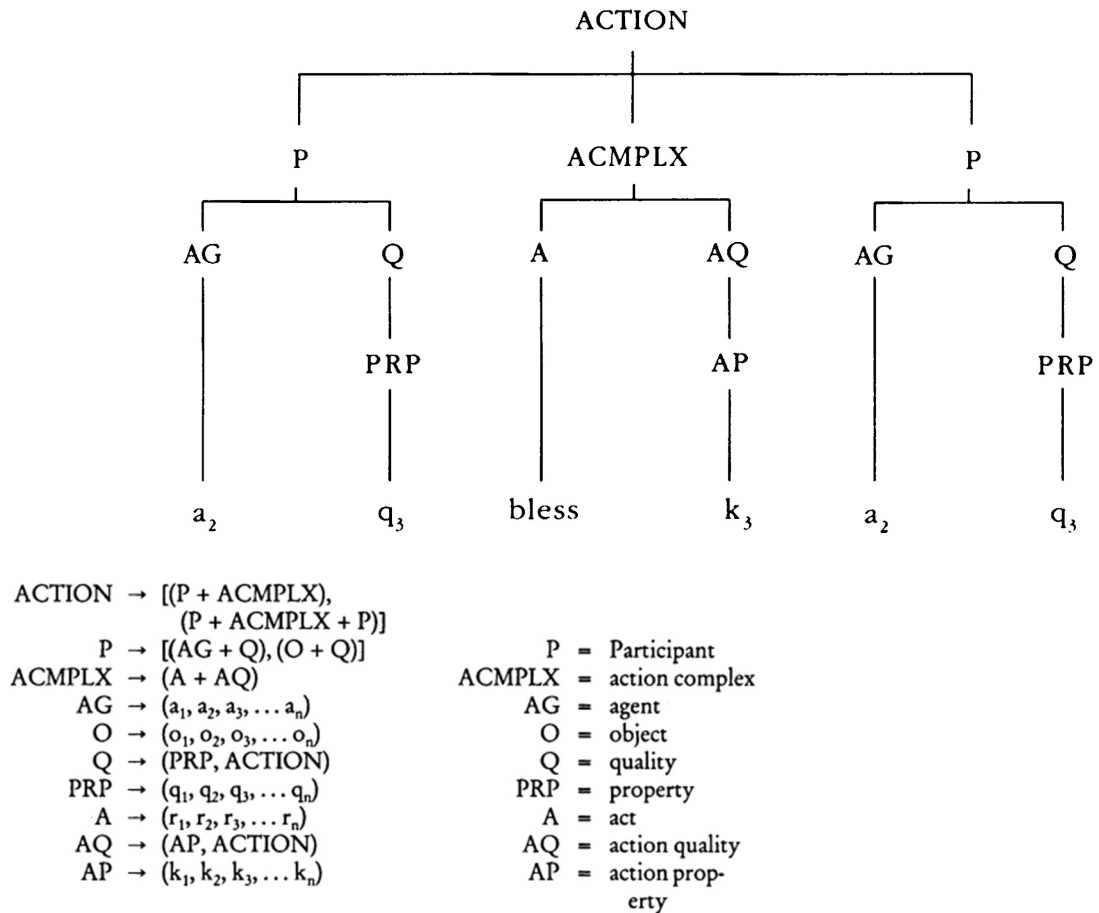


Figure 4. Structural description of the Christian ritual act of blessing with water

(Lawson & McCauley, 1990, p.98)

The diagram (Figure 4) depicts a surface-level structure of the ritual in which a parishioner purifies themselves with water from the font. This description of the ritual aligns with the authors' assumption that religious rituals share the same structural components as any other action, since if any other act took the place of the act of blessing, the structure would be the same. In authors' remarks, they underline that the sole differentiating factor between ritual components and those of ordinary actions is the presence of water. This liquid, beyond its physical properties, holds purifying capabilities acquired in the preceding ritual, during which a priest imbued a portion of water with his purifying potency. Thus, the structure of the Christian blessing should be expanded to include another ritual in which the priest consecrates the water (Figure 5).

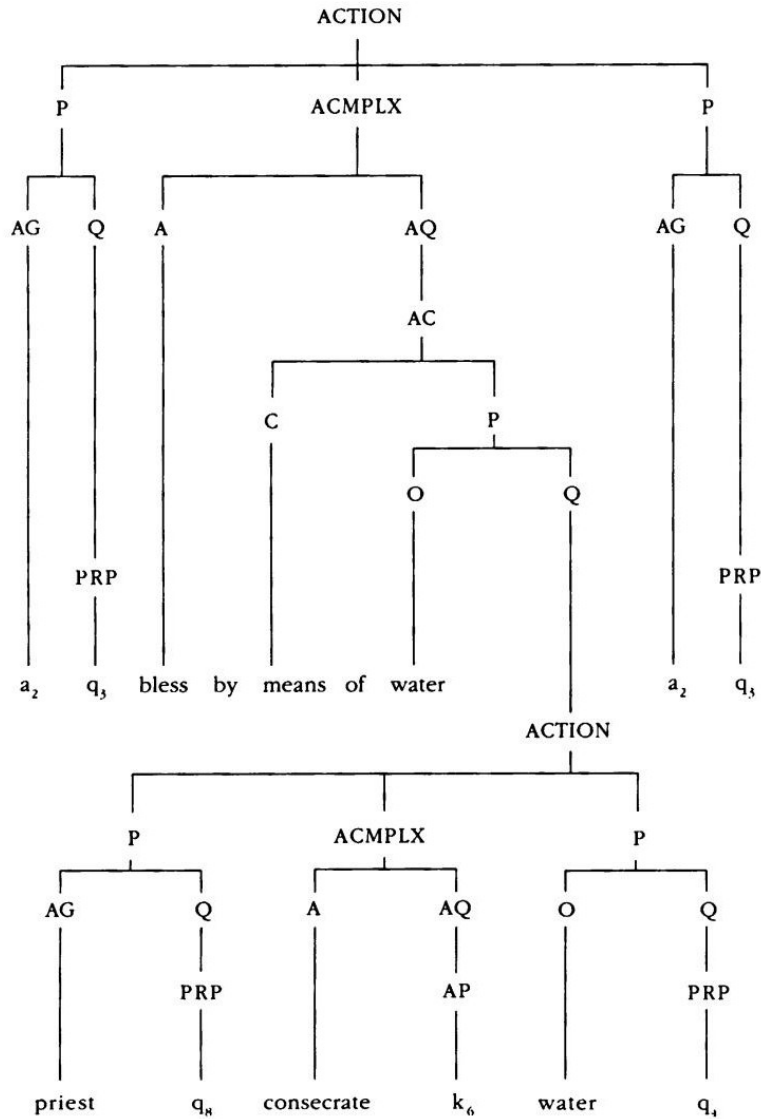


Figure 5. Structural connection between rituals

(Lawson & McCauley, 1990, p.111)

Lawson and McCauley show that the structure of this initial ritual can be expanded further and its simplest complete form would include three embedded preceding rituals (see Figure 6).

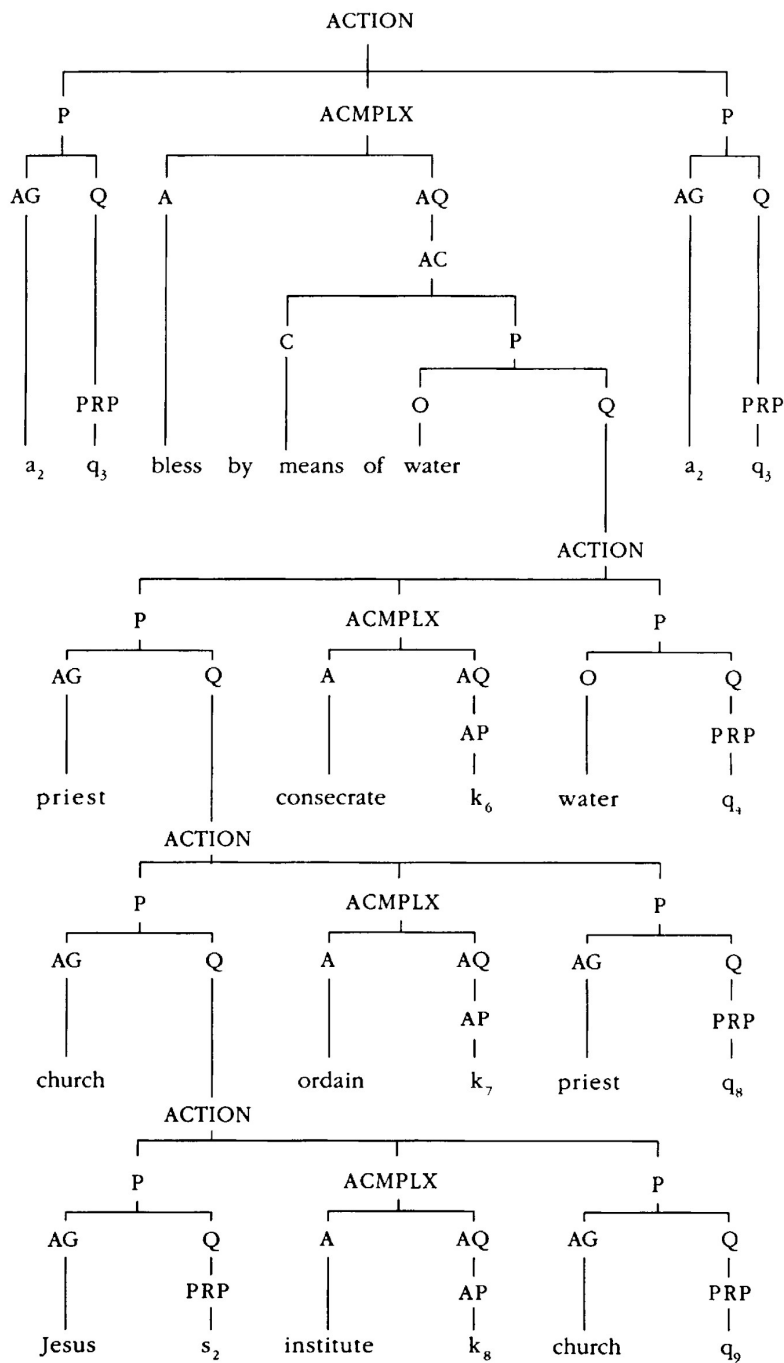


Figure 6. The multilayered foundations of a ritual

(Lawson & McCauley, 1990, p.114)

The final enabling ritual holds the earliest place in temporal order, involving Jesus as an active SA who instituted the church. It's important to observe that each embedded ritual depicted in Figure 5 emerges as a result of a decision-making process aimed at selecting a theological interpretation. Consequently, the descriptions of these embedded rituals are necessary to reveal the complete structure of the modeled ritual and ensure alignment

with the selected interpretation of religious sources. This indicates that the content and, consequently, the number of enabling rituals may vary depending on the authors' chosen interpretation. However, adhering to the theory's assumption, the series of enabling rituals consistently culminates in an action where the superhuman agent directly engages¹¹.

The portrayal of the comprehensive structure of the Christian blessing, as illustrated in Figure 5, appears to align coherently with the religious action model depicted in Figure 2. A more intricate examination of the gradual expansion process within the religious ritual structure reveals that the discussed model can accurately capture the surface structure of the ritual action (the act of blessing using water). However, its applicability is somewhat limited when considering the earliest embedded ritual, wherein the SA engages directly. The initial ritual, formulated in language comprehensible to the ordinary parishioner, can be relatively easily described by employing the formation rules of the Action Representation System. The universal principles of superhuman agency, shared across various religious systems, merely expose a portion of the earliest ritual action structure — specifically, the direct involvement of the superhuman agent. These principles, however, do not determine the nature of the action (it is crucial to emphasize that the action of a superhuman entity differs from that of an ordinary human) nor the connection between this action and subsequent rituals. The intermediary embedded rituals that bridge these distinct scenarios rely heavily on the assumed interpretation of religious sources.

The elaboration of the hidden layers within the initial Christian blessing ritual underscores that the incorporation of each enabling, embedded ritual hinges on a distinct religious belief derived from religious sources. The essential beliefs underlying the Christian blessing are explicitly outlined by Lawson and McCauley (1990, p.110-111). These beliefs collectively form the subsequent hierarchical system:

- (A) The priest blessed the water.
- (B) The church ordained the priest
- (C) Jesus instituted the church

The basis of this hierarchy is the belief (C). Belief (B) is anchored in belief (C) and serves as a support for belief (A). And the latter points to the object, water, which has acquired the non-natural property of purifying people who use it in an initial ritual in a prescribed

¹¹ The question if the direct action of Jesus instituting the church can be called ritual needs further consideration. Here we follow the claim of Lawson and McCauley and assume that it is a ritual.

way. These beliefs are ordered by relation of justification. Belief (C) justifies belief (B), and belief (B) justifies belief (A).

All of the aforementioned beliefs were formulated by Lawson and McCauley and employed to extend the Christian blessing ritual structure, as illustrated in Figure 6. It's important to note that the absence of these beliefs would render this expansion unattainable. Intriguingly, their book does not explicitly acknowledge the pivotal role these beliefs played in their reconstruction of the religious ritual's structure.

To summarize, it can be argued that all the mentioned beliefs are the beliefs of a human agent, as each played a decisive role in augmenting the religious ritual's structure with new enabling ritual that underpins the rituals of the higher layer. This inherent quality of specific religious beliefs highlights that the relationship between these beliefs and religious rituals is more intricate than conventionally assumed.

Thus, Lawson and McCauley's theory of religious rituals indirectly addresses the relationship between belief and ritual through the concept of a "conceptual scheme." Their framework can be modified by extending the general structure of a religious ritual with two mediating systems: the concept selection system and the belief selection system. The concept selection system is responsible for extracting religious concepts, selecting them, and supplying them to the input of the Action Representation System. The belief selection system, in turn, extracts beliefs from the religious conceptual system and provides them to human participants, thereby motivating them to perform religious rituals.

Lawson and McCauley's theory primarily emphasizes the role and position of the superhuman agent within the structure of ritual, while the role of the human agent is considered only peripherally. As a result, human ritual action appears to be subordinated to mental and cultural mechanisms that limit the agency of the human participant in choosing goals and deciding to perform the ritual. To address this limitation, the present approach introduces a mechanism that explicitly accounts for the role of human beliefs in ritual action, thereby refining the explanatory scope of the theory.

1.4 The theory of ritual forms in the cognitive science of religion

As Lawson (2022) writes, the approach he developed with McCauley to a cognitive understanding of religion has not generated widespread interest among researchers when

Rethinking religion was published. Instead, researchers have gravitated towards another approach, developed by Pascal Boyer (1994) and Stewart Guthrie (1993), which treats religion as an evolutionary by-product. This evolutionary view differs from the view of religion as a system with its own internal rules. It suggests that religion is rather a collection of diverse modular processes, each requiring its own explanation. Despite this shift in emphasis, the modeling method, along with attempts to reconstruct the mental representations underlying ritual actions, has retained some place in the cognitive science of religion (Engler & Gardiner, 2009).

The undoubted merit of Lawson and McCauley's theory in the field of theoretical cognitive science of religion was the introduction and definition of structural concepts of the components of ritual: a ritual agent, a ritual patient, a ritual instrument, a supernatural agent, and so on. Subsequent theorizing as well as experimental design using these concepts has continued in the area of ritual classification (Van Slyke & Slone, 2022), research into the perceived effectiveness of ritual action (Barrett & Lawson, 2001; Hornbeck et al., 2015), cross-cultural studies of religious ritual (Bulbulia et al., 2013), as well as the modeling of ritual behaviour (Lane & Shults, 2018).

The ritual-form hypothesis has served as the underlying theory for some CSR empirical studies, although their numbers may not be that many. The theory has been tested to see if the patterns identified by Lawson and McCauley, such as the correlation between ritual importance evaluation and SA involvement, are intuitively recognized by real people and observed in existing religions. Based on this theory, Barrett and Lawson (2001) hypothesized that people should be able to intuitively evaluate the efficacy of a ritual with only a minimal understanding of its structure and the role of SA. Barrett and Lawson's study tested three specific predictions related to the conceptualization of religious rituals and their perceived effectiveness. First, it was hypothesized that people with no specialized knowledge of religion would have similar intuitive beliefs about the efficacy of rituals. Second, it was hypothesized that evaluations of ritual efficacy would be influenced by its association with superhuman power. Finally, it was predicted that the involvement of the relevant agent would be more determinant than the specific actions performed during the ritual. The results of the experiment confirmed all three predictions derived from the ritual-forms hypothesis. Participants unfamiliar with religious rituals demonstrated intuitive appraisals of their efficacy, and these appraisals were influenced by both the association with superhuman power and the presence of the relevant

intentional agent.

Concrete proposals of Lawson and McCauley were also tested on the material of real-life religions (Malley & Barrett, 2003; Barrett et al., 2017). Thus, in the article of Malley and Barrett (2003), based on surveys taken from Hindu, Jewish and Muslim believers, the Lawson and McCauley's hypothesis about the reversibility and repeatability of rituals depending on the role played by an PCSA was tested. Indeed, the vast majority of existing rituals, if the deity appears in the most active, acting position, are practiced once in human life, while rituals in which a human person plays an active role are repeated many times. Hornbeck et al. (2015) conducted a similar study by recruiting ethnically Chinese Singaporeans to describe 37 rituals, which included 36 special patient rituals and one of a special instrument. Rituals were generally considered repetitive but not reversible, which is consistent with RFH predictions. Due to the fact that Chinese culture is quite distinctly different from Western culture, this study particularly clearly confirms the universality of RFH.

However, another explanation of this regularity has also been offered. Ilkka Pyysiäinen (2021), offers an alternative account to the significance and irreversibility of religious rituals that differs from the theory involving the presence of SA. Pyysiäinen suggests that the importance and irreversible nature of a ritual may not necessarily hinge on the presence of a PCSA, but rather may be directly linked to exceptional life events of an individual, such as the commencement of a new life stage, the death of a loved one, or the responsibilities associated with the ritual. Each of these unique events evokes powerful emotions. This particular characteristic does not necessarily require reference to the involvement of a PCSA to elucidate the significance or irreversibility of a religious ritual. This perspective shifts the focus from supernatural elements to the personal and emotional aspects of life events that rituals often commemorate or respond to.

Pyysiäinen's argument gains support from the fact that in the research conducted by Malley and Barrett (2003), the majority of respondents could not independently assess the level of apparent superhuman agent's activity in the rituals they practiced. This required the researchers themselves to identify the SA's role in the described rituals. According to Lawson and McCauley, a ritual participant's judgment about the repeatability, reversibility, and relative centrality of a ritual is influenced by the participant's interaction with the SA. This notion aligns with their belief that some elements of "ritual grammar" can be consciously accessed, allowing individuals to make informed decisions about how to practice these rituals. However, as Malley & Barrett's

experiment demonstrates, ritual participants often lack this specific knowledge about the role of SA in their rituals. This observation suggests that the regularities observed in ritual practices might not solely depend on the participants' intuition about SA's role in it.

Some of the assumptions of the RFH have been developed further in a theoretical way. For example, in the study of Hornbeck and Barrett (2020), the RFH was developed to explore how different classes of rituals — special agent, instrument, or patient rituals — are associated with distinct material correlates. The hypothesis posits that the nature of objects and materials utilized in rituals, such as their durability or perishability, along with the ornateness of ritual spaces and attire, and the sensory qualities of the rituals themselves, are indicative of their respective forms. Preliminary observations were made on the wear and use of items like clothing and ritual objects, suggesting their role in specific ritual types. This empirical evidence, though initial, supports the notion that material culture can offer insights into the forms and functions of religious rituals.

RFH has been used to formulate hypotheses about what factors influence the perceived effectiveness of rituals. Research on the perceived efficacy of ritual has been conducted in relation to special ritual objects. For example, Greenway (2022) points to the principle of superhuman immediacy in relation to assessing the power and effectiveness of special objects in religious contexts. He discusses the application of Lawson and McCauley's theory, particularly their Superhuman Immediacy Principle, to understanding the power and efficacy of special objects in religious contexts. Greenway explores the concept proposed by Lawson and McCauley that the centrality of an object or agent in a religious tradition is determined by the number of enabling rituals linking it to a SA who instituted the ritual. The fewer the number of enabling rituals, the more central the role of the object or agent is considered to be. To illustrate this, the authors use the example of Holy Communion and baptism in Catholicism. Holy Communion, which directly involves the body and blood of Christ, has a higher level of importance because of its direct connection to the SA. In contrast, baptism requires a sequence of initiations that ultimately lead back to Christ, indicating a less important role due to the longer chain of enabling rituals. This comparison shows how the chain-length of connected rituals can indicate the relative importance of religious practices within a tradition.

Referencing the studies by Barrett and Lawson (2001) and Sørensen et al. (2006),

which investigate the cognitive impacts of various ritual components, Greenway illustrates that alterations in ritual agents or instruments have a more substantial effect on the perceived efficacy of rituals than modifications in the ritual activities themselves. A key finding is the importance of special elements, such as unique tools or agents, in determining the success of a ritual. Sørensen et al. (2006) further discovered that the presence of a special agent exacerbates the negative impact on perceived effectiveness when changes are made to the form or content of an instrument, compared to alterations in the special status of the instrument itself. These findings align with the assertion that rituals requiring fewer steps, or those directly administered by a supernatural agent, are deemed more potent or effective. This concept resonates with Lawson and McCauley's principle of superhuman immediacy. Greenway also explores various ways of generating special objects, including creation of the special object by superhuman agent, ritual action upon the object and contagion, — which explain the processes through which objects acquire special properties. This discussion is pertinent to Lawson and McCauley's theory, suggesting that the manner in which a special object is created or transformed affects its perceived power and efficacy. Consequently, Lawson and McCauley's theoretical framework is applied in the aforementioned study to elucidate how the perceived centrality and effectiveness of religious objects and rituals are influenced by their association with the supernatural. Empirical evidence bolsters this theory, highlighting the significance of special agents in the efficacy of rituals and the influence of the means of transformation on the perception of objects within religious contexts (Barrett & Lawson, 2001; Legare & Souza, 2012; Huang et al., 2017).

The emerging domain in the cognitive science of religion, particularly the method advanced by Lawson and McCauley for modeling mental representations linked to ritual, holds significant relevance in computer simulation studies of cognitive processes related to religion. For example, Lane & Shults (2018) introduced an innovative methodology for incorporating computational modeling and simulation into cognitive theories. This approach is applied to Lawson and McCauley's theory of religious competency and Harvey Whitehouse's contrasting theory of religiosity. Lane & Shults elucidate that these theories are grounded in empirical evidence and possess the requisite specificity for computational modeling and empirical testing. He contends that these theories not only offer hypotheses amenable to testing but also align with various levels of scientific inquiry and encapsulate the breadth of religious concepts and behaviours. Furthermore, the authors posit that these theories yield tangible data amenable to validation against

historical and prospective data sets. Lane & Shults advocate for the use of multi-agent artificial intelligence (MAAI) models as particularly apt for examining intricate social phenomena such as religion. This suggests that theories like those of Lawson and McCauley can be efficaciously tested and integrated into this computational framework. Lane & Shults champions the employment of MAAI to develop, test, and compare predictions derived from cognitive theories of ritual behaviour. Ultimately, Lawson and McCauley's theory gains recognition and is adopted as a foundational cognitive framework for understanding religious rituals and systems within the realm of computer simulations.

Therefore, as well as the theory of ritual forms itself, its development is characterized by a focus on the cognitive structure of ritual, understood in this context as the structure of representations, which has the properties of a linguistic system. It is the cognitive structure according to this strand of thought that determines the form of ritual, its evaluation and significance. This cognitive structure is not necessarily realized by the subject, nor does it depend on religious indoctrination or religious education; rather, it is intuitive and is triggered as a kind of embedded, preconsciously recognizable “grammar” of ritual action. This assumption tacitly implies that those mental processes that are associated with religious ritual action are not irrational, but are subject to schematization, they have internal structure, that is, they are cognitive-grammatical in nature. Moreover, within the limits of linguistic interpretation, the theory is limited to syntactic structures, abstracting from semantics, i.e., the content of religious representations and cultural narratives related to ritual action. In general, this trend considers the cognitive factor in isolation, and from this perspective, explaining ritual does not require consideration of factors beyond the representational structure, such as bodily involvement or ritual-related emotional and existential experiences.

Thus, the main idea of the approach proposed by Lawson and McCauley is that ritual can be understood and even predicted based on knowledge of the mental structures — or representations and connections between them — that underlie ritual. However, the origin, formation, function, and even the content of these mental representations themselves remain unexplained. It is characteristic that the theory is based on Chomsky's generative approach, which considers mental representations as innate, thus simply removing the question of their genesis (Chomsky, 1957; Putnam, 1967; Carr, 2003). In the same way, the emergence of mental representations associated with SA, such as ritual

action, special objects, special instrument and the like also seems to be a manifestation of some sort of innate competence.

The main problem with the idea of an internal grammar such as in Chomsky's proposal is that the hypothesis appears to be unnecessary if the mechanisms of learning and cognitive development can be sufficient to explain language acquisition (Gopnik, 2003). The idea that ritual competence is somewhat innate allows us to leave unanswered the question of what types of interactions with the environment have shaped the urge for ritualized action. Thus, the patterns discovered within the theory of Lawson and McCauley become descriptive rather than explanatory, since these patterns cannot be explained by the structure of representation as such, but both the patterns of ritual and the structure of representation can be simultaneously explained by the influence of other factors: culture, education, interaction with the environment, etc.

Hence, the theory does not address the problem of the subject's relationship with the environment. It is a formal model of mental structure rather than content, separating the content of representations from their formal structure as something secondary and as something that can be separated (Egan, 2003). At the same time, if we consider linguistic interaction, it cannot be denied that the content of perception, intention, and context determines the intentional orientation and function of utterances. For example, as far as Chomsky's theory is concerned, numerous studies on children's language acquisition show that it is the exposure to external stimuli distributed in the environment that determines the gradual acquisition of language, and this empirical observation is sufficient to explain language (Gopnik, 2003). The same can be applied to the theory of ritual forms: if existing ritual practices, rooted in one way or another in the subject's interaction with the environment, determine the emergence of certain recurrent structures, then the patterns of these structures cannot be considered in isolation from the causes that gave rise to them and cannot serve as independent causes of ritual performance. This can be confirmed by the example given above, that despite the fact that the theory of Lawson and McCauley is a theory of ritual competence, the subjects in the study could not demonstrate this competence when they were asked questions about the role of SA in ritual (Malley & Barrett, 2003).

As descriptive, however, the theory of ritual forms has proved to be quite accurate and fruitful. Many of the patterns discovered by Lawson and McCauley have been confirmed by empirical observation. The formulation of the properties of ritual, such as reversibility, repeatability, emotional charge, centrality, peripherality, etc., as well as the

notion of “special” in the context of ritual action, which means a certain property of agents, objects, and actions, the essence of which is extraordinariness, uncommonness acquired from the connection of this agent, object, or action with SA, turned out to be quite instrumental. The theory of ritual competence appeared to be very practical for modeling and testing, it also sets a direction for research on the relationship between language and ritual, as well as for assessing the efficacy of ritual and its memorability.

Defining the place of religious beliefs within the ritual structure proposed by Lawson and McCauley would make it possible to overcome the theoretical limitations connected with the gap between the syntactic character of their scheme and the semantic content of religious rituals. As has been shown in this chapter, Lawson and McCauley’s theory is not in fact devoid of beliefs; rather, it implicitly incorporates a religious conceptual framework into the design of ritual. Beliefs do not merely accompany ritual (Figure 1); instead, the ritual’s representational model includes a dedicated system that selects and integrates relevant beliefs — both in the process of constructing the ritual and in shaping the motivation to perform it. Moreover, the place and key features of the Supernatural Agent (SA), which are essential for ritual design, are themselves shaped by underlying beliefs.

Augmented with specific tools for the selection and integration of beliefs into ritual, Lawson and McCauley’s framework gains greater potential for analyzing the relationship between ritual competence and the intentional dimension of ritual practice, as well as the cultural context in which a given ritual acquires socially recognized meaning. Thus, the reintegration of religious beliefs into their scheme and the specification of their place within it makes it possible to overcome the problem of the “innateness” of ritual competence and thereby enhance the accuracy of the model in empirical research on ritual.

Conclusion

In the representational–linguistic approach to ritual, as presented in *Rethinking Religion* by Lawson and McCauley (1990), beliefs are scarcely mentioned explicitly. However, this theory indirectly addresses the question of the relationship between belief and ritual by employing the notion of a “conceptual scheme,” which — as the

reconstruction of the theory presented here demonstrates — implicitly entails the integration of religious beliefs into the structure of ritual representation.

In this chapter, I proposed to modify Lawson and McCauley's theory by extending the general structure of a religious ritual with two mediating systems: a concept selection system and a belief selection system. The first system is responsible for extracting and selecting religious concepts and supplying them to the input of the Action Representation System. The second system extracts beliefs from the religious conceptual system and offers them to human participants, thereby motivating them to perform religious rituals.

Moreover, developing this argument, I suggest that Lawson and McCauley's theory of religious ritual focuses primarily on the role and place of the superhuman agent within the ritual structure, while the role of the human agent is only considered peripherally. Consequently, human ritual action appears to be subordinated to mental and cultural mechanisms that deprive the human agent of the freedom to choose the goal and to decide to perform the ritual. I proposed complementing Lawson and McCauley's theory with a mechanism that explicitly incorporates the role of human beliefs in ritual action.

Specifying the place of the human ritual agent's beliefs within the ritual model allows us, first, to explain the inverse relationship between the level of the superhuman agent's involvement in a ritual and the position of the belief relevant to that ritual within the chain of interconnected beliefs. Second, reconnecting the ritual scheme with the agent's beliefs makes it possible to introduce into the model a content component that is anchored in the cultural and individually specific context in which it arises. As a result, Lawson and McCauley's model retains its representational–linguistic character, but becomes more open to the empirical study of particular individual mental states associated with ritual action.

Chapter 2. Social aspect of ritual and belief: bridging individual and collective levels

2.1 Individual intention and social transmission in ritual

Ritual constitutes a dynamic interplay between socially acquired patterns of behaviour and their cultural interpretation, on the one hand, and the cognitive representations of an individual participant's actions, on the other. Within the CSR, rituals are commonly understood as actions enacted by individual agents¹². At the same time, it is clear that religious rituals draw upon socially established scripts and refer to shared system of beliefs. Accordingly, this section examines how individual ritual actions relate to social transmission and group-level effects of ritual. First, it examines how the contemporary cognitive science of religion, particularly as presented in Harvey Whitehouse's work (1995; 2004; 2007; 2021), conceives the social transmission of ritual and its influence on group cohesion and identity. It then develops a reinterpretation of Whitehouse's *ritual stance* by showing how ritual actions can be understood as intentional at the individual level when their motives are socially supplied rather than individually invented.

Traditionally, before the emergence of phenomenological and psychological approaches to religion at the beginning of the 20th century, ritual was primarily conceptualized within religious studies, anthropology, and cultural theory as a social practice — characterized by prescribed patterns of behaviour and associated with religious symbolism. Influential theorists of religious ritual such as van Gennep, Turner, Durkheim, and Douglas understood it as serving a significant social function: (a) contributing to the creation and maintenance of social structure (van Gennep, 1909; Turner, 1969), (b) fostering group cohesion (Durkheim, 1912), and (c) communicating cultural values (Geertz, 1973; Douglas, 1966). With the emergence of the psychology of religion and, later, the cognitive science of religion, ritual came to be seen as an expression of specific cognitive dispositions. Beginning in the 1990s, scholars such as Lawson and McCauley (1990), Humphrey and Laidlaw (1994), Whitehouse (1996) and

¹²“Scholars in this field have generally chosen to approach ‘religion’ in an incremental, piecemeal fashion, identifying human thought or behavioural patterns that might count as ‘religious’” (Barrett, 2007, p. 768).

Boyer (1994, 2007) proposed that ritual behaviour engages universal psychological and cognitive mechanisms shared by all individuals, regardless of their sociocultural background (Barrett, 2010).

At the same time, however, other scholars insisted that the concept of ritual, as inherited from anthropology and religious studies, is too complex and multifaceted to be fully accounted for by the methods of psychology and cognitive science alone (Seaquist, 2009; Boyer & Liénard, 2020; Handelman, 2006). In response, the dominant strategy within the cognitive study of ritual has been to isolate and examine specific features of ritual as distinct cognitive phenomena (Whitehouse & Lanman, 2014; Hobson et al., 2018; Boyer & Liénard, 2020). Whitehouse and Lanman (2014) refer to this approach as the “fragmentation strategy,” emphasizing that these discrete characteristics can be investigated scientifically and experimentally. Within this framework, the cognitive science of religion focuses on particular elements of individual cognition and behaviour associated with ritual, including stereotypy (Lang et al., 2015), signaling (Sosis & Alcorta, 2003), causal opacity (Whitehouse & Lanman, 2014), goal-demotion (Liénard & Boyer, 2006), and non-functionality (Nielbo & Sørensen, 2011), among others.

Although ritual has become a focus of psychological and cognitive research in recent decades, it remains fundamentally embedded in group-level dynamics. Rituals are typically performed in collective contexts and transmitted through interpersonal interaction. This necessitates the development of an account that integrates research findings on individuals’ cognitive processes with data on the social environment in which ritual behaviour occurs. Harvey Whitehouse (1995; 2004; 2007; 2021) has been particularly influential in exploring this connection. His work has become central to the cognitive science of ritual, particularly due his introduction of the two key concepts of his theory: the *ritual stance* and *modes of religiosity*. Whitehouse’s model builds on the fragmentary strategy, discussed earlier, highlighting *causal opacity*, the lack of causal transparency in ritual behaviour as a key feature. At the same time, he emphasizes that rituals vary in how they shape group cohesion, depending on their form and frequency (Whitehouse, 2004; 2021). His theory thus provides a bridge between the individual-level cognitive mechanisms involved in ritual participation and the collective-level functions that rituals play within social groups. For this reason, I will discuss how the concept of a ritual stance is used within Whitehouse’s framework to describe cognitive processes on the individual-level.

To bridge the gap between explanations at the individual and collective levels in

Whitehouse's concept, I clarify the notion of ritual stance, interpreting it as a form of Dennett's intentional stance, in which the motives for an agent's actions — beliefs and desires — are not generated independently by the individual themselves, but are adopted from others. While Whitehouse links participation in ritual with the recognition of causal opacity, which then motivates socially oriented imitation, this clarification shifts the emphasis: first, beliefs and desires are adopted from observed models, and then, as a consequence, causally opaque behaviour is reproduced. From this perspective, ritual actions remain intentional at the individual level because the agent regards extraneous beliefs and desires as their own, while at the collective level, the repeated adoption and embodiment of such intentions leads to coordinated actions and social cohesion.

2.2 The theory of the ritual stance and the explanatory gap between collective and individual levels of ritual

The concept of the ritual stance has undergone a shift in meaning, leading to ambiguity in its interpretation. Initially, introduced by scholars such as Legare, Whitehouse, and Watson-Jones, and articulated in Watson-Jones's doctoral dissertation *The Ritualistic Child: Imitation, Affiliation, and the Ritual Stance in Human Development* (2012), the ritual stance referred to the position of an observer interpreting an action of some other person. This observer, drawing on everyday knowledge, attempts to determine whether the observed behaviour is an instrumental action; if this fails and features such as repetition or causal opacity are noted, the observer adopts a ritual stance and categorizes behaviour as ritual action. However, in later works, such as Harvey Whitehouse's *The Ritual Animal* (2021), the focus shifted to the disposition of the ritual agent, describing the ritual stance as the participant's orientation towards faithfully imitating causally opaque behaviour in accordance with normative conventions:

“When we assume that a modelled behaviour is causally opaque because it is simply a random normative convention, then (assuming we wish to be accepted into the group) we copy it in every detail, without deviating or making up variants of our own. I call this the ‘ritual stance’” (Whitehouse, 2020, p.49).

In the following sections of this chapter, I will use Whitehouse's (2020) concept of ritual stance as a cognitive program capable of identifying normative behaviour and triggering the subsequent imitative reproduction of that behaviour. This concept has been widely applied in experimental research and remains a leading framework for integrating the cognitive and social dimensions of ritual.

2.2.1. The theory of ritual stance

The idea of a ritual stance initially emerged in experimental research that was not directly related to religious studies but explored the cognitive mechanisms of imitation in children. The experiment by Herrmann et al. (2013), showed that preschool-aged children imitate the actions of models significantly more precisely when the action is framed as conventional rather than instrumentally oriented. In addition, the accuracy of imitation increases when the action is presented by multiple models. In subsequent studies (Nielsen et al., 2015, Wilks et al., 2016, Kapitány & Nielsen, 2015, Whitehouse, 2021), the researchers tested the hypothesis that it is not just the conventional character but the nature of the action itself — specifically its causal opacity, i.e., its impotence to produce the perceptible result, that triggers an overimitation response. For example, experiments by Nielsen et al. (2015) demonstrated that children readily imitate others' actions even when they are clearly ineffective. Wilks et al. (2016) showed that children copied actions to an even greater extent when they were causally opaque compared to when they were instrumental and aimed at obvious goals. These experiments led the researchers to propose the hypothesis that the learning instrumental skills and the acquiring actions based on social conventions are controlled by different cognitive mechanisms. The former is triggered by an instrumental stance, while the second by a ritual stance. The difference between them lies not only in the fact that, in ritual action, the causal basis is hidden but also in the fact that its causal character is fundamentally unknowable to the agent or the observer. This contrasts with instrumental action, which, even if not completely transparent, appears as intelligible.

After establishing the relationship between causal opacity of actions and imitation, a new hypothesis emerged: the type of action performed affects the perceived value of an object. Kapitány and Nielsen (2015) conducted an experiment in which adult participants were shown videos of novel rituals (causally opaque actions) or instrumental actions

(causally transparent) performed on objects. The objects involved in ritualized actions were rated by participants as more “special” and more “desirable” than those subjected to instrumental manipulations. This finding demonstrates that causally opaque actions involving an object influence the perception and evaluation of that object. However, subsequent research by Kapitány and colleagues (2018) involving children from Australia and Vanuatu did not reveal a stronger inclination for objects associated with ritual actions. This suggests that the ability to attach special value to objects used in ritual actions stems from the acquisition of new social skills.

Further research has expanded the knowledge about the ritual stance and its influence on social behaviour. Experiments described by Whitehouse (2021, p.56) demonstrated that when an action lacked any apparent ultimate goal, children replicated it more rigidly and exhibited less innovation compared to children in instrumental conditions where the action's goal was potentially specified. Subsequent experiments (Whitehouse, 2021, p.58) employing verbal framing to induce ritualistic or instrumental interpretations confirmed these findings: children primed with a ritual context displayed higher imitative fidelity and greater sensitivity to deviations in actions. Moreover, the hypothesis that the risk of ostracism amplifies ritual behaviour was examined. To test this, parameters related to ostracism were incorporated into the experimental design, comparing conditions involving ostracism with ostracism-neutral conditions (Watson-Jones et al., 2014; Legare & Nielsen, 2015). Indeed, the presence of an ostracism context and the immediate threat of exclusion from the group further heightened the accuracy of imitation. Whitehouse concludes that behaviour, manifested in the imitation of conventional non-instrumental actions, is closely linked to a deeply ingrained need for group acceptance. The deep-rooted nature of this behaviour is evidenced by the fact that overimitation occurs as early as age three (Whitehouse, 2021).

In *The Ritual Animal*, Whitehouse describes the ritual stance as a specialized adaptation of Dennett's intentional stance: “These two contrasting perspectives giving rise to overimitation constitute ‘stances’ in much the same way that philosopher Daniel Dennett (1987) talks about an ‘intentional stance’ — a strategy of assuming that beliefs and desires govern the decision to act in a certain way. But by differentiating between instrumental and ritual stances, I am drawing attention to two very different kinds of strategic assumptions about these beliefs and desires. In the case of the former, we assume that the actor is attempting to change the physical state of the world in a mechanistic

fashion, whereas, in the case of the latter, we assume that the actor is attempting to change the social state of the world by appeal to our psychology, particularly our desire to belong” (Whitehouse, 2021, p.53). Dennett (1987) introduced the intentional stance as a strategy for explaining or predicting behaviour by attributing basic beliefs and desires to individual agents. According to Whitehouse, the ritual stance is a subtype of Dennett’s intentional stance that does not comprise a desire to change the physical world (as in the “typical” intentional stance), but a desire to change the social world of the agent. This aim is achieved by imitating socially established patterns of behaviour that do not directly benefit the individual but result in the stronger integration of the group. Therefore, when an individual adopts a ritual stance, she focuses not on how to achieve her personal goal, but on how to copy every detail of the action in order to accurately reproduce its entire script. Whitehouse emphasizes that the ritual stance and the instrumental stance are not mutually exclusive but complementary (Whitehouse, 2021, p.69). Ritual behaviour inherently involves certain technical skills, just as instrumental actions may contain elements of cultural traditions. Therefore, activation of the ritual stance depends on cues derived from observation of others engaged in social and instrumental interactions.

Thus, the ritual stance theory offers a specific model of ritual action. According to this model, a ritual action is defined as an action performed in a specific stance in which the beliefs and desires of an agent are oriented towards changing the social setting rather than the physical setting. This definition includes two key components. The first is related to the purpose of action, that being included in a group or extending membership of it. The second is related to the inviolable reproduction of this type of action, that is overimitation. These two components coincide with descriptions of ritual behaviour articulated by Pascal Boyer and Pierre Liénard, who identified features of ritualization such as compulsion, rigidity (adherence to script), repetition and redundancy, goal-demotion, and specific concern (restricted range of themes) (Lienard & Boyer, 2006; Boyer & Liénard, 2020). Among these traits, goal-demotion and specific concern relate to the purpose of ritual action. According to Boyer, these aspects cannot be met by ordinary intentional action, which demonstrates the failure of the instrumental explanation of a ritual. The remaining characteristics – compulsion, rigidity, and repetition – are related to reproduction of ritual, as they describe how ritual actions are replicated through inviolable repetition. However, Boyer analyzes ritual as an action determined entirely by individual cognitive processes, whereas ritual stance theory emphasizes that the copying and reproduction of rituals occur through interaction; that is,

rituals are initially learned by observing others performing them.

Ritual stance theory addresses both the individual and collective aspects of a ritual. However, the fragmented approach to studying rituals leads to a paradoxical picture that warrants detailed analysis. At the social level, rituals play a crucial role. They foster group cohesion and identity, serving as mechanisms for transmitting cultural norms and values (Rossano, 2012; Fischer et al., 2013; Watson-Jones & Legare, 2016; Whitehouse, 2021; Whitehouse & Lanman, 2014; Whitehouse & Kavanagh, 2022). These functions are essential for maintaining a stable society by strengthening interpersonal relationships. In contrast, at the individual level, ritual actions often appear meaningless. They lack causal efficiency and seem redundant or personally ineffective. This creates a paradox: while rituals are highly effective at fostering social stability and collective benefits, their social functions are often inaccessible to individual cognitive awareness. This paradox raises a critical question: what motivates individuals to engage in actions that are goal-demoted and bring no immediate personal benefit, yet are socially beneficial? To address this, two fundamental questions about religious rituals have to be answered. The first is: What drives an individual to perform ritual actions that do not yield perceptible benefits from the perspective of that individual? And the second question is: How does the group-level function of rituals emerge from the intentions of the individuals who participate in them? These two key questions — the “attraction force” of ritual and its social function represent the central challenge of understanding how rituals operate at both the individual and collective levels.

2.3 The individual-focused explanation: the problem of ritual goal

The first point of this analysis addresses the limitations of individual-centered explanations regarding the intentionality of ritual actions, focusing on the issue of ritual stance activation. Using Dennett's concept of stances, I investigate if adopting a ritual stance allows observers to interpret and predict ritual actions in a similar way as in a typical Dennettian intentional action. This section analyzes experimental findings to determine whether the ritual stance is a special kind of a universal evolutionarily ingrained cognitive mechanism of behaviour aimed at the social change.

I begin by clarifying the mechanism that activates ritual stance, that is, how and when they are triggered. From Dennett's perspective, intentional stance is a mental

instrument used to explain or predict behaviour. For example, if we see someone running towards the bus stop as the bus arrives, we infer, by adopting the intentional stance, that this person wants to catch the bus. The result of this inference affects our behaviour: for example, we step aside to let the person pass. In this case, adopting the intentional stance enables us to reveal the intended goal of someone's action and prepare our reaction to it. We can interpret someone's behaviour as intelligent, despite it appearing aimless, by amending Dennett's idea of the intentional stance to include the ritual stance. In accordance with this logic, an observer witnessing seemingly aimless action may adopt a ritual stance and infer that this action is accepted in the group to which the actor belongs. A possible reaction of the observer would be to imitate such behaviour in order to conform to the group and avoid social exclusion. Whether this cognitive process is typical of the observer of a ritual is a question to be investigated.

If the ritual stance is a kind of intentional stance, then it should help in elucidating observed behaviour. It is important to clarify that in the experiments mentioned earlier, participants were not asked about their interpretation of ritual-like behaviour. The presence of a particular stance was determined solely on the basis of subjects' tendency to over-imitate. If their behaviour was due to a particular cognitive strategy, participants should be able to articulate it. For example, if an intentional stance helps me to understand that someone is running for the bus, and I can recognize and verbalize this understanding, then a ritual stance should similarly help me comprehend and articulate that the action I am observing is a ritual accepted within the group, and the appropriate response would be to repeat that action.

It is plausible that an observer could construct such an interpretation of ritual behaviour and react accordingly. However, in real religious rituals, interpreting an action as socially induced is not the only possible interpretation. For example, an observer of a Hindu *pūjā* (offering ritual) may notice the participant placing flowers and incense before an image of a deity. While one interpretation could be that the participant is simply conforming to a socially learned script, the more immediate and natural interpretation for many observers — especially those familiar with the tradition — is that the participant intends to make an offering to the deity as an act of devotion. In this case, the ritual act is not understood primarily as a product of social induction, but as a purposeful, goal-directed action embedded in the participant's religious worldview (Humphrey & Laidlaw, 1994). Had the children in the aforementioned experiments been asked about their interpretation of ritualized action, their responses might have been similarly varied. In

addition to assuming that the behaviour is related to the norm, the child might have suggested that there are hidden reasons for the behaviour or that it has magical overtones akin to superstition. Therefore, if we consider the ritual stance to be a cognitive strategy for elucidating a kind of apparently aimless behaviour, then we will be unable to identify intentions and desires that could be considered the cause of this behaviour.

Suppose that the cognitive processing of ritual behaviour involves more unconscious processes and that what is meant by ritual stance is embedded at a much deeper, pre-reflective level. This assumption is also present in CSR, as expressed in the theory that the ritualized behaviour is triggered by the same mechanism as the obsessive-compulsive disorder (Dulaney & Fiske, 1994; Boyer & Liénard, 2006). However, as shown by Evans et al. (2018), children are significantly more selective in their imitation than experiments related to ritual stance suggest. When presented with demonstrations of behaviour with varying levels of efficacy, children prefer causally relevant behaviour, even when it is chosen by a minority while the majority performs opaque behaviour. In earlier experiments (Nielsen et al., 2015; Wilks et al., 2016, Kapitány & Nielsen, 2015, Whitehouse, 2021), the demonstration of opaque actions was unanimous, and under those conditions, children do tend to conform to the actions of others. However, when variability is introduced, the choice of a model to imitate is marked by a high degree of rationality and adaptability, which challenges the assumption that ritualized overimitation is driven by pre-reflective responses to certain triggers.

In other words, this explanatory problem can be framed using the language of dual-process theory (Evans, 2008; Evans et al., 2013). Even if the ritual stance is not a “stance” in the Dennettian sense, this cognitive tool, if it exists, must operate within one of two systems: the faster, automatic, and intuitive System 1 or the slower, deliberate, and logical System 2. According to the traditional description, the ritual stance is triggered when the instrumental explanation cannot be applied. This stems from the idea that characteristics of rituals, such as opacity and lack of clear purpose, arise only as a negation of instrumental reasoning. Logically, this suggests that the instrumental stance is more primary — quick and intuitive — and when it fails to explain observed behaviour, its failure triggers the alternative, ritual stance. If this is the case, the ritual stance would belong to System 2, which contradicts the idea of it as an unconscious, evolutionarily embedded mechanism of social imitation. Moreover, the notion that the instrumental stance precedes the ritual stance contradicts the fact that elements of ritual behaviour, or

overimitation, are evident at an early age and are closely linked to socialization and cognitive development. Therefore, imitation may be driven by deeper cognitive processes, not solely by the failure of the instrumental stance, and may not be directly tied to ritualization.

Thus, it is problematic to localize the ritual stance within the cognitive system. On the one hand, it is described as a deeply embedded, evolutionarily developed mechanism, while on the other hand, its description implies complex recognition of the absence of instrumentality and conscious control over imitative actions. Therefore, the concept of the ritual stance seems more like a strategy for describing behaviour rather than an actual cognitive mechanism responsible for ritual behaviour (Buskell & Charbonneau, 2022).

2.4 From individual ritual action to group outcomes

After considering the limitations of an individual-centered approach to the problem of the perceived opacity of ritual behaviour, let us now turn to the second issue previously identified: the connection between individual ritual actions and the functions of ritual at the group level.

Although rituals may seem to involve causally opaque actions, research on the ritual stance has shown that they serve important functions for the group. Specifically, rituals facilitate social integration, transmit values, and shape group identity (Watson-Jones & Legare, 2016; Whitehouse & Lanman, 2014; Whitehouse, 2021). However, within this theoretical framework, the cognitive mechanism responsible for ritual reproduction — the ritual stance — is localized within the individual's cognitive system. This means that while rituals benefit the group, they are performed by individuals who perceive no inherent meaning in them. It is important to note that the group is not considered an intentional agent, and, as previously discussed, rituals cannot be reduced to simple instinctive reactions.

Cognitive approaches offer several explanations for how rituals that appear non-functional at the individual level can yield collective benefits. For instance, Whitehouse (2004; 2021) draws upon mechanisms of individual memory to explain this phenomenon. He hypothesizes that participation in rituals leaves imprints in the memories of each group member, cumulatively forming social cohesion of varying intensities. Frequent rituals create low-arousal shared memories, while rare and intense rituals evoke vivid, high-

arousal memories of joint actions, thereby strengthening group cohesion and identity. From an evolutionary perspective, rituals may have been naturally selected because they promote group survival and cooperation. Costly signaling theory supports this view by proposing that participation in rituals serves as a reliable signal of commitment to the group, strengthening trust and facilitating cooperation among members (Sosis & Alcorta, 2003). Similarly, evolutionary explanations are linked to theories that attribute ritual behaviour to prosocial behaviour, equating participation in rituals with other forms of socially approved behaviour (Norenzayan & Shariff, 2008; Norenzayan & Gervais, 2012). Rituals are also considered mechanisms through which individuals seek to avoid the risk of ostracism. Engaging in ritual behaviour signals belonging and commitment to the group, thereby reducing the likelihood of social isolation (Atran & Henrich, 2010). Furthermore, the need for social recognition motivates individuals to conform to group norms and participate in rituals (Boyer & Liénard, 2006; Wen, Herrmann, & Legare 2016).

Paradoxically, individual-centered explanations fail to account for important individual cognitive functions such as intention, reasoning, and motivation. For example, shared memory may explain cohesion but does not explain the initial implementation of ritual actions, in other words, why someone participates in a ritual. Explanations based on evolutionary selection reduce cognition in ritual actions to reflexive behaviour similar to that found in animals, making them inapplicable to complex religious ritual practices. Explanations involving general prosocial tendencies, such as prosocial behaviour or fear of ostracism, seem incomplete because they do not account for the specificity of ritual and how it differs from other social practices. Thus, by treating ritual as meaning nothing to the individual, these approaches fail to explain a crucial point: what motivates an individual to participate in a ritual that ultimately yields certain benefits at the group level.

The limitations of individual-centered explanations discussed above call for a reconceptualization of individual ritual cognition as socially influenced rather than isolated. The solution lies in reinterpreting the ritual stance as an ordinary application of the intentional stance to ritual contexts, where agents adopt socially supplied intentions, desires, and beliefs as their own.

2.5 Ritual action as guided by socially supplied intentions

This subsection develops a reinterpretation of ritual stance that connects individual-level intention in ritual with group-level ritual consequences. In this view, ritual actions remain intentional when participants adopt motives for these actions from shared scenarios and models; at the same time, the repeated adoption fosters social cohesion and other group-level effects of ritual.

According to Dennett (1987), the intentional stance is a way of explaining or predicting human actions by attributing appropriate intentions, desires, and beliefs to the acting individual. According to this proposal, human action becomes understandable only when we recognize that the person performing it is capable of the following: (i) independently recognizing the situation they are in, (ii) assessing the possibility of changing it to a situation that aligns with their desire, and (iii) choosing and executing an action that will lead to the desired change. The intentional stance assumes that the action being explained is performed by an autonomous individual who acts based on their own desires and beliefs. This model is highly idealized, as it presupposes the agent's complete independence in recognizing a situation and in selecting the goals and means for their actions. However, as will be shown below, ritual behaviour does not fit into this model, since in ritual the agent's actions are not guided solely by their own desires and beliefs, but are to a large extent determined by the collectively defined meanings and purposes.

While Dennett's model assumes an autonomous, goal-directed agent, Harvey Whitehouse refines this framework by distinguishing between two varieties of the intentional stance: the instrumental and the ritual stance. The primary criterion for distinguishing between the two stances is the presence or absence of an intended outcome. When an action is understood as causally leading to the effective achievement of a specific end goal, the instrumental stance is applied. However, when the action is causally opaque and involves the faithful imitation of others' actions (overimitation) in accordance with a group's normative conventions, the ritual stance is applied¹³.

Although Whitehouse claims that action explained through the ritual stance involves overimitation and thus lacks an end goal, it still has a purpose, such as affiliating

¹³“When we adopt an instrumental stance on behaviour, we seek out the most technically efficient ways of achieving an end goal. By contrast, when we adopt a ritual stance, we are concerned primarily with observing normative conventions as a way of affiliating with a group” (Whitehouse, 2021, p.51)

with or maintaining one's presence in a group¹⁴. In addition, rituals may also serve functions that are not consciously recognized by the participants. One such function is the promotion of social cohesion, which emerges as an unintended consequence of ritual action¹⁵. In many cases, individuals see themselves as fulfilling religious obligations, showing respect for tradition, or honouring supernatural agents, without realizing that these acts also reinforce the coherence of the group.

In his concept of ritual stance, Whitehouse focuses on the social effects of rituals, such as group membership or strengthening social cohesion, as well as collective rituals. However, this description overlooks the fact that rituals are inherently social in a more fundamental sense. Just as language is social because we use it not only to communicate with ourselves, rituals are also social because they are not performed solely to satisfy our own desires. In many traditions, the very justification for a ritual lies not in the personal goals of the participant, but in the needs or expectations of entities beyond the individual, whether gods, spirits, ancestors, or laws of the world order. The majority of religious rituals are devotional in nature, or contain devotional elements, and do not involve any direct personal gain. In such cases, the individual's primary aim in performing the ritual is its correct and error-free execution at the appropriate time and in the appropriate place (Schieffelin, 2007). This means that the purpose of the action, as understood by the participants, is already formulated intersubjectively, often without any direct or tangible benefit to the individual ritual performer.

Furthermore, the structure and prescribed form of religious rituals are not individually planned but grounded in traditions and authoritative models that attribute ritual order to the will of supernatural beings, so that the sequence of actions, gestures, ritual objects, and timing is justified by reference to divine command or the preferences of the deities and spirits involved (Humphrey & Laidlaw, 1994). On this view, ritual sequences are regarded as perfect and infallible in origin, while human performers are understood as fallible, which explains why rituals may fail despite the presumed correctness of the ritual form (Michaels, 2007). This clearly shifts the motivation for

¹⁴“The ritual stance is oriented to normative conformism that will help to secure one's place in the group” (Whitehouse, 2021, p. 53).

¹⁵“Rituals also have another important consequence for our alignment with groups: they create social cohesion” (Whitehouse, 2023, p. 120).

action from the individual agent's own beliefs and desires to a shared set of desires and intentions that lie outside the performer.

As discussed earlier, the intentional stance typically assumes an autonomous agent who acts on the basis of their own desires and beliefs, but in the context of ritual, this autonomy is attenuated. The participant is not independent of the past or present actions of others; in imitating another's action (overimitation), they adopt the perspective of the person being copied, taking on the associated desires and beliefs. Experimental data confirm this interpretation: Marsh, Ropar, and Hamilton (2014) demonstrated that overimitation increases with age and is strongly modulated by social cues, even in tasks with minimal causal requirements, suggesting that such imitation is less guided by instrumental thinking and more by social factors. This suggests that in ritual contexts, the repetition of causally opaque actions represents the internalization of another's perspective rather than mere mechanical copying. Thus, the social dimension of ritual lies not only in its capacity to gather people or foster cohesion as a side effect, but in the fact that its very intention arises from an external repertoire of meanings, ideas, and motives that extend beyond the individual.

The proposed approach suggests that the ritual stance is not one of the two varieties of the intentional stance, but rather a more realistic application of it to situations where the agent is not fully autonomous or independent. In such cases, the agent imitates the behaviour of others not primarily to affiliate with the group (as Whitehouse argues), but because they interpret others' actions as stemming from specific intentions, desires, and beliefs, which they then adopt as their own. This adoption of attributed mental states leads them to perform actions that, on the surface, appear to be simple imitations of others' behaviour.

A possible objection to this view is that adopting other people's motives to act may not have the same sort of intentionality as having motives one generates themselves. It could be argued that such actions are better described as norm-following, without assuming that the agent has actually integrated the borrowed motives into their own set of beliefs and desires. However, the intentional stance does not require that the mental states underlying intentional action be self-generated, but only that the agent's actions can be accurately *interpreted* as actions performed with these states in mind. In many ritual contexts, participants explicitly formulate a set of beliefs that justify a particular ritual practice and use these justifications to explain their participation. In this way socially prescribed motives become the person's own reasons for acting, so the action can be

described from the first-person perspective as: “I perform this ritual because I honour the deity,” rather than “I perform it because others do”.

This proposal resolves the problem that leads Boyer and Liénard to compare religious rituals to OCD-like routines (Boyer & Liénard, 2006). In Boyer's description of the precaution system, ritualized actions are “goal-demoted”, broken down into constituent basic units, and described as stereotypical and rigid; since the higher-order goals — of the ritual as a whole — disappear from the explanation, the analogy with OCD seems natural (as does the parallel they draw between pathological compulsions, childhood habits, and religious ceremonies). Justifying the proposed borrowing of motives in ritual action — that is, participants adopting the goals and reasons associated with ritual action from other participants, models, and authorities — ritual actions remain straightforwardly intentional at the individual level, even when the results are causally opaque. This preserves first-person intentionality without pathologizing religious ritual behaviour, and explains rigidity and repetitiveness as features of the realization of socially predetermined motives, rather than as products of a mechanical response to threats at the level of the biological organism. In short, if mental states are recognized as socially conditioned rather than individually constructed, the analogy with OCD doesn't fulfil an explanatory function; ritual appears as an action guided by desires and beliefs formulated within the framework of common norms and adopted by an individual.

Conclusion

The above analysis suggests that the gap between individual- and group-level explanations of ritual can be bridged by reinterpreting Whitehouse's account on ritual stance. Rather than viewing the ritual stance as a distinct cognitive mechanism, separate from the instrumental stance, it can be understood as a specific application of Dennett's intentional stance — one in which the desires and beliefs guiding an agent's actions are socially determined rather than autonomously generated. This shift moves the focus from overimitation as a simple behavioural response to causal opacity to the agent's acceptance of beliefs and desires embedded in common cultural codes, traditions, and social models of behaviour. At the same time, the intentional nature of ritual action at the first-person level is preserved, and its basis — the source of the corresponding beliefs and desires — is placed in the intersubjective realm.

This reinterpretation has several implications. First, it offers a more concise cognitive explanation, avoiding the need to postulate a separate, evolutionarily specialized cognitive mechanism for ritual: ritual behaviour can be understood within the same explanatory model that governs ordinary intentional actions, provided that we allow for the social origin of the relevant mental states (beliefs and desires). Second, it clarifies why ritual actions, despite their causal opacity and apparent lack of instrumental utility, are perceived by participants as purposeful: the goals and motives are intersubjectively accessible and culturally supported, even if they are not private. Third, it dispels the analogy between rituals and compulsive actions such as OCD, since OCD lacks these socially defined reasons that give religious ritual actions their meaning and purpose. Finally, this concept combines individual and collective perspectives without mixing them together. At the individual level, the acceptance of socially prescribed motives explains why participants can act intentionally without receiving direct personal benefit; at the collective level, the systematic reproduction of actions driven by socially shared motives leads to synchronization, cohesion, and the transmission of values.

Chapter 3. An enactivist perspective on the interaction between religious rituals and beliefs

3.1. The enactivist approach and the problem of the relationship between body and symbolism

The nature of religious belief is often characterized as discursive and abstract, encompassing symbolic content¹⁶. In contrast, ritual is primarily an observable physical action grounded in tangible, sensory experience. This tension between two pillars of religion reveals a fundamental problem: How do abstract, discursive beliefs make people behave in ways that are far from ordinary, purposeful actions and that cannot be understood by taking typical intentional stance? In this chapter, to address the issue, I provide a more detailed introduction to the enactivist approach — now widely recognized in cognitive science and the cognitive science of religion (Ciołkosz, 2017; Teehan, 2024) — and demonstrate how its methodological commitments specifically tackles the challenge of linking bodily action with mental representations of the symbolic content.

Enactivism, along with its allied theories of embodied, embedded, and extended cognition—collectively called the 4E cognitive approach — emphasizes that cognitive processes are not merely internal representations but are deeply intertwined with the body's interaction with its environment (Varela, Thompson, & Rosch, 1991). In this set of perspectives, embodiment underscores the role of the body in cognitive processes, suggesting that our physical activity influences how we perceive and interact with the world (Barsalou et al., 2005). Embeddedness highlights how cognition is situated within specific environmental contexts, recognizing the significance of external factors in shaping mental activity (Hutchins, 1995; Clark, 2012). The enactive perspective posits that cognitive processes emerge from active engagement with the environment rather than passive mental representation of a pre-given world (Varela, Thompson, & Rosch, 1991; De Jaegher & Di Paolo, 2007). Finally, the extended view suggests that cognitive processes extend beyond the brain and body, incorporating tools, artifacts, and social interactions into the cognitive system (Clark & Chalmers, 1998; Menary, 2007).

¹⁶ Here, “symbolic content” refers to the function of artifacts, that are components of pictorial, ritual or linguistic systems. These artifacts are culturally shared signs that transcend sensory experience and represent abstract concepts.

However, as Ciołkosz (2021) proposes, the term “enactivism” can serve as an overarching concept for all 4E approaches, since enactivist approach underlies all the other “E’s” and defines the 4E framework as a whole.

Enactivist research program is built around the concept of interaction, and it stands in contrast to traditional dualistic approaches that separate body and mind, subject and world, the mental and the physical, as well as “I” and “others” (Gallagher, 2018). According to enactivism, no system exists in isolation: body, mind, and the surrounding environment form a tightly interconnected whole (Ward et al., 2017; Di Paolo & Potapov, 2024). In cognitive science, this integrative drive is manifested in attempts to overcome the rigid boundaries between body, brain, and consciousness. Instead of viewing cognition as a reflection of a pre-given physical world, enactivism proposes the notion of cognition as an enaction. This term describes a process in which cognition is a particular type of embodied activity (Gallagher, 2023), and its interaction with the environment, forming a cyclical dynamic in which perception and action mutually condition each other (Varela, Thompson & Rosch, 1991).

Thus, mind, body, and world are presented in 4E approaches as mutually interpenetrating and co-constituting. By contrast, traditional models typically take the mind–body dichotomy as their point of departure, depicting the mind as a mechanism that produces and processes mental representations, while reducing the body to a mere living human flesh controlled by the brain. Enactivist philosophy shifts perspective from the separation of mind and body to a broader understanding of the life process (De Jesus, 2016). According to enactivism, a living being is conceived as an autopoietic system (Maturana & Varela, 1980): in the course of living, an embodied organism remains in constant interaction with the world, aiming to maintain its own integrity (Varela, Thompson & Rosch, 1992; Di Paolo, 2005). Every living creature actively seeks contact with objects in the external world that sustain its existence, while avoiding those that threaten it. The identification of these two categories of objects is directly tied to the organism’s structure and the capacities of its body. From this observation, it follows that cognition consists, on the one hand, of a basic perceptual process that assigns valences to surrounding objects and, on the other, of physical activity through which the organism explores its environment (*Umwelt*). In doing so, it acquires information about how these objects relate to its own body and develops patterns of interaction with its surroundings. In their influential book *Radicalizing Enactivism: Basic Minds without Content* (2012), Hutto and Myin argue that basic forms of perception can be attributed to all living

organisms, including bacteria. Such organisms engage in sense-making by pursuing sources of nourishment and avoiding destructive factors, thereby evaluating their surroundings in ways that guide their orientation and interaction.

The interdependence between meaning and action follows a cyclical principle: patterns of meaning are stabilized through repeated actions, and those actions themselves are guided by the meanings that the organism perceives. This circular dynamic was first introduced as a foundational idea in *The Embodied Mind* (Varela, Thompson, & Rosch, 1992) and later expanded in an enactivist research, including the work of Noë (2004), De Jaegher and Di Paolo (2007), and Gallagher (2017). These scholars show that perception and action form a continuous loop: the environment contains a variety of potential meanings — expressed as affordances, signals, and contextual cues, each with distinct valences for the organism — which together constitute a system of meanings. These perceived meanings motivate the living being to engage in particular interactions, while traces of those interactions are stored in memory. Over time, this memory process reinforces or reevaluates the organism's interpretation of those meanings.

This mechanism is most clearly captured by the concept of affordance (Gibson, 1979). Originally associated with the ecological approach to perception, affordances have been widely adopted by enactivist theorists to explain the direct link between perception and action (Ward et al., 2017). According to Gibson (1979), perception is picking up information how an object can be used. It is not a process of sensory identification of physical properties of an object that leads to information which can be used for different purposes at a later time, such as writing it down, passing it to someone else or planning an action involving the object. Rather, it is a process of direct, unmediated identification of an object's affordances. For example, a knife is perceived as a cutting tool because an embodied human agent directly perceives how it can be used. The handle of the knife is experienced as something that can be grasped, allowing the agent to manipulate it in line with their goals. In other words, the object already carries information how it can be used by an agent with a particular bodily form (Fuchs, 2020). Consequently, the sense-making process is shaped by the structure of the living organism's body and interwoven with its activity.

The concept of sense-making is also central to dissolving the rigid boundary between another pairs of notions — the mind and the world, or subject and object of cognition. Instead of conceiving an objectively existing physical world that is represented

in the subject's mind with varying degrees of accuracy, enactivism posits that the process of generating meaning emerges in the dynamic relation between organism and environment (Di Paolo, 2005; Thompson, 2007). This principle, in line with enactivist ideas, manifests at all levels. Perception begins with the activity of sensory organs and is enacted through active exploration of the world — for example, vision depends on continuous micro-movements of the eyes such as microsaccades (Noë, 2004). At more complex levels, the history of interactions among embodied agents underpins the development of language and culture (Cuffari et al., 2015; Di Paolo et al., 2018).

In human culture, as the organization of living beings becomes increasingly complex, a new dichotomy emerges between the bodily–affective level of sense-making and cultural symbolic forms: signs, language, religion and other institutional systems. This shift moves beyond the traditional body–mind dualism to contrast the dynamic, experiential body of the individual with an intersubjectively established, relatively static system of symbolic concepts (e.g., language and religious narratives) (Di Paolo et al., 2018; Veissière et al., 2020). In this framework, the body is understood as a biological pre-linguistic entity, while language is seen as an abstract, intersubjective system of communication. Yet, the functioning of a ritual challenges this separation by unifying both bodily and symbolic aspects into a single, integrated human experience.

This convergence of the corporeal and the symbolic resonates with themes explored in Merleau-Ponty's phenomenology, which examines the interrelation between body and symbol — a discussion that foreshadows key ideas in enactivist philosophy. He challenges the traditional view of language as a system of abstract symbols imposed on reality, arguing instead that symbols emerge from pre-reflective bodily engagement with the world. In *Prose of the World* (1969), Merleau-Ponty demonstrates how speech is rooted in bodily gestures, emphasizing that words are not detached representations but extensions of embodied existence that express, rather than replace, lived experience. Like gestures, words are embodied: they transcend their immediate physical form to create meaning, with the intentionality (i.e., the goal-directed nature) of gestures reflected in language. In this sense, the act of conversation functions as a kind of gesture that goes beyond words to foster shared understanding. Merleau-Ponty rejects the idea that the symbolic realm is entirely separate from the body, arguing that language, thought, and culture are fundamentally rooted in embodied experience. He developed this perspective in his unfinished manuscript, *The Visible and the Invisible* (1964), where he introduced the concept of chiasm to illustrate the intertwining of body and meaning. The body itself

performs a symbolic function by shaping perception and structuring our interactions with the world. For example, he did not interpret the concept of the body schema — originally introduced by Head & Holmes (1911) — as merely a spatial representation of the body-object (*Körper*) or body image. Drawing on the phenomenological distinction between *Körper* (objective body) and *Leib* (lived body), he argued that the lived body (*Leib*; *corps vécu*) is a pre-reflective experience of bodily position and potential for action. The body schema provides the initial framework against which categories such as close or distant, small or large are established, and it forms the basis for generating intentionality as well as structuring our experience of time, space, concepts, and language.

Authors of the enactive approach have repeatedly referred to Merleau-Ponty's phenomenology as a precursor to several of their key ideas. In particular, they elaborated his claim that cognition is rooted in the pre-reflective bodily "I can," that is, in the organism's tacit knowledge of its capacity to act in relation to the surrounding world. This phenomenological idea influenced Alva Noë's (2004; 2009) sensorimotor approach, in which perception is understood as a form of acquired skill in engaging with sensorimotor contingencies. Furthermore, enactivists have made extensive use of the distinction between the body schema and the body image (Head & Holmes, 1911), phenomenologically reinterpreted by Merleau-Ponty, and later systematized by Gallagher (1986). This distinction made it possible to criticize representationalist model of cognition and to describe cognitive processes as relying primarily on pre-reflective bodily structures of action rather than on abstract models of the world or discursive knowledge. Finally, in the context of this chapter, particular importance is given to enactivist elaborations of Merleau-Ponty's idea of *intercorporeality* — the intertwining of embodied subjects through the immediate sharing of meanings and intentions in mutual physical co-presence. This idea derives from his broader concept of the *chiasm* — the intertwining of body and world in which subject and object are inseparably related. On this basis, the enactive concept of *participatory sense-making* was later developed (De Jaegher & Di Paolo, 2007), describing the joint generation of meaning in interaction through the dynamic coordination of agents' bodily and behavioural acts.

In enactivist discourse, the connection between the symbolic and the embodied has been primarily explored through the relationship between body and language. The classic work in embodied cognition, Lakoff and Johnson's *Metaphors We Live By* (1980), demonstrates in detail how abstract concepts are rooted in bodily experience. Their

central argument is that most of our abstract thoughts are organized around metaphors that draw on embodied experience. For example, the metaphor “argument is war” is reflected in expressions like “I defended my position” or “his argument hit the target,” because the physical experience of conflict shapes the way we conceptualize debates. Through a variety of examples from different domains, the authors show that there is a consistent continuity between embodied experience and symbolic thought — even at the most abstract level.

A significant milestone in enactivist approaches to culture is the book *Linguistic Bodies: The Continuity between Life and Language* (2018) by Di Paolo, Cuffari, and De Jaegher. Drawing on enactivism and dialectical analysis, the authors propose a framework that explains how language emerges from embodied interaction rather than from an activity of a separate cognitive system. Their approach is rooted in the idea that the mind and its mental patterns develop through ongoing interactions between the organism and its environment, unfolding across three levels — organic, sensorimotor, and intersubjective — each of which is self-organizing, autonomous, and adaptive. Central to their framework is the concept of participatory sense-making, which asserts that meaning is co-constructed through social interaction rather than generated solely by individuals. In this process, people mutually regulate and influence their understanding of the world, with linguistic capabilities evolving as tensions arise between personal sense-making and broader social norms. This tension gives rise to social agency, enabling coordinated interactions that eventually lead to the emergence of dialogue, self-directed speech, and internal monologue as tools for self-regulation and reflection. Over time, these processes culminate in the formation of what the authors describe as linguistic bodies — an integral aspect of human agency where experience is fundamentally shaped by language, continually integrating personal history with societal norms.

Key concepts for understanding linguistic bodies include *incorporation* and *incarnation*. These notions capture how individuals develop and use language to shape their identities and engage with the social world. Incorporation refers to the process by which external elements — such as words, phrases, social norms, or interaction styles — are absorbed into a person’s own language use. This occurs when someone repeats, paraphrases, or alludes to another person’s utterance. For example, a child might hear a parent say, “That’s not very polite,” and then use the same phrase to correct a sibling’s behaviour. Through incorporation, individuals expand their expressive range and refine their personal language style, which is essential for language learning and self-expression.

In contrast, incarnation focuses on how people embody the internal perspectives, voices, and intentions of others when they communicate. Utterances are never created in isolation; they carry the imprints of past interactions, societal norms, and the influence of other speakers. Continuing with the example, incarnation describes how a child not only mimics an external expression but also internalizes aspects of its underlying content, intentions, and relational dynamics — such as the notion of breached politeness and the intent to signal disapproval. This process highlights the interwoven nature of human communication, where incorporation helps build personal identity while incarnation connects that identity to the broader context of shared human experience.

In the context of religious appropriation, consider the following example illustrating the tension between incorporation and incarnation. Imagine a child who, imitating his Christian parents, makes the sign of the cross for the first time upon hearing the sound of a bell. In this case, incorporation is reflected in the immediate execution of the cross — a new behavioural pattern the child adopts. Simultaneously, the child incarnates several related ideas: adherence to a church norm, as symbolized by the synchrony of the bell's chime and the cross; the adoption of a Christian identity through a gesture that mirrors the cross's shape yet is directed at his own body; and, possibly, the notion of protection that the cross signifies. Thus, incorporation and incarnation represent two perspectives on the dialectical merging of public, symbolic space with the realm of the individual and embodied, all manifested in a single act.

Incorporation and incarnation are not sequential stages but interrelated processes that occur simultaneously in linguistic bodies. They do not follow a strict hierarchy where one must precede the other; instead, they shape one another through dynamic interaction. While a capacity for incorporation might be a necessary condition for incarnation — and incorporation often appears as an initial step — the two quickly intertwine in a cycle of mutual influence (Di Paolo & De Jaegher, 2018). As a linguistic body begins to incarnate certain agencies, it then shapes how it will incorporate new linguistic elements. Over time, an individual becomes increasingly receptive to some forms, utterances, symbols, and perspectives while resisting or rejecting others.

This brief overview of the basic ideas of the enactivist approach was intended to introduce several foundational principles determining the relationship between beliefs and ritual. First, the principle of the intertwining of meaning and action which will be instantiated by the principle of the interrelation of beliefs and rituals. Second, the idea

that sense-making is codetermined by the environment in which a living system operates will be used to analyze the transformation of the relationship between symbolism and embodiment in the context of ritual transfer. Finally, the idea of meaning appropriation — understood as its incorporation and incarnation — will serve as the basis for characterizing significant functions of the bodily component within the structure of the religious ritual.

3.2 Theoretical models of the relationship between the body and symbolic content in the religious ritual

This section discusses how the concepts of belief and ritual can be reformulated within the enactive framework and used to refine the relationship between ritual action and embodied religious belief. While this issue has not been extensively explored within CSR research, related ideas can be found in various CSR theories (Geertz, 2010; Schüler, 2012; Klocová & Geertz, 2019). In the following section, I propose a classification of models characterizing the relationship between embodied actions and symbolic representations in ritual, drawing on existing theoretical frameworks. This analysis reveals that models of this relationship extend between two extremes: on one end are models assuming the dominance of religious symbolic representations over the bodily dynamics, and on the other, models assuming the dominance of the body over the symbolic content in the religious ritual. Subsequent sections will draw on this classification to conceptualize the embodied–representational axis in the context of ritual as a dynamic characteristic whose parameters change according to the function of the ritual act.

As the science of religion develops, the role of embodiment in religiosity becomes more clarified and visible. Classical cognitive approaches, such as those of Lawson and McCauley (1990), Boyer (2001), and Whitehouse (2004), tended to conceptualize beliefs as internal representations and rituals as external structures that transmit or reinforce these representations. However, more recent research suggests a more dynamic interaction: rituals not only convey doctrinal content but also shape, stabilize, and transform beliefs (Jones, 2020). Over the past decade, an increasing number of CSR scholars have begun to integrate enactivist principles into their analyses, moving away from representationalism and emphasizing the embodied, situated, and participatory nature of

religious behavioural and mental activities. Among anthropological authors addressing issues of ritual cognition, Bell (1991) has stressed in her work that rituals should be understood not merely as reflections of internal beliefs but as embodied practices. Geertz (2010) advocates for a biocultural theory of religion, highlighting the interplay between embodied cognition, cultural scaffolding, and neural processes. Levy (2022) proposes that collective religious narratives and beliefs are integral to nature and form the basis for individual cognition, suggesting that explaining religion requires an enactivist approach that integrates both humanities and natural sciences. Ciołkosz also explicitly employs an enactivist approach in analyzing religious practices (2017) and religious ethics (2021). This shift towards viewing religion as a dynamic and embodied phenomenon of cognition is evident in the works of other scholars, such as Luhrmann (2020), who points to the explicit psychophysical interconnection underlying religious experience.

John Teehan's 2024 article *Towards an Embodied Cognitive Science of Religion: Enaction, Evolution, Emergence*, published in *Religion, Brain & Behaviour*, has sparked active discussion among specialists in the cognitive science of religion regarding the role of embodiment in religious cognition (Geertz, 2024; Levy, 2024; Sørensen, 2024). Teehan argues for an enactivist approach, emphasizing that religious thought and experience emerge through embodied interactions rather than representational mental processes. In this framework, religious beliefs and experiences are not merely conceptual but are enacted through bodily activities in rituals, collective interactions, and sensory-motor engagements with religious symbols. Teehan highlights how religious cognition depends on the continuous coupling of organism and environment, where individuals structure their religious world through embodied actions. In his article, he refers to the example of hyperactive agent detection theory (Barrett, 2004) to show how enactivism allows us to rethink existing and established cognitive theories of religion. He argues that belief in supernatural entities emerges from learned, embodied patterns of interaction rather than from an innate cognitive module for detecting agents. Teehan's overall proposal is to integrate enactivism into the study of religion, viewing body, mind and environment as co-constituted, and religious experience as derived from the interaction of the embodied subject with the environment.

Despite the shared enactivist emphasis on embodiment as central to religious cognition, authors diverge significantly in how they conceptualize the causal relationship between bodily action and religious representations. Some treat bodily practice as a

generative source of religious beliefs, while others view it as a vehicle for conveying elements of pre-existing symbolic frameworks. In both cases, the proposed causal models tend to reflect the nature of the ritual practices they analyze: for instance, bodily-intensive Sufi rituals (Nikolaisen, 2004) tend to support theories in which embodied practices produce religious meaning, whereas formalized rituals such as Christian baptism are more often interpreted as bodily manifestations of metaphysical beliefs (Nyarko, 2024). Most rituals, in fact, contain elements that reflect different modes of body–symbol interaction, and the boundaries between these modes are often fluid rather than clearly delineated.

Given this variability, the binary opposition of concepts “embodiment” versus “symbolism,” in which referents of the first entirely dominate referents of the second, is insufficient for describing these forms. A more nuanced theoretical tool is needed — one that allows to specify this relationship in greater detail. Guided by these considerations, I propose the Body/Symbolic Representation Model Scheme (B/S_R-MS), a theoretical framework describing how symbolic representation depends on bodily engagement in ritual practices.

While many CSR theories recognize the co-presence of symbolic and embodied elements in ritual, they typically assume that one dominates over the other. For instance, enactivist and embodied cognition frameworks foreground bodily processes, whereas classical representationalist accounts tend to prioritize symbolic content of mental processes as an instrument of controlling ritual action. What is lacking is a unifying framework that not only accommodates this variability but also maps the spectrum of configurations. As the structural basis for this model, I employ a comparative classification of existing models in CSR that address the relationship between the body and religious mental representations in ritual. This includes not only authors working within enactivist and embodied cognition frameworks, but also other cognitive theories of ritual action that, in various ways, deal with the interplay between religious belief and bodily ritual performance. This systematization makes it possible to uncover how these two components are related to each other. Moreover, although B/S_R-MS is introduced as a tool for classifying theoretical models, it can also be used to distinguish between different types of ritual by identifying whether body or symbolic representation is the more significant component in the ritual’s overall structure.

Building on the Body/Symbolic Representation Model Scheme, the following classification identifies four types of body–symbolic representation relations, arranged according to the function played by the body in the production and transmission of

religious beliefs. This ranges from cases where the body functions as a minor, auxiliary element within the ritual structure to those where it constitutes the central and essential core of ritual action. I distinguish four instantiations of B/S_R-MS along this spectrum: (1) the body as a conduit of religious symbolic representations, (2) the body as an amplifier of religious beliefs, (3) the body as a source of beliefs, and (4) the body as the essence of the ritual. Each of these types will be examined in detail in the following sections.

B/S_R-M-1: The body as conduit of symbolism. The first model for understanding how the body and religious mental representations intersect — “the body as conduit of symbolic representations” — aligns with 20th-century dominant views on the role of cognition in ritual. In this perspective, the body is understood primarily as a vehicle for conveying religiously significant meanings, which are largely interpreted as symbolic expressions of social reality. Durkheim (1912) famously articulated this idea by suggesting that ritual symbolism expresses collective identities and values. Following Durkheim’s line of thought, Turner (1969) viewed ritual symbolism as an expression of a broad range of social phenomena, including dynamic concepts of social transformation achieved through engagement with symbolic forms. Douglas (1966) advanced a similar perspective, describing the body as a symbolic representation of societal elements such as collective desires, weaknesses, and fears. Geertz (1973) likewise analyzed ritual in terms of its semantics, seeing it as a system of meanings that can be “read” like a text. In this model, the body does not function as an autonomous cause; rather, it serves as the material vehicle by which religious symbolic representations are manifested. In cognitive science of religion, this approach is most prominently represented by the Ritual Form Hypothesis (Lawson & McCauley, 1990), which treats physical ritual actions as means for transmitting and reinforcing mental representations of supernatural agency and its manifestations.

B/S_R-M-2: The body as an amplifier of religious beliefs. According to this model, the body in religious rituals transcends its role as a mere vehicle for symbolism, instead functioning as an amplifier of belief significance. While it does not generate new cognitive content, the body plays a crucial role in maintaining or strengthening the religious beliefs of those taking part in the ritual. This perspective aligns with theories that view rituals as mechanisms for signaling commitment to specific religious ideas, thereby enhancing their emotional resonance and significance (Irons, 2001; Sosis, 2003; Henrich, 2009). Anthropologist Tanya Luhrmann (2020) provides a compelling

framework for understanding this dynamic. She argues that rituals are culturally constructed practices designed to make religious narratives feel more real. This process depends on a pre-existing “faith frame” — a system of interconnected religious beliefs — that the ritual amplifies through embodied action. As individuals engage in ritual movements and expressions, their physical experiences evoke emotional and cognitive responses, bridging the gap between abstract ideas and tangible, lived realities. In this model, the body is essential because it makes religious narratives feel real and personally meaningful.

B/S_R-M-3: The body as a source of beliefs. A third category of theories in the cognitive science of religion assigns a central role to corporeality, viewing the body not merely as an enhancer of beliefs but as the very source of religious symbolic representations. Grounded in embodied cognition, these theories contend that bodily experience directly generates religious beliefs. For instance, Barsalou et al. (2005) explain how ritual actions such as bowing in worship serve as metaphors for humility before the divine, while the Christian practice of communion provides a basis for the abstract notion of receiving the Holy Spirit. Similarly, Ciołkosz (2020) elucidates the consistent connection between physical movement in various forms of yoga and corresponding philosophical ideas. From this perspective, religious ritual is a generative process in which bodily actions give rise to religious abstractions. This model, derived from embodied cognition, holds that physical actions in religious rituals do not merely convey or reinforce symbolism; rather, they actively form and create religious beliefs — a view aligned with broader theories that conceptual knowledge emerges from bodily experience (Lakoff & Johnson, 1980).

B/S_R-M-4: The body as the essence of ritual. Finally, some authors discard a symbolically oriented approach to ritual altogether, treating ritual purely as a corporeal practice—one that neither represents (B/S_R-M-1) nor amplifies beliefs (B/S_R-M-2), nor even serves as its source (B/S_R-M-3). The idea that ritual is devoid of religious beliefs has already appeared in anthropological theories of ritual (Staal, 1979). Rappaport (1999) discusses how rituals can convey meanings and establish social orders without necessarily being tied to specific belief systems. He suggests that rituals themselves can be primary factors in constituting religion, rather than being mere expressions of pre-existing beliefs. At the same time, in the cognitive science of religion, the thesis about the radically embodied nature of ritual is quite exotic and is most often based on those rituals in which a really strong emphasis is placed on bodily practices. For example, LaMothe (2008)

describes ritual as an alternative mode of expression that surpasses linguistic boundaries and resists encapsulation by language. Focusing primarily on ritual dance, the author underscores its intrinsically dynamic character, noting that no static method of study — conceptual understanding included — can truly capture its essence. In contemporary religious studies, the role of sensory knowledge in rituals is widely discussed, with many scholars highlighting how sensory engagement — through visual, auditory, tactile, haptic, olfactory and taste perceptions — becomes the core of religious practices (Engelke, 2007; Nugteren, 2013; Pink, 2015). It is worth noting that these authors often analyze intensive rituals marked by substantial bodily movement, where strong emotions and sensory experiences play a major role. According to this viewpoint, in high-intensity rituals, physical participation is primary, and the ritual's meaning or essence lies in the embodied experience itself, not in its symbolic or conceptual significance.

Thus, the first two positions, B/S_R-M-1 and B/S_R-M-2, are developed within traditional approaches in the cognitive science of religion based on representationalism, while the third (B/S_R-M-3) and fourth (B/S_R-M-4) are characteristic of the enactivist approach and embodied cognition. At the same time, while the third position represents a more moderate version, the fourth leans towards a radical version of the embodied approach. It is important to note that the proposed classification maintains a categorical distinction between symbolic representation and embodied action. However, when we consider these two aspects as components of a ritual, different models attribute dominance to one over the other. In some models (B/S_R-M-1 and B/S_R-M-2), the bodily element follows the symbolic, thereby enlivens or activates it, while in others the bodily aspect generates (B/S_R-M-3) or even expels the symbolic (religious belief) from the ritual (B/S_R-M-4). In sum, rather than assuming a fixed hierarchy between symbolic and bodily components, B/S_R-MS shows that theories of ritual vary depending on the position and function ascribed by them to the body in the overall structure of the ritual.

The proposed typology is based on mapping existing theories in the cognitive science of religion and encompasses the full continuum from the extreme of representationalism to the extreme of radical embodiment in addressing the relationship between the body and religious symbolism in ritual. This makes it sufficiently broad and inclusive to construct a set of ideal types (Weber, 1949; Aspalter, 2020) of models of the relation between these two parameters of ritual, arranged along the “body–religious symbolism” axis. In the following chapter, this typology will be employed as an analytical

tool for the comparative analysis of rituals and for substantiating regularities that emerge from the possibility of describing ritual through the lens of one or another of the ideal types identified.

3.3 The question of the type of relationship between beliefs and ritual

The above classification shows that the body functions as a means of enabling the public manifestation of the religious belief in three out of four models. In the first two models, based on representationalist paradigm, rituals are understood as bodily manifestations of pre-existing beliefs, in consequence ritual practices are understood as defined by a prior system of religious representations. The third model, drawing on an enactivist perspective, also recognizes a function of a body in displaying religious belief, but here embodied actions performed during rituals give rise to religious beliefs. The fourth model, which is grounded in a radically embodied approach, challenges the function of the body as a means of broadcasting or creating religious belief. In this model the core of ritual lies in direct bodily experience, independent of any discursive or symbolic cognition. Such an account should answer the following question: If ritual is performed independently of religious belief how does it gain initial attraction? What motivates individuals to participate in actions whose meaning is at best realized retrospectively?

Enactivist theory rejects the traditional view that cognition relies primarily on static mental representations (Alksnis & Reynolds, 2021). However, it neither dismisses mental representations altogether nor adopts a behaviourist stance. Instead, enactivism emphasizes that mental representations are shaped by goal-directed practices and the surrounding environment (Hutto & Myin, 2017). A reductionist interpretation might liken ritual to obsessive-compulsive behaviour as in OCD — automatic, repetitive, and devoid of meaning. Indeed, some cognitive theories have drawn parallels between the rigid structure of rituals and the neurological disorders observed in OCD (Boyer & Liénard, 2006, 2008; Levy, 2011; Monteiro & Feng, 2016). However, the enactivist approach rejects this analogy. It views rituals as context-sensitive, culturally embedded, and intentional, as practices that actively construct meaning through bodily and social engagement.

Despite the emphasis on bodily experience in the enactivist model B/S_R-M-4, its proponents do not reduce ritual to unconscious bodily behaviour. Conversely, they argue that dynamic, sensory engaged practices — such as intensive physical participation— contribute to revelation and experience of religious beliefs as encoded in patterns of social interaction. Therefore, the main content of religious beliefs forms a part of procedural knowledge (know-how) rather than declarative knowledge (know-that) (Ryle, 1949). Even these rituals that seem to be largely detached from narrative practices incorporate collective cultural memory into their patterns of conduct, serving as a link between immediate bodily experience and a broader religious worldview. For instance, in the tradition of zazen — a core practice of Zen Buddhism involving seated meditation aimed at cultivating non-conceptual awareness — ritual elements such as bows, offerings, and the chanting of sutras are integrated into the practice. These components function not only as meditative aids but also as carriers of cultural memory, linking the practitioner's direct bodily experience with the wider context of religious tradition (Heine & Wright, 2007; Sellers-Young, 2013; Sugawara et al., 2017). Although zazen is commonly interpreted as a practice focused on non-discursive direct experience, it involves beliefs manifested through the strict adherence to patterns of behaviour inherited from cultural tradition. Ritual components — such as the fixed scheduling of zazen sessions and the preliminary and concluding actions like sutra recitation or the dedication of merits — imply the implicit acceptance of basic convictions, a belief in the significance of offerings or the belief in the power of sacred texts (Wright, 2008; Sakuta, 2018; Sugawara et al., 2017). Thus, even if the core of the practice aims at achieving a state of stillness without explicit conceptualization, the surrounding ritual framework creates a procedural knowledge which is later expressed in a symbolic form of declarative knowledge.

The concept of affordance (Gibson, 1979; Fuchs, 2020) helps bridge the gap between representations and bodily action, clarifying their close interconnection. Through this lens, the ritual is seen as a kind of action affording routines that make this action meaningful and place it within a religiously significant context. A similar dynamic is observed in the case of zazen ritual. In practices like zazen, the affordances of the environment — cushions, posture cues, ritualized space — implicitly guide the practitioner into a state of stillness and attentiveness (Leighton, 2008). Even if the practical action itself is perceived as devoid of an articulated belief associated with religious symbolism, the surrounding environment and ritual routines activate religious

beliefs that have been accumulated in the history of interactions with these objects. These beliefs are embedded in procedural knowledge and continuously reinforce a broader Buddhist conceptual framework of interconnected beliefs concerning the nature of mind, discipline, and awakening (Davis, 2009). In this way, the environment and embodied forms of practice function as carriers of implicit beliefs, even when these beliefs cannot be consciously articulated by the practitioner.

In the Chapter 1, I examined the distinction between beliefs that are directly connected to ritual performance and necessary for its execution — namely, beliefs concerning the correct ritual sequence of actions — and supplementary beliefs related to the motivational structure of ritual engagement, such as conceptions of a supernatural being and its involvement in the ritual. The first group of beliefs pertains to procedural knowledge and is necessary for ritual performance. However, religious beliefs are generally understood as belonging to the second group — abstract beliefs associated with declarative knowledge and expressed through religious symbolism, such as ideas about supernatural beings and their attributes. On the basis of this classification, it may be argued that within the framework of B/S_R-M-4, beliefs of the second type (abstract religious conceptions of supernatural beings) are minimized or even altogether absent, whereas beliefs of the first type (procedural beliefs concerning the correct execution of ritual) continue to fulfil a guiding function in ritual practice.

The enactivist perspective adds to this by proposing a reconsideration of the traditional causal model in cognitive science, which assumes that belief precedes action. Instead, the relationship between ritual and belief can be seen as a cyclic process, in which repeated actions stabilize specific patterns of meaning that, in turn, guide subsequent actions (Jaegher & Di Paolo, 2008). Initial cultural orientations and basic cognitive predispositions motivate individuals to participate in rituals, and the repetition of these actions leads to the refinement and stabilization of beliefs. However, even in cases where practitioners claim an absence of explicit belief, their actions remain organized by implicit presence of procedural beliefs directly related to ritual performance.

Thus, the distinction between B/S_R-M-3 and B/S_R-M-4 does not hinge on the presence or absence of belief but on the role, belief plays in relation to embodied action. In B/S_R-M-3, physical practices generate abstract beliefs that are later recognized as belonging to the religious system. In B/S_R-M-4, belief is directly related to the ritual action and functions a set of acquired know-how rules, not as the array of freely floating declarative knowledge. In the end, even the most radical enactivist approaches that

emphasize embodied action cannot completely separate ritual from religious representations or beliefs, nor do they need to. On the contrary, all the B/S_R-models, to some extent, acknowledge that ritual action and the accompanying beliefs form a dynamic, mutually reinforcing cycle. Enactivist research program, particularly through the lens of the concept of affordances, demonstrates that the meaning of a ritual does not emerge as a preliminary causal factor, but rather as a result of the continuous interaction between the body, culture, and the surrounding environment.

3.4 Rituals for transformation, rituals for preservation: the function of ritual and B/S_R-MS

In the previous section, the idea was presented that ritual action, like any other meaningful activity, is engaged in a circular interaction with belief, wherein belief and bodily action mutually influence each other. Thus, rituals are inevitably accompanied by certain representations, which in a religious context are commonly referred to as beliefs. However, as the B/S_R-MS classification demonstrates, the nature of the relationship between ritual action and the corresponding beliefs can vary: in some rituals, embodied action gives rise to new beliefs, while in others, pre-existing beliefs are reinforced through action. There are also rituals in which the action and its religious significance merge into a single, indivisible act. This raises the question of why the balance between embodiment and symbolism can vary so considerably across different rituals. The following discussion considers possible regularities that might underlie this diversity.

To determine whether there is a consistent pattern underlying the different B/S_R-M-types across rituals, I will examine examples corresponding to each of the four groups. Starting with B/S_R-M-1, these are rituals in which the bodily component serves merely as a conduit for religious symbolism. A paradigmatic example of this type is the ritual act of making the sign of the cross. This gesture is a standardized, culturally embedded movement that conveys core religious beliefs such as blessing, sacrifice, and divine protection (Dooley, 1987). From this perspective, the gesture of crossing oneself holds no intrinsic significance apart from its symbolic function, which is to “manifest” the Christian symbol (Eliade, 1959).

The first type of B/S_R-M is also highly characteristic of secular rituals. Consider,

for example, the ceremonial ribbon-cutting at the opening of a new organization. The physical act of cutting the ribbon is brief and minimally embodied — a simple scissor movement. Yet for the participants, this action symbolizes the beginning of something new, capturing the emotions associated with a significant transition. The effectiveness of the ritual does not depend on intense physical engagement but rather on the symbolic weight that social convention assigns to the act. In this model, which aligns with B/S_R-M-1, ritual transformation is understood as a symbolic action, where meaning is anchored in a physical gesture through collective agreement. A similar symbolic minimalism in ritual action is also prevalent in religious contexts. For instance, Christian liturgical gestures such as the sign of the cross, genuflection, and the raising of hands during prayer function as condensed expressions of theological principles, referencing key aspects of Christology and soteriology (Taft, 1991).

As an example of a B/S_R-M-2 ritual, consider the Stations of the Cross. This Christian devotional practice involves meditating on the events of Jesus Christ's Passion — from his condemnation through his crucifixion and burial — typically represented by 14 specific “stations” (Valentin, 1953). Participants move sequentially through these stations, often within a church or along a designated path, pausing to reflect, pray, and contemplate Christ's suffering and sacrifice. In this ritual, bodily actions—such as walking between the stations — serve primarily to revive the pre-existing symbolism associated with the veneration of Christ. While the core of the ritual lies in the reflection on theological themes and the meaning of these events, physical participation enhances the emotional connection to this content. In this way, the bodily component functions as an enhancer, rendering the narrative of Christ's life more tangible by linking it to the practitioner's own sensory and physical experience. The narrative, or the story of Christ's life, is already well-known to believers and thus predates the ritual. Similarly, Good Friday Cross Veneration rituals employ tactile engagement with crucifixes; the act of touching or kissing these objects deepens the connection to soteriological symbolism through sensory reinforcement (Vai, 2024). Such practices differ fundamentally from the transformative rituals of B/S_R-M-3 or B/S_R-M-4 types in that their symbolic content is transparent: the bodily component remains subordinate to the pre-existing narrative, acting more as mnemonic scaffolding rather than serving as a mechanism for generating new meanings.

Next, we turn to models that approach the relationship between the embodied and the symbolic from the standpoint of the primacy of the bodily action. As a paradigmatic

example for B/S_R-M-3, consider the practice of ritual prostrations. Barsalou et al. (2005) discussed prostrations in his analysis of embodied practices in religious rituals as sources of religious meaning. The significance of bowing before a sacred object derives from the physical act itself, conveying humility — that is, a voluntary acceptance of a lower position in relation to something higher. In this case, the symbolic meaning of the ritual is inseparable from its physical enactment. Research indicates that body posture influences cognitive states and attitudes. Studies have found that upright, expansive postures are associated with power and presence, whereas constrictive postures promote reflection and receptivity (LaFrance & Mayo, 1978; Riskind & Gotay, 1982; Duclos et al., 1989). Research on “power poses” further supports these findings by showing that expansive postures enhance a sense of agency (Carney et al., 2010; Cuddy et al., 2018). Thus, an act such as bowing engages the cognitive system in appraising relationships according to a schema of dominance and subordination — a framework that, in religious contexts, is used to initiate an embodied experience of reverence towards the sacred object.

Finally, a clear illustration of B/S_R-M-4 rituals, which place an even greater emphasis on physical practices, might be the Native American sweat lodge ceremony — a traditional ritual symbolizing purification, renewal, and spiritual connection. During this ceremony, participants gather inside a small, domed structure where heated stones are centrally placed, and water is poured over them to generate intense steam. Chanting and prayer accompany the experience, while the extreme heat and profuse sweating symbolize the release of toxins and negative energies. The greater the physical intensity — that is, the more heat endured and sweat released — the more effective the purification is believed to be (Lake-Thom & Lake, 1991). In this case, the physiological process of sweating and the experience of heat are central to the ritual; even though some religious representations are present, the ritual remains primarily an embodied experience rather than being reduced to purely symbolic content. This category is also evident in many so-called extreme rituals (Xygalatas, 2022). For example, the Sun Dance of the Plains Native Americans — involving prolonged fasting, piercing, and intense physical exertion — demonstrates this approach, as participants endure extreme pain and sensory deprivation, pushing their bodies to the limits. In doing so, the physiological stress acts as a catalyst for spiritual visions and the renegotiation of personal identity (Jilek, 1982). Similarly, certain forms of Tibetan Buddhist Tummo meditation, in which practitioners generate

intense body heat in frigid conditions, leverage these physiological extremes to achieve altered states characterized by detachment and transcendence (Kochetkova, 2022).

An analysis of the examples reveals a pattern: the greater the emphasis on bodily experience within a ritual practice, the more it appears to be directed towards the transformation of the subject's mental state or identity. By contrast, rituals classified as B/S_R-M-1 and B/S_R-M-2 represent those types most oriented towards symbolic exchange rather than direct embodied transformation of the ritual subject. Using the terminology of linguistic bodies framework (Di Paolo et al., 2018), one can argue that in these kinds of rituals — B/S_R-M-1 and B/S_R-M-2 — the subject participates in the process of incarnating religious meaning through interaction with other linguistic bodies, where “linguistic action” is broadly understood as any symbolic utterance that can be translated into natural language. Accordingly, the more a ritual is focused on symbolism, the more it is aimed at establishing nominal or symbolic relationships with something external to the subject — whether gods, supernatural forces, or a religious community. In such rituals, the incorporation of symbolic utterance takes center stage: the ritual does not so much transform the subject as include it within an intersubjective symbolic system.

This pattern manifests itself in the purpose of rituals as follows. For example, rituals of the B/S_R-M-1 type, which represent the extreme end of the spectrum leaning towards symbolism and narrativity, include liturgies, recitations of sacred texts, ritual gestures of identity, and ritual offerings such as offerings to local spirits or the lighting of candles. In each case, the emphasis is on the enactment of a predetermined symbolic form that communicates deep-seated values, shared memory, and appeals to external agents, rather than on eliciting a direct psychological or transformative effect on the participant. This function of maintaining religious tradition and connecting with a spiritual reality external to the subject can be attributed to the B/S_R-M-1 and B/S_R-M-2 models. The meaning constructed in this type of interaction — in other words, in the interaction of linguistic bodies — is abstract, flexible, and oriented towards social convention.

On the other hand, rituals leaning towards the opposite extreme of the spectrum — B/S_R-M-4, which is primarily focused on embodied experience — include practices such as trance-inducing dance, intensive tantric practices, ritual body piercings, fire-walking, and similar activities (Xygalatas et al., 2019). In these rituals, the focus is squarely on transforming the subject performing the ritual — for example, through spiritual purification, profound personal transformation, the attainment of mystical experiences, and other unusual states of mind. Scientific research also attests to the transformative

intensity of such rituals. Extreme rituals employ various techniques to alter states of consciousness. Methods like hyperventilation during breathing practices, thermal stress in sweat lodge rituals (Schiff & Moore, 2006), proprioceptive resetting through adopting unusual bodily positions (van Cappellen & Edwards, 2021), or sensory deprivation (Rossano, 2009) disrupt normal cognitive schemas, and these intense embodied practices are often designed to induce atypical neural activity that leads to trance-like or euphoric states (VanPool & VanPool, 2023; Lee et al., 2016; Xygalatas et al., 2019). This category of rituals, aimed at transforming the subject itself, corresponds to the B/S_R-M-3 and B/S_R-M-4 models. In these practices, sense-making occurs through sensorimotor, embodied interaction with the environment (Di Paolo et al., 2018), rather than through symbolic-linguistic interaction with other linguistic bodies as seen in B/S_R-M-1 and B/S_R-M-2 rituals. Therefore, the meaning created in this type of action is immediate, deeply incarnated, and personal — that is, based on what the individual directly experiences. Unlike the meaning constructed through negotiation among linguistic bodies, the meaning generated through sensorimotor interaction is much harder to separate from the individual or to regard as imposed externally.

It is evident that most rituals fall within the range between the two extremes described above or mix elements of different B/S_R-M types. For example, Christian Communion combines both elements of symbolism and embodiment, corresponding to the B/S_R-M-3 model. As Barsalou et al., (2005) notes, the consumption of bread during Communion provides a powerful metaphor for the believer's internalization of the Holy Spirit, meaning that the embodied practice creates religious meaning. At the same time, it is clear that this ritual can also be interpreted through the lens of the B/S_R-M-2 model as a ritual directed outward, aimed at maintaining a connection with tradition that is reinforced through bodily action.

The difference between the B/S_R-M-2 and B/S_R-M-3 models can be examined through the mechanism of meaning assimilation. For example, an unfamiliar word initially presents itself as a sensory, acoustic, and contextual event rather than as a symbolic one. The first stage of becoming acquainted with a word involves exposure to patterns of sensorimotor interaction — for instance, when a child hears a new word, they hear it within a specific context, accompanied by movements of the eyes, head, and body, as well as interactions with sensory objects (Smith et al., 2007). For example, the child hears the word “milk,” repeats it without understanding its meaning, experiences

associated sensations, and engages in related motor activity, such as sucking. In this way, the word “milk” is incorporated as an appropriation into a particular environment of words and objects. At the same time, repeated use of the same word causes its sound to become secondary to its meaning. Thus, the word becomes transparent, immediately evoking its meaning in perception without the intermediary step of processing its acoustic form. Words become detached from their immediate sensorimotor context and internalized — often through symbolic and pretend play (Quinn et al., 2018). For example, a child may pretend to drink milk from an empty cup, actively using the concept of “milk” as something that exists independently of its sensory manifestation. At this stage, the concept of “milk” is incarnated, with its meaning and use spontaneously employed by the subject in their interaction with the world.

Thus, from the perspective of the cognitive process of meaning assimilation, one can observe that B/S_R-M-2 and B/S_R-M-3 rituals represent different situations primarily in terms of how participants become acquainted with the particular ritual action. The context of a B/S_R-M-2 ritual is defined by familiarity with a given religious symbolism, where the body functions to animate, recall, and sustain it. The ritual employs behavioural patterns that are already incorporated, with the aim of renewing or deepening that incorporation. In contrast, the situation in a B/S_R-M-3 ritual is one in which there is an expectation of grasping a new idea through the introduction of a sensorimotor context. It is a scenario that anticipates the possibility of incarnating certain meanings through embodied action. For this reason, B/S_R-M-3 rituals are more often associated with less frequently performed ceremonies — such as baptism or marriage — where the corporeality of ritual actions serves as an auxiliary means for facilitating sense-making. In this sense, the integration of a new meaning, achieved through contextual and embodied action, constitutes the very change in the subject that the ritual seeks to effect. This also distinguishes the B/S_R-M-3 type from B/S_R-M-2 rituals, in which sense-making is not the objective. For example, in rituals such as the Stations of the Cross, the aim is not to generate a new meaning but to evoke a recollection of an already established religious significance.

Thus, among the diversity of B/S_R-M ritual types, a discernible pattern emerges: on one hand, there are rituals primarily oriented towards the social, symbolic, and external dimensions of religious life, in which ritual actions serve to evoke and affirm pre-established meanings. On the other hand, there are rituals in which embodied practices function as the main means of generating new meanings, thereby facilitating internal

transformation in the participant. It is important to emphasize that this division is not a strict dichotomy but rather a spectrum, within which many rituals occupy an intermediate position and the boundaries between the categories are often blurred.

Moreover, the process of meaning-making — which unfolds in successive stages — provides a compelling explanation for the differences observed in borderline cases. In some rituals, symbolic elements have already been assimilated and incorporated into the repertoire of the participant's ritual behaviour, enabling the ritual to function as a mnemonic tool that reinforces common beliefs and group relations. In contrast, other rituals are designed more to facilitate the formation of new beliefs through direct sensorimotor engagement, prompting participants to create and internalize new meanings.

3.5 Ritual transfer as a ground for testing the theory: B/S_R-M as a dynamic characteristic

As demonstrated above, the balance between the embodied and conceptual aspects of ritual can vary from one ritual to another. Moreover, the structure of the interaction between these two dimensions of ritual is shaped by the environment in which the ritual takes place. In the following section, drawing on *ritual transfer theory* (Lüddeckens et al., 2006), I will argue that this balance is not fixed but dynamically shifts depending on the situational context in which ritual is enacted.

From an enactivist perspective, rituals are formalized patterns of interaction with the environment, yet — as with any other interaction — they generate a specific meaning that renders the behaviour intelligible and contextually significant. Subsequently, the ritual as a possible pattern of behaviour becomes an affordance — a proposition for interacting with the environment in such a way that, through embodiment, it reactivates connected meaning (Rolla & Figueiredo, 2023). Approaching meaning as something that arises through and for interaction makes it clear that meaning is influenced not only by the structure of the ritual action itself but also by the environment in which the action takes place. Consequently, changes in the environment where a ritual occurs can lead to alterations in the meanings associated with that ritual. This suggests that shifts in context or environment offer valuable opportunities to study how meanings in ritual actions arise and change, including those related to B/S_R-M. The theory of ritual transfer (Lüddeckens et al., 2006) supports this idea by asserting that relocating a ritual to a different context

results in a transformation of its internal characteristics — such as its meaning, symbolism, and significance. This framework allows for the investigation of the interplay between embodiment and conceptual content in rituals, by analyzing how they adapt when moved from an environment characterized by high physical activity to one with reduced physical interaction.

Although bodily engagement plays a crucial role in rituals, the process of transitioning a ritual into a new environment reveals a recurring tendency towards enhanced symbolization. In many cases, physically performed ritual elements are gradually replaced by less embodied and more symbolic forms. This shift towards symbolization often occurs when rituals adapt to a new social context, move into digital space, or are shaped by secularization (Lüddeckens et al., 2006). A striking historical example of this move from embodied actions to symbolic representation is the Jewish Passover. Originally, the ritual involved physical actions such as animal sacrifices. However, after the destruction of the Jerusalem Temple in 70 CE, these embodied practices were replaced by symbolic elements — such as the consumption of ritual food and storytelling—which helped preserve the tradition's meaning (Levy et al., 2015). A similar transformation can be observed in the Dugu ceremony of the Garifuna — a communal healing ritual centered around drum playing, dancing, and offerings to ancestors. Among urban Garifuna diasporas, particularly in cities like New York, practical constraints such as limited space and restricted access to traditional materials have led to modifications in ritual. Live sacrifices have been replaced by store-bought animal carcasses, and traditional attire has given way to everyday clothing. Although some community members question the legitimacy of these changes, the broader Garifuna diaspora sees them as a necessary adaptation to preserve cultural identity in a changing environment (Johnson, 2007).

A salient example of such a transformation occurred during the COVID-19 pandemic (2020–2022), when many religious rituals moved into the online space. Traditionally embodied elements — such as the consumption of ritual food, the laying on of hands for blessings, and other physically grounded practices characteristic of many religious rituals — were significantly altered or even omitted in the virtual environment. This shift raises critical questions about the role of embodied cognition in ritual practice and its connection to the narrative component of religion or religious beliefs. Moreover, the transition to an online format presents a unique opportunity to observe how the environment of ritual action influences the transformation of religious meaning-making.

The study of online religious rituals has shown that embodied elements can be reinterpreted and transformed, often becoming more symbolic and conceptual. However, this transformation does not always proceed smoothly. It frequently encounters resistance from practitioners and may not always be fully realizable (Akmaliah & Burhani, 2021; Othman, 2022; Ben-Lulu, 2021; Conway et al., 2024). At the same time, even under these conditions, both embodiment and symbolism remain integral aspects of the ritual experience in one form or another. In this section, I will focus on the empirical material that supports these observations in greater detail.

Ritual practices during the COVID-19 pandemic also serve as an example of the move towards symbolization. Restrictions on physical gatherings forced religious communities to develop alternative ways to conduct traditional rituals. Many adapted by broadcasting ceremonies live, organizing virtual prayer meetings, or using digital substitutes for material ritual elements (Conway et al., 2024; Ben-Lulu, 2021). Although embodiment remains an important aspect of a ritual's efficacy, the survival and resilience of rituals in various contexts indicate that repetition and the creation of meaning are more important than strict adherence to specific physical actions. Religious traditions, in general, value the continuity of their practices, even if this requires adjusting the degree of physical involvement and rethinking the necessity of the ritual's physical elements (Shabalina, forthcoming; Othman, 2022).

This perspective calls into question the thesis of radical embodiment, which claims that the meaning and effectiveness of a ritual critically depend on sensorimotor interaction with the world. If bodily actions were necessary for conveying the meaning of a ritual, then rituals should lose their significance when physical involvement is reduced. However, the ability of rituals to transition to more symbolic forms without losing legitimacy indicates that contemporary rituals are a complex process involving both physical actions and conceptual interpretation. Rather than considering embodiment and symbolism as opposing forces, a more accurate approach recognizes their dynamic interrelation. Ritual significance is constantly negotiated between embodied experience and symbolic reinterpretation, with different religious traditions exhibiting varying degrees of flexibility. This complexity exposes the limitations of radical theories of embodiment, which cannot account for the diverse ways in which physical and conceptual elements interact within a ritual.

Having refuted the extreme position of radical embodiment in ritual cognition, it

is now necessary to consider the opposite extreme — the idea that a ritual is purely symbolic and reduced to a sequence of signals, much like linguistic utterances. Using the case of ritual transfer to the online environment, one can argue that this mentalist interpretation is equally inadequate as an explanatory strategy. Even when it appears that embodiment is completely subsumed by symbolic function, a minimal embodied dimension always remains. Although the internet as a medium creates challenges for embodied ritual elements, it does not eliminate them entirely. On the contrary, religious communities have demonstrated remarkable ingenuity in finding ways to preserve embodiment in online rituals. Digital technologies mediate communication, but participants remain embodied beings who continue to interact with their physical surroundings. Consequently, the transfer of rituals into an online context is better understood as a transformation of embodiment rather than a process of disembodiment (García et al., 2022).

Online adaptations of rituals often include virtual equivalents of embodied elements. Among the common techniques are simultaneous individual use of ritual objects, the use of visualizations to replace physical actions, an emphasis on audiovisual interaction, and the maintenance of temporal synchrony to enhance the sense of shared presence. For example, during online Christian Eucharistic rituals held during the COVID-19 pandemic, participants in the broadcasts often used bread in their own homes, believing that it would be blessed during the live transmission (Johnson, 2020). In Tibetan Buddhist online empowerment rituals, visualization plays a central role in replacing physical actions. When a ritual element in a tantric initiation requires direct contact — for instance, placing a ritual vase on the head of the disciple during a blessing — Buddhist teachers instruct participants to visualize the act, sometimes holding a vase close to the camera to symbolize this gesture. In cases involving the consumption of ritual substances, participants are also required to visualize the action. Another common adaptation assumes that an assistant physically present with the teacher receives the blessing on behalf of all participants, who are then instructed to imagine themselves in that person's place (Shabalina, forthcoming). This technique of visualizing action can also refer to quasi-embodied forms. Mental imagination is closely related to motor activity, and as studies (Ehrsson et al., 2003; Jones, 2020) have shown, is accompanied by the same neural activity.

Some ritual components that allude to embodiment are gaining increasing importance in online contexts, particularly the shared timing of the initiation and its

auditory elements (Othman, 2022). Although these aspects are not directly embodied, they become central when physical contact is no longer possible. Participants are typically informed that the ritual is valid only if they attend the entire ceremony live — from start to finish — at the designated broadcast time. Recordings are often not made available for later viewing. Interestingly, even in Buddhist traditions, where time, like space, is considered relative, many teachers emphasize the importance of synchronous participation in online rituals (Shabalina, forthcoming). Maintaining common temporal frameworks enhances the ritual's legitimacy in the absence of direct contact between teacher and disciple, who traditionally performed the role of legitimizing the initiation.

Similarly, sound quality becomes a crucial factor: interruptions in transmission or a translator's voice overshadowing the teacher reciting the ritual text can raise doubts about the ritual's authenticity. Under such conditions of limited contact, sound — for instance, the teacher's voice — gains additional value. Othman (2022) also describes that during the online Sufi hadra ritual, participants developed new forms of ritual engagement based on listening. Some participants closed their eyes and immersed themselves in the sound through headphones, creating a sense of spiritual transport. Drawing on the works of Eisenlohr (2012) and Hirschkind (2006), Othman argues that in the course of the Sufi ritual, sound is not only heard but also felt by the body — it possesses a transmitting quality that moves emotions and facilitates the religious experience. Thus, the absence of complete bodily involvement forced participants to rely on cultivated listening techniques, demonstrating that sound itself can mediate co-presence in ritual.

In small online ceremonies with only a few dozen participants, webcams are often activated, allowing participants to see one another, provide feedback, and perform religious gestures — for example, folding one's hands in prayer. Often, individual bodily behaviour had to be adapted to the conditions of an online broadcast, such as a half-bow instead of a full bow or performing movements while seated rather than standing up. Participants frequently used technological means spontaneously to compensate for the lack of physical interaction—for instance, WhatsApp messages instead of handshakes as a sign of gratitude (Ben-Lulu, 2021). When a chat function is available, it is often used to exchange greetings, ask questions, express thanks, or post prayer-related emojis, such as the folded hands icon, to indicate reverence or gratitude (Shabalina, forthcoming).

These examples show that even in a virtual environment, rituals retain their embodied dimension, albeit in a modified form. Without reducing to purely symbolic or

linguistic structures, rituals maintain a complex balance between embodied experience and conceptual reinterpretation. It would be incorrect to assume that rituals conducted on the Internet occur in an entirely non-physical space. The physical dimension of interaction does not disappear; on the contrary, it is compressed, primarily manifesting in visual and auditory elements (Torbjørnsen & Hipólito, 2024).

Although the possibilities for interaction are limited, they are not entirely absent. Participants actively seek ways to increase their engagement within the constraints of the virtual environment, finding creative methods to compensate for the absence of physical co-presence. These efforts reflect an understanding of the body as an amplifier of symbolic meaning, which aligns with the second type of relationship between embodiment and symbolism (B/S_R-M-2) described in the previous classification. This emphasis on enhancement demonstrates that the embodied aspect plays a crucial role in ritual practices, albeit reduced to affirming the ritual action as real and the entire ceremony as legitimate. Thus, reducing online ritual practices solely to the transmission of meaning according to the B/S_R-M-1 model does not capture their true essence. If ritual actions were governed by the B/S_R-M-1 model, there would be no need for such an intensification of the bodily component — a minimal transmission of meaning would suffice for the ritual to be perceived as valid. However, the active pursuit of richer, more embodied interactions underscores the importance of embodiment even in virtual contexts.

3.6 The concept of real-making as an explanatory perspective for the problem of the relationship between the embodiment and beliefs in ritual

Previous subsections have shown that within the structure of religious rituals a pattern can be discerned regarding the balance between the bodily component and conceptual content: rituals that are more symbolically oriented tend to serve the function of preserving and transmitting content, whereas those that are more bodily oriented aim to change the subject's state. However, it has not yet been demonstrated how, from the perspective of cognitive science, the coupling of bodily practices — rituals — and religious symbolic representations functions within religion. In this chapter I develop the answer on this question using Luhmann's (2017, 2020, 2021) concept of the “real-making” of gods and spirits, which she presents as the process of transforming a religious

narrative into something perceived as genuinely real through the integration of religious ideas with embodied experience. Therefore, it is first necessary to reconstruct the real-making theory and then integrate it with the B/S_R-MS framework.

Luhrmann's approach examines the interaction between belief and religious experience, in which the subject's world expands through the presence of “invisible others” capable of interacting with the individual — a process she refers to as the real-making of gods and spirits. The distinctive feature of her approach lies in its potential to clarify the nature of religious experience without reducing it to a byproduct of non-religious forms of cognition. Luhrmann's proposed explanations for religious experience have been employed in numerous subsequent studies, for instance, in describing and exploring the phenomenology of anomalous auditory perception (Toh et al., 2022; Cook et al., 2022), its connection with beliefs (Powell & Moseley, 2020), the sense of presence of invisible others and psychopathology (Alderson-Day et al., 2022), the interplay between personal spiritual experience and cultural factors (Poletti, 2020; van Elk et al., 2020), among other aspects.

As Luhrmann shows, in religious practices, including rituals, religious narratives are transformed into the experience of personal, tangible encounters with spiritual beings. This process, which she calls the “real-making of gods and spirits,” involves certain cognitive patterns and unfolds through several stages. First, I will examine the key components of making-real in the context of belief in invisible superhuman beings. This analysis lays the foundation for the following argument, according to which a ritual, understood as a method of real-making, can explain the variability of personal dispositions (B/S_R-M's) towards the ritual.

It should be noted that by studying religion primarily through the lens of Christianity and shamanism, Luhrmann to some extent limits the concept of “real-making” by gods and spirits. This limitation is clearly expressed in the title of her book, *How God Becomes Real: Kindling the Presence of Invisible Others*. It is also underscored in her definition of real-making, where she explicitly states that her analysis is confined to interactions with gods and spirits:

“By “real-making,” I mean that the task for a person of faith is to believe not just that gods and spirits are there in some abstract way, like dark energy, but that these gods and spirits matter in the here and now” (Luhrmann, 2020, p.xii).

This limitation is consistent with a broader understanding of religion within CSR, where religion is often conceptualized as a collection of practices and narratives through which individuals interact with and make sense of superhuman agents — typically gods or spirits (Lawson & McCauley, 1990; Guthrie, 1996; Barrett & Lanman, 2008). However, the entities that become real during a ritual are not necessarily gods or spirits. As demonstrated in Shabalina (2024), with Buddhism as an example, the object of real-making can also be certain states of consciousness. Additionally, they may include representations of magical influences on realness or ideas about the connection between ritual action and luck, health, and well-being.

The real-making of spiritual objects, as described by Luhmann, can be viewed as a process consisting of three stages: 1) Preconditions: this includes the faith frame — a culturally ingrained and individually adopted set of beliefs about gods and spirits; the individual's predisposition to absorption; and ideas about the permeability of the boundary between the spiritual and material worlds. 2) Intentional and repetitive practice: here, the subject deliberately focuses on the events of their mental world while developing the skill to interpret sensations and perceptions in accordance with the faith frame. 3) Direct experience of spiritual reality: this is understood as the feeling of the presence of spiritual entities, accompanied by emotional and bodily sensations (see Fig. 7).

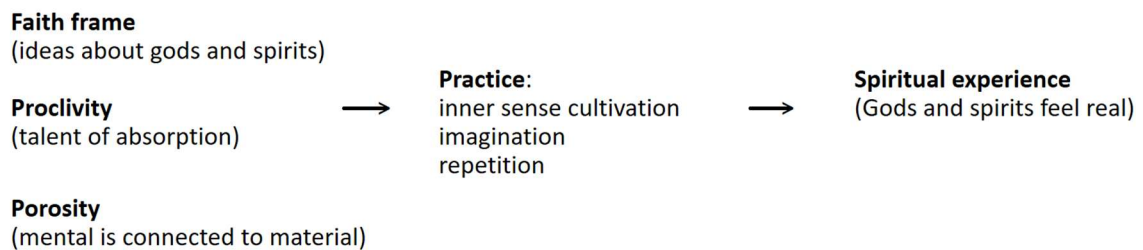


Figure 7. Components and stages of real-making

The first preliminary condition of real-making is the faith frame, which serves as a system of interrelated religious concepts and meanings for evoking and interpreting experiences perceived as spiritual. This frame acts as a religious paracosm and invariably includes elements that contrast with ordinary perception — such as invisible beings, moral laws, metaphysical ideas, and representations of the proper ordering of the world — which cannot be directly confirmed by the senses. Consequently, actualizing and maintaining such a mode of perception require effort and attention on the part of the believer

(Luhrmann, 2018). The faith frame largely determines the content of religious experience and varies significantly across cultures. For example, followers of evangelical charismatic churches in America are more likely to interpret sensations of muscular weakness, adrenaline surges, and overwhelming emotions as a spiritual experience, associating them with concepts like being “filled with the Spirit” and the “works” of the Holy Spirit. In contrast, among Thai Buddhists, such experiences are reported less frequently; they more often describe phenomena such as sleep paralysis, which may be connected to their cultural representations of experiencing spiritual presence.

Another important preliminary condition for spiritual experience is the capacity for absorption — that is, the ability to become so deeply immersed in the narrative concerning the object of faith that it begins to be perceived as real. This is one of Luhrmann’s key ideas, developed within the framework of the Absorption Hypothesis (Luhrmann et al., 2010). According to this hypothesis, individuals with a predisposition to absorption, or focused attention, are significantly more likely to perceive elements of the religious narrative as real. This is supported by empirical studies: participants with the highest scores on the Tellegen Absorption Scale demonstrated a greater tendency to have vivid and realistic religious and mystical experiences (Luhrmann et al., 2010; Bronkhorst, 2017; Lifshitz, van Elk, & Luhrmann, 2019). However, Luhrmann (2020) emphasizes that absorption is not only an innate predisposition but can also be developed through religious practice.

Finally, an additional factor among the preconditions for real-making is the cultural notion regarding the porosity of the boundaries between the physical and spiritual worlds. In societies where there is a widespread belief that the mind can influence material reality, deities and spirits are more likely to be perceived as truly existing. As shown in the study by Luhrmann et al. (2021), in countries such as China, Ghana, Thailand, and Vanuatu — where the perceived boundary between consciousness and the external world is less rigid than in Western societies — people more frequently report sensory experiences that they interpret as communication with gods and spirits.

These initial components — the faith frame, the predisposition to absorption, and the representations of the porosity of the boundary between the spiritual and material — are integrated into a purposeful practice of engaging with spiritual presence. Formally, such practices include rituals and ceremonies, invocations to deities, and various forms of prayer (requests, repentance, gratitude). On a cognitive level, the practice involves

repeatedly focusing attention on spiritual objects and inner senses cultivation aimed at recognizing spiritual events. In a wide range of spiritual traditions — among evangelical Christians, Muslims, mediums from the New Age movement, adherents of traditional African cults, and shamans — one can find practices of dialogue with the gods. Such a dialogue typically includes two stages: first, the believer mentally summons the deity, using the forms established in their tradition, and then attentively interprets their own sensations — changes in perception, emotions, and bodily experiences — as responses from these deities (Luhrmann et al., 2023; Lyngsøe & Stjernholm, 2022). Constant focus on spiritual objects reinforces the faith frame as a lens through which the believer interprets the world. By inner senses cultivation, the individual learns to perceive their own thoughts and sensations as signs and manifestations of spiritual beings. Ultimately, this practice leads to the feeling that gods and spirits are real entities capable of participating in the individual's life.

It is important to understand that when it comes to gods becoming real for a believer, the term “real” carries a very specific meaning. The nature of the representations of gods and spirits, here referred to as religious beliefs, differs from a simple conceptual proposition that can be true or false (Van Leeuwen et al., 2021). Realness can be experienced with varying degrees of intensity — in other words, it is graded (see Fig. 8). Thus, a believer might be only minimally convinced that what is experienced is real, or might testify to it as being “less real,” “more real,” or even “more than real” (Luhrmann, 2020a; Alderson-Day et al., 2022; Shulman, 2012). Consequently, the notion of realness here is not analogous to simply being “real” as opposed to “fictional.” Realness is not binary, as if there were only real and unreal things. Rather, realness in this context is an embodied, vivid, and emotional experience of something as present, capable of manifesting itself with varying degree of intensity and significance in a religious setting. The experience of realness is contrasted here with pure conceptuality.

Conceptual (mental) ↔ Real (embodied)




Figure 8. The sense of realness has a degree of intensity and is contrasted with conceptuality

To clarify the difference between the opposing pairs “real – fictional” and “real –

conceptual,” let us compare religious experiences with the visions that occur in Charles Bonnet syndrome (Cruysberg et al., 1996). Religious experiences of encounters with spiritual beings share common characteristics: they are person-oriented, emotional, and accompanied by a sense of connection (Luhmann, 2020). Interestingly, however, the sensory stimulation interpreted as a spiritual phenomenon can be minimal — for example, it may be limited to a sensation of goosebumps or the perception of light. At the same time, hallucinations in Charles Bonnet syndrome can be complex and visually detailed, yet they lack personal significance, are not associated with emotions, and cannot be self-induced (Cruysberg et al., 1996). Thus, although these hallucinations appear extremely realistic in a visual sense, the absence of emotional intensity leads patients to perceive them as unreal.

It is clear that the sense of realness in a religious context arises from the interplay of several systems: sensory perception, cognitive processes, and emotions. Therefore, the practice of real-making is a specific case of sense-making and involves transforming the original ideational content into a lived, emotionally charged, often sensory and personally significant experience — one that is subjectively marked as possessing the property of realness.

It can be noted that Luhmann’s original idea tends to lean towards representing the ritual through the lens of B/S_R-M-2, as the ritual serves here as a means of enhancing the religious narrative — transforming the conceptual into what is experienced as “real.” However, such a linear representation of the process of real-making is not without dispute. According to van Elk (2023), the relationship between real-making and supernatural experience is not unidirectional but rather bidirectional. This means that the sense of God’s realness can prompt a person to engage in spiritual practices that lead to such experiences, while those very experiences, in turn, reinforce belief in the supernatural. Moreover, cultural representations regarding the porosity of the boundaries between the mind and the world can influence the perception of the supernatural, and these experiences themselves can shape those representations. In other words, the interconnection between real-making, mental representations, and spiritual experiences does not imply a one-way causality but rather constitutes a continuous, self-sustaining feedback system. For example, van Elk (2023) argues that an unusual experience — such as hearing voices — may drive an individual to seek out a religious community in which that experience gains meaning.

Luhrmann (2020) also acknowledges the mutual influence between experience and the faith frame — for example, recognizing that a strong experience of altered states of mind can lead to changes in beliefs or the adoption of faith. Similarly, Hobson et al. (2018) propose viewing the ritual as a process in which physical actions and psychological meanings influence each other bidirectionally. Structured, repetitive movements direct attention and foster emotional synchrony within a group, generating immediate sensory experiences that shape a sense of control and transform perception. At the same time, cultural values and personal convictions guide how these actions are interpreted, imbuing them with significance. This bidirectional flow implies that physical interaction can deepen symbolic understanding, while the perceived meaning enhances the impact of ritual actions. In other words, the pure experience of altered states of mind and bodily sensations — regardless of their origin — and the culturally predetermined religious interpretation continuously shape one another in a ritual, making it a meeting point for two flows: top-down and bottom-up regulation (Hobson et al., 2018).

Thus, the real-making of spiritual entities — a process central to religion and distinguishing it from other narrative practices — necessarily involves the integration of representational components with a physical, bodily element, an integration that is enacted by the individual in accordance with their religious intention. However, the classification of rituals through the lens of B/S_R-MS shows that there can be four different scenarios of spiritual objects becoming real for a practitioner. For example, within the B/S_R-M-1 scenario, the real-making relies largely on interpretative structures and social conventions rather than on intense bodily participation. The ritual act itself is often minimal, yet it gains realness through collective agreement and symbolic interpretation. The faith frame (Luhrmann, 2018) plays a dominant role in shaping perception, ensuring that even abstract or non-sensory elements — such as a spoken blessing or a small ritual gesture — are recognized as spiritually significant. In this scenario, real-making functions as an act of interpretation rather than as a bodily-based experience. This is why, during the transition of the ritual to an online format, much emphasis was placed on justifying the ritual through tradition and by referencing similar concepts from the past (Ben-Lulu, 2021; Shabalina, forthcoming), since the symbolically oriented scenario of the ritual required a reinforcement of the social convention regarding its validity.

In the second B/S_R-M, real-making is viewed as a process of enlivening the religious narrative through embodied practices. Physical action intensifies preexisting religious representations by associating them with somatic sensations. In this way, the

bodily aspect is what renders a symbolic event real. For example, during the blessing with holy water at the church entrance, the act of being touched by water (a bodily action) serves as a tool for making the religious content (the blessing) real. Thus, as in the case of B/S_R-M-1, complete content preexists the act; however, unlike the first model, where the bodily element is practically irrelevant to the ritual, in the second model it functions as an instrument for actualizing the religious content.

The third scenario, corresponding to B/S_R-M-3, is one in which the body actively shapes the religious experience. Here, sensory perception and the cognitive interpretative process work together to create spiritual significance. For example, fasting in Christianity allows practitioners to experience spiritual concepts as real. Unlike in B/S_R-M-2 — where fasting might be seen as a bodily manifestation of religious symbolism (for instance, as a metaphor for cleansing) — in the B/S_R-M-3 scenario the concrete physical effects of abstaining from food acquire specific meaning. These effects include sensations such as hunger, weakness, a feeling of lightness in the body, or a slightly altered state of mind. In this context, these bodily sensations serve as the direct foundation of the experience, upon which religious interpretations (like spiritual cleansing, an encounter with the divine, or detachment from the profane) are superimposed. In this scenario, the “real” is equated with what is experienced, yet the content of what becomes real and experienced still requires conceptual definition, unlike in B/S_R-M-4. In other words, the effects of fasting — manifested through hunger and lightness in the body — are intended to convey religious meaning; their purpose is to facilitate the experience of the divine, divine purity, or acceptance by God. Without such an intended purpose, the ritual of fasting would lack significance and would merely be an act of abstaining from food.

Finally, in B/S_R-M-4, the body itself is the locus of the religious experience rather than merely an instrument for accessing it. In this scenario, the direct bodily experience is the religious reality. For example, in some Christian traditions, there are rituals of mortification of the flesh — even extreme rituals such as self-crucifixion in Filipino Catholicism (Bräunlein, 2012). Within this ritual scenario, bodily suffering itself is perceived as sacred. The intensity of the bodily experience directly determines its perception as real, and in this model, the ritual does not require symbolic interpretation, since its essence lies in the bodily experience itself.

Thus, the integration of the bodily and symbolic components in a ritual can be regarded as a mechanism for creating religiously significant events. At the same time, it

is important to note that the mere combination of these two components does not automatically produce a sense of realness; rather, this integration serves as an affordance for the religious adherent, who is intentionally oriented towards experiencing spiritual entities as real. This means that the realness of spiritual entities is enacted in the process of the ritual, which connects the physical and interpretative (symbolic) components. The juxtaposition of the real-making concept with the four B/S_R-M scenarios also shows that real-making processes can differ significantly depending on the balance between the physical and the symbolic in ritual.

Conclusion

From the perspective of embodied cognition approach, rituals can be classified along a spectrum — from those in which the body serves merely as a conduit or amplifier of pre-established symbolic content to those in which physical actions themselves become the source of religious meaning. An analysis of the differences between these types of rituals shows that those leaning towards the first pole are more oriented towards intersubjective significance; their content is more narrative and focused on establishing and reinforcing relationships within the realm of symbolic-linguistic interactions. In these cases, beliefs tend to precede ritual, are articulated explicitly, and are maintained through repetition of doctrinal or institutionalized forms. In contrast, rituals that lean towards the bodily pole are more personally oriented, connected with the transformation of the subject, and the formation of new notions through direct, personal experience. Here, beliefs are rather enacted than merely reinforced — they arise in the process of the embodied experience of the ritual itself.

Considering how the environment influences the structure of the ritual — and thereby reveals the components susceptible to change — the transition of rituals into the online space presents an interesting case for analysis. In online environments, bodily presence is reduced to a minimum, challenging the traditional structure of the ritual. Analysis of this case allows us to conclude that the combination of bodily engagement and symbolic interpretation is maintained even in a virtual ritual setting, although it tends to transform in a way that reduces all ritual forms to B/S_R-M-1 and B/S_R-M-2 types.

Furthermore, the chapter demonstrated how the concept of real-making provides a unifying explanatory perspective on the diverse ways in which rituals integrate

embodiment and beliefs. It clarifies why religious practices cannot be reduced to either symbolic interpretation or bodily technique: the sense of the realness of spiritual objects, that is characteristic of religious mind, arises precisely from the combination of the bodily and the symbolic. Distinguishing between possible proportions in this combination according to different B/S_R models emphasizes that real-making can take different forms depending on the type of ritual.

Chapter 4. The idealizational cognitive model of the relationship between religious ritual and religious beliefs

In the previous chapters, I primarily focused on the properties of religious ritual — as defined by various approaches within the CSR — that are relevant to the question of the relationship between ritual and religious belief. Less attention, however, was given to the features of religious belief that ensure its connection with ritual. In this chapter, I will attempt to address this imbalance by proposing characteristics of religious belief that make it susceptible to being associated with religious rituals as a contributing cause or an unintended result. After describing the properties of religious beliefs in relation to their place within the belief system, I will discuss how their position in this system determines their function in ritual.

The approach proposed here is idealizing in character. I will outline a general model of the religious belief system and consider how its components — individual beliefs — relate to religious ritual. Instead of beginning with empirical analyses of individual participants' beliefs, this method seeks to identify the most significant properties of those beliefs. Its goal is to construct a theoretical framework that can serve as a tool for interpreting and explaining the function of religious beliefs within ritual practice. Building this model involves making idealizing assumptions and formulating hypotheses that serve to explain and integrate established empirical findings.

The development of a comprehensive theory that elucidates the interconnections between ritual and religious beliefs is a task that requires a separate, extensive study. Before undertaking it, one must first survey the field on which such a theory can be built and then carry out a whole series of preparatory works enabling its undertaking. The present dissertation is largely of such a preparatory nature. This dissertation proceeds from the assumption that the most appropriate ground for such a theory is provided by the CSR, which offers the conceptual and methodological tools for analyzing ritual in cognitive terms. Previous chapters have outlined the main research approaches to religious ritual within CSR. As I have mentioned, scholars in this field tend to overlook the relationship between rituals and religious beliefs, or only give it cursory consideration. My goal has been to show how these approaches can be extended to account for the influence of religious beliefs on the performance of ritual actions. The analyses of the main theoretical approaches in CSR that I have conducted lead me to the conclusion that

the neglect of the mutual dependencies between ritual and religious beliefs is a result of an overly simplified picture of the latter. Moreover, most researchers pay significantly more attention to religious concepts (Lawson & McCauley, 1990; Boyer 1994), treating religious beliefs as something that can be derived relatively easily from these concepts. This study takes the opposite approach. Although concepts are important to religious thinking, I assume that in the case of rituals the situation is different. The mental processes that precede or accompany ritual actions are not mere concepts, but beliefs — mental states in which those concepts are embedded. In this sense, a belief relates to a concept much like a sentence relates to a single word — it brings separate elements together into a coherent and meaningful whole.

This chapter aims to articulate a preliminary model of the interaction between ritual and belief, integrating the principles of this relationship identified throughout the dissertation. The proposed model is based on the following assumptions: (1) performing a ritual requires adopting a ritual stance; (2) religious ritual and religious beliefs are interdependent; (3) the performance of the ritual is driven by an irresistible sense of duty. In what follows, I will elaborate on these points.

4.1 Instrumental vs ritual stance

The first assumption states that to perform a ritual one must shift from an ordinary, everyday attitude to the ritual stance. However, the existing concept of the ritual stance requires clarification. In the revision proposed here, the cognitive structure of ritual is redefined not in terms of the causal opacity of action, but as a series of non-causally related actions belonging to a ritual. I will explain it below.

As was demonstrated in Chapter 2, researchers in the CSR (Herrmann, Legare, Harris, & Whitehouse, 2013; Legare et al., 2015; Kapitány & Nielsen, 2015; Kapitány & Nielsen, 2017; Whitehouse, 2021) introduced the concept of the ritual stance and claimed that ritual action is a separate kind of intentional action, significantly different from the instrumental action. It is posited that actions of both kinds are undertaken by rational agents who possess the relevant beliefs and desires. Advocates of a ritual stance maintain that it differs from an instrumental stance because the latter is a disposition to perform actions that aim towards a chosen goal, which is a change in a physical world, brought about by component actions producing a series of causally connected states. The situation

is different in a ritual stance. In this disposition to act a goal often cannot be specified, because the subsequent states occurring while performing ritual action cannot be identified as causally connected. This causal opacity shifts attention away from instrumental outcomes towards the performance itself, resulting in the demotion of explicit goal.¹⁷ Yet this does not mean that ritual actions are without effect; rather, they are understood to bring about changes in the social world.¹⁸

If we agree that both the instrumental and ritual stances are two independent types of intentional stance, then we should also accept that, when observing the actions of others, we assume the agent to be rational and to act in accordance with their beliefs and desires. This approach is effective in the case of instrumental actions, since by attributing to the agent certain beliefs and desires, we can understand their behaviour and anticipate how it will unfold. Importantly, the goal of this approach is to explain or predict behaviour, rather than to faithfully reproduce the mental states of the agent of that action. In other words, if the beliefs attributed by the observer are different from those that the agent actually held, but they would also lead to the same behaviour, then the explanation/prediction of behaviour is a correct application of the intentional stance. Therefore, what matters in the intentional stance model is not reproducing the agent's actual beliefs, but correctly accounting for their behaviour.

Such a model of the intentional stance fits well when applied to explaining or predicting instrumental actions, since this type of action presupposes a transparent connection between desires and beliefs which initiate behaviour that is causally connected to the ultimate outcome. But does it fit equally well when applied to ritual actions? Can we, observing an action “characterized by rigidity, formality and repetition, which ... contains non-instrumental elements (i.e., causally opaque and goal-demoted elements)” (Kapitány, Kavanagh & Whitehouse, 2020), explain it by attributing appropriate beliefs and desires to its participant? In ritual behaviour, both relationships: between mental states and modes of behaviour and between behaviour and its result are not transparent. Therefore, while an appeal to folk psychology suffices to explain instrumental action, this type of common knowledge provides no tools for explaining ritual action.

Although the concept of the *ritual stance* was introduced to emphasize the

¹⁷ “We understand ritual to be a special category of social action ... which ... contains non-instrumental elements (i.e., causally opaque and goal demoted elements).” (Kapitány, Kavanagh & Whitehouse, 2020)]

¹⁸ „We assume that the actor is attempting to change the social state of the world by appeal to our psychology, particularly our desire to belong” (Whitehouse, 2021, p. 53).

distinction between ritual and instrumental action, it is still described in terms taken from the instrumental domain. In such descriptions, it is typically assumed that, since instrumental actions can be explained by reference to agent's beliefs and desires, the same explanatory schema can also be applied to ritual actions. It is true that both stances presuppose intentionality and therefore involve beliefs and desires. Yet this general schema of the intentional stance operates at too high a level of abstraction to account for the distinctive organization of ritual action, in which the relations between beliefs, desires, and behaviour and between behaviour and its outcome are at best only partially structured by direct causal reasoning. To adequately capture this difference, the intentional stance framework must be specified separately for each type of action.

The structure of the instrumental schema is defined by the assumption that a rational agent seeks to bring about a change in the physical world by independently determining what kind of change aligns with their desire. To achieve this goal, the agent freely selects a sequence of component actions, ensuring that the outcome of each is causally connected to the next. According to the agent's knowledge, this chain of causally linked results will ultimately lead to the realization of their intention. The schema of the ritual stance, however, operates differently. Even if the ritual agent were able to choose a goal freely — which, as I will argue, is not the case — the sequence of component actions would not be organized by causal relations. Proponents of the ritual stance emphasize that ritual performance follows prescribed social norms, and that its aim is not to make a physical change but to bring about a transformation in the social world — namely, to be recognized or accepted as a member of a desired group. When the sequence of actions is determined by social norms, their order is governed by convention rather than by causal nexus.

However, scholars describing the ritual stance (e.g., Kapitány & Nielsen, 2015; Whitehouse, 2021) emphasize that the relationships between the component actions of a ritual are marked by *causal opacity*. This implies that, in their view, the ritual stance cannot be adequately characterized without reference to causal relations. Whitehouse (2021), in *The Ritual Animal*, takes this point even further, asserting that “the action sequence is irremediably causally opaque.”¹⁹ This raises the question: What is the reason

¹⁹ “Adopting a ritual stance entails the assumption that the action sequence is irremediably causally opaque and so there is no motivation to seek out a physical-causal rationale for the observed behaviour.” (Whitehouse, 2021, p. 59)

for associating causal opacity with the ritual stance? Does this mean that in the ritual stance, as in the instrumental stance, the agent is oriented towards the presence of causal dependencies? When a sequence of actions forming a ritual is about to be performed, do they still retain the general belief in causal relationships, yet claim that the relationships between these actions are “irremediably causally opaque”? What role does causal opacity play in explaining a ritual action? It seems that the action of an agent taking part in ritual can be described and explained without considering the transparent or opaque presence of causal relationships between its component actions.

A relatively straightforward resolution to this issue can be proposed. It involves assuming that the transition from the instrumental stance — which is the default, commonly adopted stance in the domain of human action — to a specific, less intuitive ritual stance requires suspending the fundamental belief of the instrumental stance that component actions of a complex action are causally connected. If we suspend this belief, we stop expecting the result of action B to be causally dependent on action A or its result. It makes no difference whether our expectation concerns a transparent or an “irremediably opaque” causal link.

It must be emphasized that this kind of suspension does not pertain to the actual physical causal relations between actions. Rather, it involves suspending the belief that the outcome of a complex action results from performing a series of causally connected component actions. I claim that a person engaged in a ritual suspends their belief that the ritual’s component actions are ordered by causal relationship. By adopting the ritual stance, we recognize that the order of actions is determined by prevailing conventions or social norms. The agent’s task is to perform the actions because “this is how it must be done.”

It is important to clarify that the account proposed here concerns a suspension of belief in the causal link between the constituent actions of the ritual. My aim is not to challenge the thesis that mental states — beliefs and desires — causally motivate action. This thesis applies equally to both instrumental and ritual stances. What follows is that an explanation of ritual necessarily contains both causal and non-causal components. The causal component concerns the initiation of the ritual, which is still grounded in the influence of mental states. The non-causal component concerns the execution of the ritual itself, where the belief that individual actions are causally connected to specific outcomes is suspended.

Suspending the belief in the existence of a causal link between the constituent

actions of a ritual has a number of important consequences. Here, I will limit myself to discussing one that I consider particularly important. The suspension of the belief that the agent freely chooses the goal attainable on the basis of their knowledge — and selects causally connected actions to enable its occurrence — leads to a serious restriction of the agent's freedom that is their capacity to autonomously select goals and causally appropriate means to achieve them. Shifting from an instrumental to a ritual stance thus implies that both the set of available goals and the actions leading to them are no longer determined by the agent's free decision. I will elaborate on this below.

4.1.1 Peculiarities of the ritual stance and ritual action

A person who adopts a ritual stance exercises less freedom to select or modify their actions than someone acting instrumentally. The range of possible actions is constrained by convention, and the manner in which each action is performed is culturally prescribed rather than individually designed. The actions belonging to a ritual are not selected for their causal efficacy but are performed because they are recognized as the proper way to act. Performing them correctly ensures not a causally determined intended outcome, but the fulfillment of a collectively acknowledged and recommended pattern that defines what counts as successful ritual performance. Yet, despite this suspension of causal reasoning, ritual practice still entails a goal — one that is predetermined by collective convention.

The very idea of a goal becomes problematic when applied to ritual action as it seems to contradict the prevalent characterizations of ritual, which suggest that ritual is goal-demoted (Kapitány & Nielsen, 2017) or that it has no goal at all (Staal, 1979).²⁰ Both approaches raise certain conceptual difficulties. The latter view poses a fundamental question: what motivates an individual to act if ritual behaviour is assumed to lack both meaning and purpose? The thesis of goal-demotion though seemingly more moderate, is

²⁰ “While causal opacity describes whether or not an action sequence has an observable potential mechanism, goal-demotion refers to an observer's ability to infer and understand an actor's reason (e.g., goals or motivations) for a given action sequence. ... Put simply, causal opacity begets the question ‘*by what mechanism is an effect being caused*’ while goal-demotion begets ‘*Why does the actor act?*’. Rituals tend to be both opaque and goal-demoted, and as a result, are rarely dissociated in the literature.” (Kapitány & Nielsen, 2017, p.30))

„Ritual is pure activity, without meaning or goal.” (Staal, 1979, p.9)

not without problems either. It presupposes that, as in instrumental action, it is the agent who selects both the goal and the means of achieving it. Yet, because the component actions performed by the ritual agent are causally opaque, the goal towards which they are directed cannot be clearly identified. On this basis, proponents of the goal-demotion view maintain that the goal in ritual action is effectively diminished. What this account overlooks, however, is that the attitude of the ritual agent differs fundamentally from that of the agent engaged in instrumental action: a participant in a ritual cannot freely modify its structure or independently determine its goal.

The inability of the ritual agent to modify the sequence of actions or determine the ultimate goal independently implies that the power to plan and direct action is transferred from the performer to the pre-designed structure of the practice. In this respect, ritual has more features of a tool than features of instrumental action. Note that, like a tool, ritual is pre-designed and ready to be carried out. However, when we perceive something as a tool, we can easily infer the result of its correct use. This is not the case with ritual, as it is difficult to determine its goal by merely observing the participant's behaviour. Yet, if we observe that the agents carefully follow the rules and do not attempt to optimize the component actions with respect to causal relationships, we may assume that they are convinced this kind of behaviour was deliberately designed to lead to a pre-planned goal. In some rituals, the goal is readily accessible to participants (e.g., in rites of passage), in others (e.g., commemorative or sacrificial rituals) it is only partially discernible, and in still others (such as mystical or esoteric practices) it cannot be expressed in words. Participants may thus believe that if the ritual is performed correctly and no special circumstances intervene, its goal will be achieved — even if they are unable to recognize it in advance.

To address the difficulty indicated above, I propose distinguishing between the goal of the ritual and the goal of its participant. To avoid using the same term in different contexts, I suggest replacing *goal of the ritual* with *serviceability of the ritual*. Like the serviceability of a tool, the serviceability of a ritual is a dispositional property that determines the outcome of the ritual once it has been completed. Understood in this way, serviceability is an objective property that does not depend on the intentions or goals of those participating in the ritual. An illustrative example can be drawn by comparing the ritual of baptism with a tool such as a casting mold. Baptism incorporates a person into the Christian community regardless of that person's individual goal or, in the case of an infant, the goal of their representatives. Similarly, a mold determines in advance the form

that the material poured into it will take. Its structure prescribes the procedure and constrains the user's freedom to modify it: the *serviceability* is fixed by the design of the mold rather than by the user's creative intention. In the same way, the *serviceability* of baptism is built into its pre-established structure, not derived from the agent's purpose. It is designed in advance and constituted by the component actions of ritual. At the level of an individual practitioner their goal may, as Whitehouse puts it, be "to be accepted into the group" (Whitehouse, 2021, p.49), thereby aligning with the ritual's serviceability, though such alignment is not necessary.

4.2 Interdependence of religious ritual and religious beliefs

The second assumption is a consequence of the more general one, that belief is an essential component of a series of mental events that are causally involved in initiating an intentional action. Each of the approaches examined in this dissertation has offered a different perspective on the relationship between ritual and belief. In this section, I examine how cognitive science of religion conceptualizes the relationship between ritual and belief, summarizing approaches that explain ritual independently of belief, as well as those that view beliefs as an important structural element of ritual. By comparing these positions, I develop an explanation in which ritual actions and beliefs influence each other.

4.2.1 Theories that suggest religious rituals are independent of religious beliefs

Although the connection between belief and ritual is intuitively understood and widely acknowledged within the CSR, there nevertheless exists a broad range of approaches that challenge the significance of belief's influence on ritual. Alternative explanations, on the one hand, adopt a view of ritual as a type of action that fulfils its function solely within a social context, independent of any individual beliefs (Lee, 2000; Bloch, 2004). From another perspective, behaviourist theories suggest that ritual behaviour can emerge as compulsive, bypassing representational processing altogether (Liénard & Boyer, 2006). Accordingly, within these frameworks, ritual is understood

primarily as a formalized, content-free pattern of behaviour that exists independently of any individual beliefs.

The concept of ritual as non-intentional behaviour — that is, behaviour that does not rely on beliefs or desires — was developed by anthropologists Humphrey and Laidlaw in their book *The Archetypal Actions of Ritual* (1994). Drawing on Jain ritual practices, they argue that rituals can be performed without any cognitive commitment to the beliefs traditionally associated with them. They emphasize the notion of “ritual commitment,” which is characterized by a distinct form of intentionality, different from propositional form of belief. According to Humphrey and Laidlaw, ritual participants often act “non-intentionally” — without explicit reflection on doctrinal beliefs or adherence to them — and the meaning or efficacy of ritual actions does not depend on the participants’ explicit cognitive endorsement.

While Humphrey and Laidlaw’s framework challenges the importance of individual belief in ritual performance by emphasizing ritual’s non-intentional, action-centered nature, this perspective intersects with broader sociological theories that similarly dissociate ritual from cognitive commitment. The classical sociological theory of Émile Durkheim (1912) posits that the primary function of ritual lies in fostering social solidarity rather than expressing beliefs. Durkheim argues that ritual participation binds individuals into a group consciousness, generating shared experiences and collective emotional states regardless of any individual’s acceptance of specific religious doctrines. From this perspective, rituals maintain social cohesion even in the absence of personal belief, rendering ritual independent of individuals’ beliefs. Similarly, Maurice Bloch (2004, 2008) emphasized the practical and social dimensions of ritual behaviour, proposing that rituals do not necessarily reflect or reinforce beliefs. On the contrary, rituals serve to generate social cohesion, establish authority, and regulate behaviour independently of any internal beliefs. Bloch underscores the regulatory function of ritual, arguing that ritual actions often persist even when the beliefs traditionally associated with them have faded or become marginal within a community.

The frequently cited work of Boyer and Liénard (2006) suggests that the foundation of ritual lies primarily in psychological mechanisms related to precautionary behaviour, anxiety management, and obsessive-compulsive patterns. According to this approach, ritual actions emerge from universal cognitive modules designed to avoid danger and regulate behaviour, and thus may function independently of explicitly articulated beliefs in supernatural beings. Rituals, from this perspective, compel

individuals to act not due to conscious beliefs in supernatural agents or dogmas of religious doctrines, but because of cognitive constraints imposed by psychological mechanisms. In support of this view, experimental research by Legare and Souza (2012) demonstrates that ritualized behaviour often arises in contexts of uncertainty or ambiguity, serving to manage anxiety rather than to express clear beliefs. As such, rituals can be understood primarily as behaviours aimed at reducing anxiety, without requiring a commitment to a coherent system of beliefs.

The interpretation of rituals as functional acts of self-regulation aimed at reducing anxiety has a long-standing tradition. As early as 1948, Bronisław Malinowski noted that ritual serves as a form of “surrogate activity,” performed in situations of uncertainty to restore a sense of control and alleviate anxiety. In such cases, a connection to religious belief is not considered necessary. Lang and Chvaja (2023) offer a detailed discussion of the adaptive value of ritual behaviour, particularly in relation to its anxiety-reducing function in uncertain contexts such as war, natural disasters, or even more mundane situations like exam stress or competitive sports. In all of these scenarios, individuals show an increased tendency to engage in ritualistic or magical actions (Brooks et al., 2016; Burger & Lynn, 2005; Henrich et al., 2019). This consistent correlation between anxiety and ritual behaviour lends support to the argument that belief is not a necessary condition for the functional efficacy of ritual.

Building on this perspective, the functional efficacy of ritual is explained not by the reference to the beliefs of the participants but by neurocognitive or neuroaffective mechanisms. These include the provision of predictable patterns that reduce internal prediction error (Hobson et al., 2017; Lang et al., 2022), the regulation of cognitive load through repetitive actions (Perry et al., 2022), and the segmentation of behaviour into manageable units (Nielbo et al., 2012). Additionally, ritual actions have been shown to activate brain regions associated with emotional regulation, such as subcortical structures including the amygdala and thalamus (Gao et al., 2020), and to induce altered states of consciousness, for instance, through the down-regulation of activity in the prefrontal cortex (Lee et al., 2016). These findings reinforce the idea that rituals can produce measurable neurophysiological effects independently of any belief system, thus supporting the claim that belief is not a prerequisite for the functionality of ritual behaviour.

This line of research implies a particular model: specific physical ritual actions

induce changes in cognitive patterns, which are conceived as functional structures localized in the brain, thereby altering the subject's mental state. At the same time, the analysis conducted in this study — based on approaches within the cognitive science of religion — demonstrates that ritual cannot be devoid of beliefs. For example, from the perspective of the architecture of mental representation in ritual action, it is impossible to reconstruct the structure of ritual without taking into account the beliefs of human ritual participant with which it is interconnected. As shown in Chapter 1, which examined the representationalist approach to cognition in ritual, ritual is necessarily linked to belief, as belief provides the cognitive, motivational, and structural foundation for ritual actions. Although *Rethinking Religion* by Lawson and McCauley — the work upon which the reformulation of ritual representation was based — does not explicitly include belief in its model, the notion of “culturally postulated superhuman agents” (CPSAs), which plays a central role in ritual representation, implicitly assumes the existence of a belief system. This connection is further supported by a belief-selection system, which extracts and prioritizes religious beliefs that motivate ritual performance. Thus, without beliefs that justify or contextualize the ritual, the action would lose its religious significance.

4.2.2 Cognitivist approaches to the relationship between religious beliefs and ritual

Since in CSR a ritual is considered a type of intentional action, it is reasonable to assume that religious belief plays a causal role in its performance. But does this mean that every religious belief has equal “causal capacity” to contribute to the performance of a religious ritual? Apart from the situations in which a religious belief precedes ritual action, I assume that there is also a reverse relationship, i.e., situations in which belief is generated or modified by the result of a ritual. It seems reasonable to expect that an instrumental action leading to the physical change in the environment would be assessed and compared to the intended goal of the action by the agent. If the result of such an action is deemed as satisfactory, this leads to the belief that the action should be repeated in an unchanged form in the future, should similar conditions arise and the same desire be present. Conversely, if the result is deemed unsatisfactory, the belief arises that the action should be modified to produce more satisfying outcome, or abandoned if the likelihood of achieving success through repetition is low. Clearly, this scheme does not fit the ritual

stance.

As previously noted, ritual resembles a tool rather than an instrumental action. Therefore, the reciprocal relationship between ritual and belief becomes apparent when examined through the notion of affordances developed in studies of tool use and perception (Rietveld & Kiverstein, 2014; Osiurak & Badets, 2016). In this perspective, meaning and action are dynamically interrelated: the use of a tool begins with recognizing the kind of action it affords: whether through direct observation or prior conceptual knowledge of its functions. However, the very act of interacting with the tool substantially enriches one's understanding of its possible uses. Subsequently, each episode of tool use refines the user's knowledge, which subsequently informs how the tool's affordances are perceived and enacted in the future.

However, unlike ordinary physical tools that bring about changes in the physical world, the serviceability of ritual lies in its capacity to influence events within the socio-symbolic domain through manipulations of physical objects interpreted as parts of the collective normative space. For this reason, the perception of ritual is mediated by representations whose function is to establish a connection between the individual's motivational structure and the ritual's serviceability. In other words, without at least a minimal representation of the ritual's ultimate goal — given that the belief in the causal nexus between its constituent actions is suspended — its performance appears meaningless. As will be shown later, this minimal representation is strictly related to ritual obligation.

A reciprocal influence of ritual action on the formation of beliefs can be inferred from the very nature of ritual's serviceability. If a ritual, as a tool, entails certain serviceability, then its performance gives rise to the generation of relevant representations. Thus, at least three types of beliefs generated by participation in the ritual can be distinguished. First, participation in ritual reinforces the initial belief in ritual obligation, as these seemingly causally unrelated actions are performed by other people in the group. Therefore, imitating their actions is a duty. Second, signals of acceptance into the religious group are interpreted as indications of the ritual's successful completion. Third, ritual practice provides a context for the emergence of doctrinal beliefs that serve to justify and cognitively integrate ritual actions (Sørensen, 2007).

This principle of the reciprocal relationship between ritual and belief can be illustrated by the following example. Upon entering a church, people often participate in

the blessing ritual with holy water, dipping their fingers into it and making the sign of the cross. By observing other congregants performing the ritual — dipping their fingers into the water and crossing themselves — the observer gains an initial understanding that this action provides access to certain meaningful possibilities, such as entering the sacred space in a state of spiritual readiness, invoking divine protection, or affirming one's belonging to the religious community. The observation of the ritual act generates initial meaning, as it reveals socially structured affordances for meaningful engagement with the environment. In this context, the serviceability of ritual lies in its ability to integrate the individual into the shared religious space: through ritual, the individual enters the sacred and affirms communal identity. When the observer subsequently performs the ritual independently, the action enriches the initially perceived meaning with sensory, emotional, and experiential dimensions. First, the participant finds themselves among a group of people who perform this ritual even in the absence of any visible instrumental reason, which underscores the normative rather than functional character of the shared action. This participation automatically confirms the individual's inclusion in the group. In turn, this signal of acceptance indicates that the ritual sequence has been successfully completed, since the success of a ritual is determined not by its practical outcome but by social validation. Finally, the embodied enactment of the ritual evokes the retrieval of doctrinal beliefs that may substantiate the behaviour — for example, the belief that water can possess sacred power. Thus, ritual action and the associated beliefs are mutually interconnected. Certain beliefs trigger the ritual, while its completion generates new beliefs or reinforces existing ones.

4.3 A sense of duty and the performance of the ritual

In this section, I intend to demonstrate that among all the beliefs related to ritual acts, the sense of duty represents the most fundamental and essential element. It refers to the conviction that the performance of a ritual is imperative because it is an action that holds intrinsic value and does not need instrumental justification.

Rituals present themselves as predefined sequences of actions whose performance is taken to be necessary and socially expected. Satisfying this expectation is an existential obligation for everyone. This dispositional property can be described as *ritual obligation* — a representation of the ritual as an obligatory act, one that is not subject to doubt and

does not require rational justification. As Xygalatas (2007, 2023) observes, even inexperienced ritual participants, who may have little understanding of the ritual's purpose or meaning, are nevertheless convinced that it must be carried out. Thus, the minimal and universal belief that supports ritual practice can be reduced to the perception of ritual action as necessary — based not so much on goal-oriented reasoning as on a sense of duty and inner obligation. It is important to emphasize that *ritual obligation* may manifest itself not only as a strong calling to perform ritual because of its intrinsic value, but also as a promise of satisfaction in fulfilling an obligation.

In the cognitive science of religion, motivation to perform ritual has been widely explained through mechanisms of memory and emotional regulation (Deeley, 2004; Hobson et al., 2018), social behaviour (Atran & Henrich, 2010; Turner, 2021), cultural transmission (Xygalatas, 2014), specialized modes of causal and agency detection (Barrett & Lawson, 2001; Bering et al., 2009; Lawson, 2012), cognition (Day, 2004), and others. However, the idea of internalized *ritual obligation* as a primary driving force of ritual motivation has rarely been placed at the center of cognitive analysis. Ritual, by its very definition, is most often characterized as prescribed or ordered action (Lienard & Boyer, 2006), which makes the corresponding belief a causal component of its initiation.

The notion of *ritual obligation* has appeared indirectly in theories that view ritual as a signal of group commitment, where individuals feel compelled to participate due to a more fundamental need for group affiliation (Sosis, 2005; Atran & Henrich, 2010). A similar meaning to *ritual obligation* has also been addressed in accounts portraying ritual as a by-product of a precaution system (Boyer & Lienard, 2006; Lienard & Boyer, 2008), where the feeling of compulsion to act is drawn from unconscious, evolutionarily developed mechanisms. Within the belief-based model of ritual action proposed here, however, the focus is on the representation of ritual as an obligatory act. This representation may accompany social pressure or compulsive behaviour, but it can also emerge from a much broader range of causes. Regardless of its origin, the representation of ritual as an action that must be performed should be regarded as a warrant for ritual action.

As demonstrated in Chapter 2 on social aspects in the motivational structure of ritual, the human capacity to form shared mental states — such as common beliefs, intentions, or commitments — provides a powerful foundation for understanding why

rituals are experienced as obligatory, even when their purpose may not be clear or evident to the individual. When a ritual is grounded in normativity, the sense of duty does not stem from the individual's own assessment, but rather from taking group perspective and the resulting *we-intentionality* into account (Tollefsen, 2002; Tuomela, 2007; Giovagnoli, 2020). This makes the ritual action appear to practitioners as the fulfilment of a norm approved and respected by members of the group to which the practitioner belongs or aspires to belong. In turn, this normative character is sustained by individuals' tendency to maintain behaviour as such behaviour is directly tied to mechanisms of low-cost redistribution of social approval and disapproval (McAdams, 1997; Boyd & Richerson, 2005).

Thus, we can identify at least two mechanisms through which the embeddedness of ritual in intersubjectively accessible shared intentions can become a source of *ritual obligation* (Iltis, 2012). First, normative obligation arises from a sense of group membership and is rooted in normative beliefs such as "I must do this because *we* do this," or "our ancestors have performed this ritual" (Maño & Xygalatas, 2022). This form of obligation stems from shared historical or cultural continuity and reinforces the image of ritual as an imperative of a collective origin. Second, ritual acquires a reality-defining status when it is not merely seen as customary or recommended, but as something that must be performed in order for certain social facts or meanings to exist at all. In such cases, the credibility of the ritual stems from its integration into the group's shared understanding of what counts as real, valid, or meaningful within their social world (Venhorst et al., 2013). In this case, ritual is not optional but is a mandatory part of group routine. In effect, ritual upholds the very group organization within which the subject finds meaning. For example, a monk who does not attend the daily chant is not merely skipping a duty — he is suspending his participation in the monastic form of life. The performance of a ritual is not only a significant action; it co-defines what it is to be a monk (Geldhof, 2016).

The advantage of this approach — which treats the feeling of duty as a causal component of ritual's initiation — is that, unlike other models based on patterns of agency detection or attentional mechanisms, the role of obligation as a ritual-initiating cause does not demand to resort to conceptual understanding of the goal of the ritual. A ritual that, when viewed through Dennett's spectacles as the intentional action — an action based on individual's beliefs and desires — appears inexplicable, becomes intelligible once we recognize that its motivating force is not grounded in the agent's personal goals, but in

the normative structure of the ritual itself.

From the point of view of cognitive development theory, the human tendency to recognize normativity and act accordingly can be observed from a very early age. The foundation for the notion of “necessary sequences” can be found in young children’s ability to recognize and generalize rules (Gergely & Csibra, 2013). Already Piaget (1987) noted that in early cognitive development, children tend to perceive reality in terms of what *must* be the case, leading to a kind of generalized pseudonecessity. At this stage, they do not yet distinguish between reality, necessity, and possibility — necessity is experienced as inherent in their interaction with the world. Similarly, Csibra and Gergely (2009) show that children tend to interpret generalizable information not as applicable to singular instances but as normative rules. Beyond simply recognizing normativity, children also demonstrate a commitment to rules they have adopted and a tendency to reproduce repeated patterns of action, particularly when they perceive themselves to be participating in joint activity (Tomasello et al., 2005). This is evidenced by their protest against violations of established rules and their efforts to restore previous action patterns when partners deviate from them — thus attempting to re-establish joint action and demonstrating fidelity to shared norms (Michael et al., 2016).

Ritual obligation, grounded in the tendency to attribute undisputable necessity to certain actions, should be viewed as a separate element of ritual action representation, which plays a decisive role in its initiation and continuation. Rituals are perceived as actions that must be performed, regardless of whether there is an explicit understanding of their purposes or outcomes. This sense of obligation is based on the agent’s alignment with shared norms, collective obligations, and socially constructed standards, rather than on instrumental thinking or individual preferences. Thus, belief in ritual obligation becomes a mediator between individual cognition and the normative nature of ritual.

4.4 Recapitulation of the assumptions

Up to this point, I have been discussing the assumptions that are intended to facilitate the characterization of the relationships between religious beliefs and religious rituals. Before moving on to the next section, which offers a more detailed analysis of beliefs in the context of their relation to ritual, I would like to briefly summarize these assumptions.

The first of these assumptions states that ritual action is a non-instrumental intentional action. This means that performing a ritual action requires adopting a ritual stance. This stance involves (i) suspending the belief that the activities that make up the ritual action are causally connected, and (ii) treating the ritual action as a specific, ready-made tool that has been designed in advance and the use of which requires one to act in accordance with a pre-established pattern of conduct. As with a physical tool, the effectiveness of which depends on its fit to the user's body and on the user handling it properly, the effectiveness of a religious ritual depends on whether it is adapted to the physical and mental characteristics and social role of the religious community member. This is especially evident in rites of passage, where the structure and meaning of the ritual presuppose a specific kind of participant — an initiate, a bride, a novice, a new community member. In such cases the ritual is designed with the participant's physical, psychological, and social characteristics in mind, and its success depends on the participant performing the prescribed actions exactly as the established rules require.

By adopting the second assumption, I presume that religious ritual is related to religious beliefs in the following way: (i) selected religious beliefs belong to the series of mental states that jointly cause the initiation of the ritual, (ii) a correctly performed and completed ritual strengthens selected existing beliefs, and in some cases contributes to the generation of new beliefs. Thus, the causal influence between ritual and belief is not unidirectional; rather, they mutually reinforce one another.

The third assumption holds that a ritual is viewed by its participant as something that ought to be performed because it is normatively predetermined and socially prescribed. Therefore, when deciding to take part in a ritual, an individual does not experience this decision as entirely free or subject to change at will; rather, participation is treated as an obligation from which one should not shirk. It is important to emphasize once again that motivation rooted in this sense of duty does not directly depend on any conceptual understanding of the ritual's purpose.

4.5 The basic structure of a religious belief system

Prominent scholars studying religious phenomena from the CSR perspective contend that religious beliefs and rituals should be considered similar to ordinary cognitive processes and daily activities. Lawson and McCauley (1990) adopted this

approach with ritual actions, while Boyer (1994) and Barrett and Lanman (2008) did so with religious beliefs. The former maintained that religious rituals were subject to the same regularities as all other human actions. The latter argued that “religious beliefs arise (at least in part) because they are a natural result of human cognitive systems solving ordinary problems” (Barrett & Lanman, 2008, p.110). I accept the thesis that both religious rituals and religious beliefs are subject to the same general regularities that govern cognitive processes. However, I believe that it is not enough to refer to general cognitive mechanisms when explaining religious phenomena.

While applying general cognitive principles to religious phenomena offered a new perspective in the early days of CSR, it also blurred the distinction between everyday thoughts and actions and their religious counterparts. Assuming cognitive information is processed by specialized modules — meaning the mind resembles a Swiss Army knife (Tooby & Cosmides, 1992) — there is no reason to assume that everyday and religious beliefs are subject to the same cognitive regularities and differ only in content. As Talmont-Kaminski (2013) argues, religious beliefs — unlike ordinary beliefs — do not primarily function as truth-tracking representations. In my view, the acceptance and maintenance of a religious beliefs is governed by specialized cognitive mechanisms that differ from those that govern the acceptance and maintenance of everyday or scientific beliefs.

I tried to demonstrate this approach in relation to religious rituals. Although rituals are intentional actions subject to the general mechanism of intentional action, this mechanism also applies to other kinds of actions — for instance, instrumental ones. In effect, religious rituals can be distinguished from ordinary actions through the use of ad hoc procedures, such as “attaching” the superhuman agent (Lawson & McCauley, 1990; McCauley & Lawson, 2002), or ascribing causal opacity and goal demotion to ordinary actions (Whitehouse, 2021).

In contrast to rituals of a given religious system, which are generally independent actions rather than elements of a coherent whole, — beliefs function not as isolated mental acts but as components of an interconnected belief system. A detailed characterization of such a system is the subject of a separate study. Here, I would like to highlight a feature of the structure of a religious belief system that distinguishes it from a standard belief system. The latter is characterized in theoretical discussions as possessing most of the following features:

1. Nonconsensuality: *The elements (concepts, propositions, rules, etc.) of a belief system are not consensual*
2. "Existence beliefs": *Belief systems are in part concerned with the existence or nonexistence of certain conceptual entities*
3. Alternative worlds: *Belief systems often include representations of "alternative worlds," typically the world as it is and the world as it should be.*
4. Evaluative components: *Belief systems rely heavily on evaluative and affective components*
5. Episodic material: *Belief systems are likely to include a substantial amount of episodic material*
6. Unboundedness: *The content set to be included in a belief system is usually highly "open."*
7. Variable credences: *Beliefs can be held with varying degrees of certitude*

(Abelson, 1979, pp.356-360)

In my view, a religious belief system possesses features 2, 3, 4, and 5. However, it is neither nonconsensual (feature 1) nor unbounded (feature 6), and its beliefs are not variable credences (feature 7). This is because a religious belief system is rigid and closed. By rigidity I mean that the belief system components — beliefs — cannot be freely replaced with alternative beliefs without undermining the system. Their preservation in their current form is a condition for the system's survival. Closedness, in turn, is a feature that prevents the system from being expanded with new beliefs. At first glance, this characterization may appear problematic, since historically documented religious systems clearly undergo change and transformation and are therefore neither strictly rigid nor closed. However, the account proposed here is theoretical and idealizing, similarly to Abelson's (1979) proposal cited above. The aim of this idealizing approximation is to capture the "essence" of a religious belief system, with subsequent approximations progressively refining the model to more closely reflect actual cases. It should be noted that by a religious belief system I do not mean a system constructed in theological treatises, but rather the arrangement of beliefs — partly consciously acknowledged and partly unconscious — adhered to by an ordinary member of a given religious community. From the perspective of such an "average believer," the system of religious beliefs is both rigid and closed (although, like Monsieur Jourdain, they are largely unaware of this).

The religious belief system owes its rigidity and closedness to its specific structure. This structure can be described metaphorically as a sphere, with a core composed of the

most fundamental and unchanging beliefs, here termed *core beliefs* (Figure 9). Surrounding this core is a layer of beliefs whose function is to support the core beliefs by providing justifications for them. These beliefs can be called *justifying beliefs*. This layer, in turn, is enclosed by a set of peripheral beliefs, which include, among others, prescriptive beliefs that recommend specific forms of behaviour. By analogy with distinctions drawn in theories of knowledge (Ryle, 1949), these beliefs can be called *procedural beliefs*.

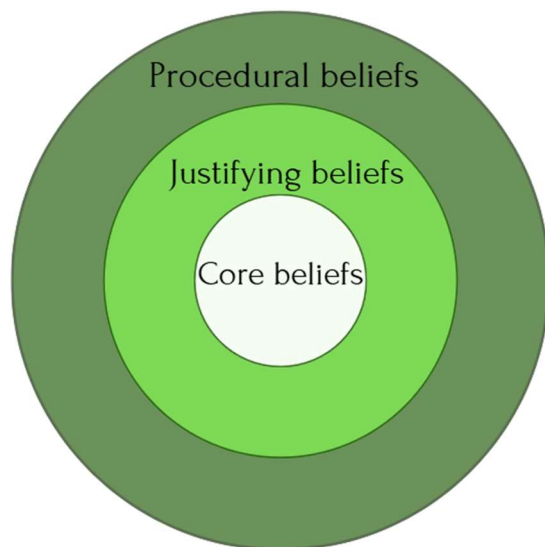


Figure 9. Three-tiered system of religious beliefs.

Now that the general structure of the religious belief system has been outlined, I will describe the different types of religious belief that comprise it. This will enable us to specify their relationship with religious rituals.

4.5.1 Varieties of religious beliefs

4.5.1.1 Core beliefs

The present analysis concerns the beliefs and belief systems of a typical, albeit idealized, adherent of a given religious tradition. The specific content of religious beliefs lies outside the scope of this research. Instead, the focus is on the significance these beliefs

hold for members of a religious group and on their place within the overall structure of a belief system. From the perspective of such an adherent, beliefs that function as indelible and indisputable occupy a position of particular significance. These beliefs form the foundation of the religious belief system and cannot be removed or changed without endangering its overall consistency. Generally, there are only a few, which enables a standard adherent to easily remember and assimilate them. These can be called core beliefs. The indelibility of core beliefs means that they cannot be eliminated from the belief system. Recognizing them as false, or even highly doubtful, would cause them to cease to fulfill the function of the system's foundation, which could lead to its collapse. The indisputability of these beliefs means that an adherent feels obliged to accept them as they have been presented and understands that they cannot be modified.

In Lawson and McCauley's theory of religious ritual competence (1990), as well as in Barrett's (2004) theory of religion as a by-product of the hyperactive agency detection device, such core beliefs typically include belief in supernatural agents. However, depending on the religious tradition, core beliefs may also encompass faith in spiritual salvation, karma, the ancestors, or other metaphysical entities. Regardless of their specific content, the function of core beliefs is to provide the ceaseless and invariable foundation of the religious belief system.

4.5.1.2 Justifying beliefs

Due to their exceptional significance for believers and for the system itself, core beliefs are defended and protected. The function of beliefs that lend credence to the content of core beliefs is to defend and protect them. For this reason, I propose to call them justifying beliefs. Several types of such beliefs can be distinguished, two of which seem particularly important: narrative and episodic beliefs (I use the term 'episodic' in the sense of Tulving (1972)).

Narrative beliefs contain data that confirm the content of the core beliefs. They arise based on stories about agents, objects, or events to which the core beliefs refer. Since core beliefs most often concern superhuman agents (Lawson and McCauley, 1990), religious systems contain a wide variety of stories about events caused by or involving superhuman agents. Some of these stories are treated as reports of historical events involving superhuman agents, some as messages received directly from them, and some

as stories for which it is difficult to identify a source. Stories about events from the life of Jesus can be cited as an example. These narratives are a source of beliefs providing justifications for the core belief that Jesus is God.

A different type of justifying beliefs are those that arise as a result of participating in religious practices, and particularly in religious rituals. Participation in such rituals may evoke a profound experience of encountering something that transcends the world of normal human experience in the involved participant, though this is not guaranteed. This kind of experience confirms to the participant that the belief in the existence of the superhuman being is true. The subjective sense of episodic memory makes such experiences evidence for core religious beliefs. For example, bodily sensations such as trembling or a sudden feeling of relief that arise during ritual performance may be construed as immediate personal encounter with god or deity (van Leeuwen & van Elk, 2019; Luhrmann 2020). In general, justifying beliefs aim to secure the plausibility of the fundamental religious tenets — or core beliefs — through argumentation, reference to lived experience, and appeal to material artifacts.

4.5.1.3 Procedural beliefs

Procedural beliefs belong to the third layer of the system of religious beliefs. These are representations concerning the patterns of action that are normatively prescribed for a religious adherent. They are a specific type of injunctive belief. While “ordinary” injunctive beliefs accompany norms thought to have been created by and for members of a social group, religious injunctive beliefs accompany norms that are thought to have a supernatural origin and to be addressed to human beings. These beliefs prescribe forms of actions demanded from a member of a given religious group. This group includes procedural beliefs related to religious ritual performance — such as knowledge of the correct sequence of ritual actions, appropriate ways of handling ritual spaces and objects, and understanding which situations call for a corresponding ritual. Procedural beliefs convey practical understanding of how to enact religious identity, bringing it into the domain of lived, embodied experience of a particular individual.

The following three types of procedural beliefs related to ritual can be distinguished. First, beliefs concerning ritual obligation consist of an implicit and largely non-reflective conviction that the ritual must be performed; they motivate participation

by presenting ritual action as something intrinsically necessary, regardless of explicit doctrinal interpretation or instrumental goals. Second, beliefs concerning the correct sequence of ritual actions determine how the ritual should be performed, establishing the correct order and components of the ritual action. Third, beliefs about the hidden meaning of ritual suggest that the prescribed sequence of actions has a deeper meaning, even if that meaning remains inaccessible to the participant. Procedural beliefs and their types will be discussed in more detail in the next section.

4.6 The immediate connection between ritual and procedural beliefs

In the cognitive science of religion, beliefs associated with ritual practice are predominantly understood as referring to supernatural agents and their properties (Lawson & McCauley, 1990; Sørensen, 2007; Pyysiäinen, 2009). However, based on the analysis developed in Chapter 1 of this study, I propose that such beliefs can at best play a mediated role in ritual performance. Instead, the beliefs that are more immediately connected to ritual practice belong to the class of procedural beliefs.

In religious studies, rituals are frequently defined as *symbolic actions* (Deeley, 2004; Platvoet, 2006; Brooks et al., 2016) conveying meanings that go beyond their immediate physical execution. The components of rituals, such as gestures, words, objects, or spatial arrangements are understood within a broader symbolic or cultural framework. They manifest, that is symbolically refer to social bonds, religious beliefs, or abstract concepts produced in given culture. Within the CSR, particular attention has been given to the question what is the role of belief in superhuman beings functioning as agents (SA) participating directly or indirectly in human religious rituals (Alcorta & Sosis, 2005; Malley & Barrett, 2003).

Although the connection between ritual understood as a material vehicle of symbolic religious content may seem intuitive, it is not clear how this link with abstract meanings is recognized by human participants engaged in the actual performance of a ritual. To clarify this relationship, let us turn to the analysis of Lawson and McCauley's representational model of ritual discussed in Chapter 1. This analysis provides a detailed account of how, in the cognitive representation of a religious ritual, a supernatural agent functions as a conceptual component of the ritual structure, determining such characteristics of ritual as uniqueness and irreversibility. According to this model, even

rituals in which a supernatural agent is not directly involved at surface level ultimately refer to nested levels of representation, where such an agent is active at the initial stage of the interpretive chain. However, as noted in the subsequent analysis of this theory, beliefs that are directly connected to the actual human ritual are linked to a SA via the chain of dogmatically justified beliefs that is covert and therefore inaccessible to ordinary participants. For instance, the ritual of blessing oneself with water upon entering a church does have a theological explanation referring to Christ who as God established the Church. Yet this sequence of beliefs should end with a religious belief that in real life causally contributes to the performance of the ritual. I argue in the Chapter 1 that an ordinary individual religious practitioner is unable to reconstruct such sequence of beliefs and this means that his own belief that motivates him to perform a ritual is not related to a SA (Barrett & Malley, 2003).

At the same time, numerous ethnographic studies of ritual have shown that the religious beliefs which participants use to motivate and explain their ritual actions often differ in terms of content, even among members of the same religious community (Humphrey & Laidlaw, 1994; Lee, 2000; Collins, 2005). This empirical observation, along with the preceding theoretical analysis of the relationship between ritual and belief from representationalist and enactivist perspectives, suggests that the core religious beliefs may not be directly tied to ritual performance. The way in which such beliefs become associated with ritual action may be considerably more complex and mediated.

Within the broader system of religious beliefs, there are *procedural* beliefs which are directly linked to ritual performance. These beliefs concern the practical, normative, and structural aspects of performing the ritual. Procedural beliefs can be divided into three functionally distinct varieties embedded within the very structure of ritual performance: (1) beliefs concerning the obligation of the ritual action; (2) beliefs prescribing the proper form of action — i.e., how a ritual action should be performed in order to be considered valid; (3) beliefs about the hidden meaning of the ritual or its specific elements.

I argue that engaging in a ritual practice requires only the presence of these three varieties of procedural beliefs. This constitutes the minimal cognitive framework necessary for performing a ritual. And although, as will be shown later, ritual triggers the emergence of more abstract kinds of beliefs, ritual performance may nevertheless be limited to this class of beliefs alone. The following sections examine each of these belief varieties in turn.

4.6.1 Beliefs concerning the ritual obligation

The sense of duty as the main motive appealing to start or join a ritual has already been discussed in section 4.3. In this subsection, I only briefly refer to beliefs concerning the ritual obligation. These beliefs involve a minimal cognitive structure that encourages to actively participate in ritual practice. They consist of an implicit and deeply ingrained conviction that a given ritual action must be performed, regardless of its explicit doctrinal interpretation or goal-directed motivation. Unlike reflective beliefs, such beliefs are intuitive (Sperber, 1997) and operate on a more fundamental level, shaping the perception of ritual as an action endowed with intrinsic and unquestionable necessity. This construct captures a basic cognitive disposition through which ritual practice can be stably reproduced even in the absence of developed theological or philosophical justification.

4.6.2 Procedural beliefs regarding proper ritual sequence

As demonstrated in the Chapter 1 and above in section 4.5, a class of beliefs that directly determine the structure of ritual action can be distinguished. These beliefs concern the order and manner in which the ritual's component actions should be performed. They become actualized immediately before performing the ritual. These procedural beliefs determine the relevant components: the agent, the act, the patient (object), the instrument and their arrangement. They also determine the conditions for performing the action, thereby ensuring that the prescribed sequence of actions is recognized as a properly performed and efficacious ritual.

Thus, what motivates the human agent of the ritual to act is the representation of the form and sequence of particular component actions involving specific ritual objects endowed with special properties. For instance, in the example of blessing with water, the belief that touching this water at the entrance of a church and making the sign of the cross leads to spiritual purification is directly related to the course of the ritual. The introduction of a belief selection system (which filters those beliefs that motivate a particular action) explains this selection process: procedural beliefs are prioritized because they directly correspond to the components of the action's (ritual is a kind of action) grammar. In this sense, procedural beliefs, although the most distant from core beliefs, are nevertheless the most relevant to the ritual participant.

However, the significance of these beliefs is not limited to their operational function. Although this type of procedural representations may appear purely formal, it fulfils important functions within religious indoctrination. First, the ritual sequence arranged according to procedural beliefs, encodes components comprising the elements of the religious worldview. By defining the order and correctness of actions, it simultaneously embeds elements of the religious worldview within the very form of the ritual itself. This point was emphasized by Rappaport (1999) and earlier by Tambiah, who described ritual form as an “arrangement of contents” (1985). In other words, procedural knowledge of “how to perform the ritual correctly” becomes itself a means of preserving and transmitting religious content.

Let us consider a simple belief held by a religious practitioner regarding ritual action. While speculative, it plausibly reflects a common pattern:

"The sign of the cross must be made in the following way: three fingers together — first the forehead, then the abdomen, then the shoulders, from right to left, while saying: 'In the name of the Father, the Son, and the Holy Spirit. Amen.'"

In this example, the ritual action and the brief verbal formula form a cohesive unit: the gesture functions as a bodily pattern of ritual validity, while the formula serves as its symbolic condensation. Together, they act as a socially recognizable signature, signaling an individual's affiliation with a community or faith. The collective validation of the pattern grants the action its performative power — it becomes not merely an expression of personal religiosity, but a mode of participation in an intersubjectively recognized religious worldview. Through the repetition of this pattern — even in the absence of a reflective act of belief, elements of the worldview are gradually incorporated (Di Paolo et al., 2018), becoming part of the subject's sense of self.

Thus, the belief that one must adhere to the ritual form is not a peripheral condition but rather the key factor determining the efficacy of the ritual. Most ritual descriptions across world religions consist of a combination of physical pattern and verbal formula, which together function as a compact, collectively sanctioned expression of doctrinal elements (Yelle, 2007; Bell, 2017; Kádár, 2024). In this interpretation, such beliefs are not treated as conceptual content merely expressed through ritual. On the contrary, the belief regarding the proper ritual sequence functions as a carrier of meaning — a medium upon which certain religious beliefs are inscribed in condensed form. Supporting this

view is the observation that ritual formulas are typically static and highly formalized; as such, they cannot serve as expressions of one's individual belief, which is inherently variable, context-dependent and often diverges from official doctrine (Arnett & Jensen, 2002).

It is clear that not all rituals include verbal formulas. For example, the ritual of lighting a candle in a church can be performed without any accompanying words (McDannell, 1995). However, the principle underlying the content of belief that describes the order of the ritual sequence remains the same. The belief about the correct order of ritual actions might be expressed as follows:

"One must take a special candle, light it from an already burning candle or lamp, and then place it on a designated stand near an icon or the altar."

A number of religious representations are already embedded in this simple ritual description. First, the symbolism of fire is widely used across world religions (Kaliff, 2005; Winder, 2009; Buttitta, 2024). Historically, fire has served as a universal symbol of divine presence (Pyne, 2016), which means that a non-instrumental, religious attitude towards fire during ritual naturally evokes this metaphor. Moreover, the candle is to be lit from an already burning flame, an act that may itself carry symbolic meaning, signifying the individual's incorporation into the church or spiritual continuity with the sacred source (McDannell, 1995).

Thus, ritual form determines not only the formal, syntactical structure of religious action, but also provides the framework that enables meaningful religious beliefs embedded in repeated bodily practices to be expressed. The conviction of the correctness of the ritual sequence functions as a form through which the individual perceives ritual as a suprapersonal, reliable way of accessing the sacred. As a background assumption rather than a reflexive doctrinal position, these beliefs allow the participant to engage in a collectively maintained structure of meaning without the need for explicit doctrinal conceptualization.

4.6.3 Beliefs concerning the hidden meaning underlying the order of ritual components and their interrelations

The procedural beliefs outlined above pertain to the sense of obligation with which the practitioner engages in the ritual, as well as to the order in which its constituent actions

are to be performed. There exists, however, a third type of belief that arises as a consequence of adopting the ritual stance. As previously indicated, this stance requires the temporary abandonment — limited to the duration of the ritual — of the instrumental stance, which is a kind of natural attitude within the realm of action.

Adopting a ritual stance entail suspending the assumption of causal relations among ritual components. This does not imply, however, that the actions involved in the ritual are regarded as unrelated. By accepting the rules prescribing a specific sequence of actions, the ritual participant presupposes that the designed and prescribed order possesses a deeper meaning. This is reflected in the fact that ritual actions and ritual objects are typically perceived as possessing special properties, even when the nature of this specialness remains undefined (Douglas, 1966; Kapitány & Nielsen, 2015; Xygalatas, 2007). Extensive empirical research has shown that non-instrumental, opaque, and goal-demoted actions are closely associated with perceptions of extraordinariness and special significance (Nielbo & Sørensen, 2011; Nielbo et al., 2013; Legare & Souza, 2012; Wen et al., 2016).

In this context, the participant's primary focus is on mastering their role within the ritual rather than critically scrutinizing the meaning of individual actions or their relations, presupposing that such meaning is present, yet hidden. Thus, participation in a ritual cannot be reduced to the mechanical reproduction of a learned behavioural pattern. A ritual is an intentional action; therefore, the participant undertakes it on the basis of certain beliefs and desires. By engaging in the ritual, the practitioner believes that through faithful enactment they will realize its meaning — a meaning that, although inaccessible to them directly, is “inscribed” within the pattern constituted by the designed sequence of ritual actions. It is precisely this belief concerning the meaningfulness of an ostensibly meaningless practice that grants the ritual its non-instrumental character. The ritual's efficacy does not depend on the attainment of an external, physically identifiable goal in the sense characteristic of instrumental action. Whereas instrumental action aims at producing a deliberate change in the physical world, the “goal” of a ritual — even in cases where its performance results in such a change — is fulfilled when all of its constituent actions are executed faithfully according to the prescribed pattern. The realization of this pattern is what activates the ritual's inherent meaning.

One might ask why individuals choose to engage in a ritual that does not appear to lead to any identifiable outcome, thereby making it difficult to determine the benefit

accruing to the practitioner. Various answers to this question have been proposed, and it seems that the most convincing one has yet to be found. Among the most widely discussed is the account by Whitehouse (2021) mentioned earlier. According to his view, ritual is an action in which “the actor is attempting to change the social state of the world by appeal to our psychology, particularly our desire to belong.” In other words, the ritual participant strives to perform the ritual precisely as it is performed by the members of the group to which they aspire to belong (Bell, 1997; Whitehouse & Lanman, 2014; Wen et al., 2020). The participant expects that their performance will be positively evaluated and that such evaluation will facilitate their acceptance into the group or ensure their continued inclusion within it.

In the account proposed here, a succinct answer to the above question concerning individual motivation to participate in ritual would be the following:

An individual chooses to engage in a ritual because they regard the fulfilment of a predesigned sequence of actions as their obligation. They believe that faithful enactment of the ritual renders the sequence of events imbued with a hidden meaning which — although inaccessible to them — provides a sense that they have fulfilled their duty.

4.7 Model of the relationship between ritual and religious beliefs

Thus, as shown in the previous section, it is the procedural beliefs — that is, representations of ritual obligation, correct order and the special properties of the ritual and its components — that are directly related to ritual performance. However, at least in an enactivist approach, ritual attracts, generates, and reinforces justifying and core religious beliefs. I examined this issue in greater detail in the Chapter 3, devoted to the enactivist perspective on ritual, where I demonstrated that ritual action is closely intertwined with doctrinal religious beliefs, and that this relationship can take several forms: symbolization, amplification, generation, and constitutive embodiment. Therefore, the second part of the argument developed here considers how the performance of a religious ritual contributes to the emergence of beliefs. My thesis is that the correct performance of the ritual leads to the emergence of justifying experiential beliefs (see section 4.5.1.2), which, in turn, serve to reinforce core beliefs.

The idea that ritual action conditions the emergence of belief was elaborated by Jesper Sørensen. In his article *Acts That Work: A Cognitive Approach to Ritual Agency* (2007), he argues that rituals, as causally opaque actions, are structured in such a way that they generate explanatory gaps — discrepancies between the observable actions and their supposed supernatural outcomes. This compels the mind to seek hidden mechanisms or agents capable of explaining the expected effect of the action. Such cognitive tension leads to the postulation of a superhuman agent as the missing causal intermediary, thereby reinforcing belief in a divine or spiritual presence within the ritual. According to Sørensen, belief does not precede ritual practice but rather emerges from it — as a product of the interpretive effort aimed at making sense of causally unintelligible actions. Thus, participation in ritual action — an act that is real yet lacks evident efficacy — necessitates belief that fills the explanatory vacuum.

The explanation proposed here differs from Sørensen's account in several respects. First, Sørensen's explanation appeals to a rational, causal relationships between subsequent components of ritual action, whereas I proceed from the assumption that participation in the ritual action demands adopting the ritual stance. It means that participant in a ritual suspends the belief that component actions are ordered by causal relationship. I discussed it in section 4.1. When an action is normatively established, and its form is perceived as obligatory and immutable, the causal link gives place to order prescribed in procedural belief. This feature follows from the very nature of normative action, which is not explained through causal relations but is determined by a system of rules specifying what ought to be done. Normative action relies on a rule that constitutes what counts as performing the act at all (Gilbert, 1989; Searle, 1995; 2010). Its foundation lies not in causal necessity but in deontic necessity — a requirement that arises within a cultural or social context, where an action is considered correct insofar as it conforms to the prescribed form (Humphrey & Laidlaw, 1994).

At the same time, the model I propose is consistent with Sørensen's account in one important respect: the mind engaged in ritual is indeed sensitive to rationalizing explanations of action. According to Sørensen, the mind automatically seeks coherence within a causal sequence, aiming to render intentional actions intelligible by identifying a satisfactory justification. Moreover, it does not stop at uncovering an immediate cause but spontaneously proceeds towards identifying an ultimate cause. The crucial difference between the present model and Sørensen's, however, lies in the direction of the

explanatory search. In Sørensen's view, the search is guided by the question "How do these actions causally lead to the ultimate goal?" — a fundamentally instrumental inquiry. In contrast, the model advanced here assumes that the guiding question is not causal but deontic: "Why should I meticulously follow the prescribed order of actions?" For example, when observing the act of blessing oneself with holy water upon entering a church, the observer adopts a ritual stance, suspending the causal question of how the action may bring about the intended effect in favour of the question of why the act is legitimate. In other words: "Why should I use water at the church entrance in the prescribed way?" The answer is: "Because only proceeding in the prescribed way will afford purification." A fuller explanation unfolds as a chain of conceptual justifications — as illustrated in Figure 6 (Chapter 1). It begins with statements such as „Because the water is holy", "Because the priest has blessed this water" and "Because the Church has endowed the priest with this authority," and culminating in the ultimate propositions "Because Christ established the Church" and "Because Christ is God."

Another key difference from Sørensen's account is the inclusion of beliefs within the initial motivational structure of ritual action. Sørensen's idea is that religious beliefs are derivative of causally opaque ritual behaviour, which leaves open the question of the original mental state responsible for initiating such behaviour. In contrast, the model proposed here assumes that ritual action is initiated by a minimal set of religious beliefs, which precedes and triggers the reinforcing relationship between the system of religious beliefs and ritual practice. This approach makes it possible to integrate belief directly into the explanation of the motivational architecture of ritual action, linking it to the very moment of its initiation.

Let us now turn to how, within the model proposed here, ritual action influences religious beliefs — first and foremost, justifying beliefs, which in turn activate core beliefs. As noted earlier, ritual action begins with procedural beliefs, that is, representations concerning the proper order and components of ritual performance — for example: "This water is special; one must touch it and make the sign of the cross." These procedural representations, directly preceding the ritual, subsequently trigger the corresponding justifying narrative beliefs: "This water has been blessed by the priest," "The priest has been ordained by the Church," "The Church was established by Christ." These beliefs, on the one hand, provide justification for the ritual act, yet at the same time they serve as justifying beliefs that support and give meaning to the core beliefs, such as "Christ is God".

Thus, in formulating the model of the relationship between ritual and belief (Figure 10), it is essential to take into account the following principles. First, there is the principle of bidirectional reinforcement between ritual and belief. Second, the model must also reflect the differentiated roles of various types of beliefs within the structure of religious ritual. Only the class of procedural beliefs is directly related to ritual performance itself. At the same time, the two other classes — justifying and core beliefs — are also present within the system. Their function is twofold: on the one hand, they serve to integrate the ritual into the broader religious worldview; on the other, they sustain the motivation for the continued maintenance and repetition of ritual practice.

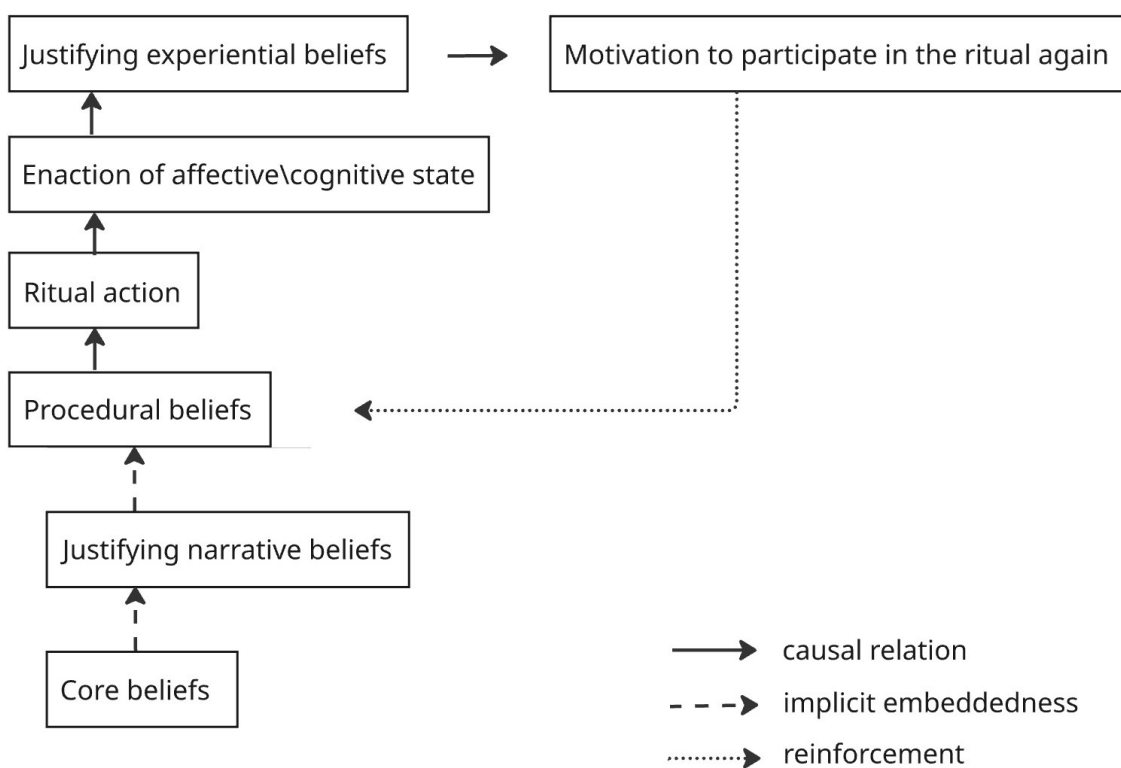


Figure 10. Model of relationship between ritual and beliefs

Ritual action begins with procedural beliefs, which specify the conditions and correct form required for initiating the ritual performance. The performance itself enacts cognitive and affective state, as the participant receives feedback indicating that the ritual is being performed properly. This state provides experiential justification for reinforcing the associated core religious beliefs, making them more salient and credible. In turn, the strengthening of core beliefs enhances the motivation to participate in ritual again.

In conclusion, the model proposed here offers an explanation of how ritual action and belief mutually sustain and condition one another. Unlike theories that treat belief either as a prerequisite for action or as a subsequent rationalization of opaque behaviour, this

model conceives both components as parts of a single cognitive cycle. Such an integrative account would not be possible without distinguishing between different types of beliefs — procedural, justifying, and core — each of which becomes actualized at a different stage of the cognitive representation of ritual. This allows for a much more precise definition of the relationship between religious beliefs and religious ritual. It can be expressed in two theses:

- 1) *Procedural beliefs are directly involved in the initiation of the religious ritual.* Among all types of beliefs, procedural beliefs are the ones most directly connected to ritual. Representations of a ritual as an obligatory action, beliefs about the correct order of its performance, and the conviction that ritual action conceals some implicit meaning constitute the minimally necessary beliefs for ritual performance. It is important to note that these beliefs are not metaphysical in nature — a category of beliefs that is typically regarded as paradigmatically religious. A ritual can be performed without metaphysical beliefs and need not be associated with them at all, remaining limited to procedural cues alone.
- 2) *The performance of religious ritual results in the generation of justifying experiential and core beliefs.* Even when the initial motivation for participating in a ritual is limited to procedural beliefs alone, the ritual action itself often produces affective and cognitive states — such as specific emotions, bodily sensations, and social experiences of acting together with others. These experiences give rise to experiential justifying beliefs. They come to function as an acquired justification for core beliefs, for example beliefs in the existence of supernatural forces that prescribed the ritual and to which it is addressed. In this indirect way, doctrinal beliefs and metaphysical representations belonging to the core layer of beliefs become linked to ritual action and are maintained through it.

Conclusion

In this concluding chapter, which synthesizes the research conducted in this dissertation, several key assumptions have been formulated to establish a conceptual foundation for analyzing the relationship between belief and ritual. The first concerns the cognitive framework underlying the mental processing of ritual action. This framework

— described through the concept of the *ritual stance* — has been reinterpreted to show that, rather than relying on causal opacity, the recognition of ritual involves a suspension of tracking the causal link between an action and its outcome. Having established the absence of causal tracking in the cognitive processing of ritual, I argue that not only the form of the ritual action but also its very goal is normatively predetermined. In this sense, ritual functions as a tool rather than a quasi-instrumental act, whose *serviceability* — its dispositional capacity to bring about a particular kind of outcome — is inscribed into its very structure.

The second assumption is that ritual and belief constitute interconnected links in a cyclical chain of perception and action. Ritual behaviour is perceived as normative, prompting the observer to engage in it and to adopt both its mode of action and its implied purpose. Participation in ritual, in turn, leaves a cognitive-affective trace in memory, reinforcing the association between the perception of a ritual situation and the motivation to perform the ritual act. This chapter also underscores the necessity of mediating this process through ritual-related beliefs and criticizes theories that posit the possibility of ritual activity independent of belief.

The third assumption is that the most fundamental belief underlying ritual action is the sense of *ritual obligation* — the conviction that a ritual must be performed, regardless of its instrumental purpose or explicit understanding. In contrast to theories that explain ritual motivation through emotion regulation, social signalling, or causal reasoning, the present model treats the perception of ritual oughtness itself as the primary cognitive trigger for ritual performance. Ritual action thus becomes intelligible not through goal-directed reasoning, but through an internalized experience of necessity rooted in collective intentionality and normative cognition. The innovative aspect of this account lies in distinguishing between the belief in the necessity of ritual action and the rationale for that necessity — a distinction supported by anthropological evidence showing that rational justifications for ritual obligations are often inconsistent or entirely absent.

In order to outline the framework of the relationship between ritual and belief, this chapter proposes a classification of religious beliefs that participate in the ritual process in different ways. Religious beliefs form a system consisting of three classes: procedural, justifying, and core beliefs. While procedural beliefs prescribe normatively accepted forms of behaviour, including ritual conduct, justifying beliefs serve as experiential

evidence that refers back to core beliefs — unquestionable religious convictions that constitute the foundation of the religious worldview.

Of these three classes of beliefs, only procedural beliefs are directly related to initiation of a ritual action. This type of belief is embedded into the representation of ritual performance itself; it is therefore inseparable from it and constitutes the minimal set of convictions necessary for performing the ritual. This thesis emphasizes that, contrary to the common assumption that religious beliefs associated with ritual primarily concern supernatural agents, beliefs directly tied to ritual need not be metaphysical. Rather, they may consist solely of instrumental elements pertaining to the procedure of the ritual — such as the belief in the necessity of the ritual, conceptions of the correct sequence of ritual actions, and ideas about the specific properties of the ritual and its components. However, conceptual beliefs belonging to the class of justifying beliefs as well as core religious beliefs, while not directly related to initiation of a ritual action, are nonetheless generated during the completion of the ritual.

Final remarks

While the strategy commonly adopted in the cognitive science of religion of studying religious beliefs and rituals separately may be justified as a methodological simplification, the present study demonstrates the benefits of examining their interrelation. Without taking beliefs into account, it becomes impossible to reconstruct the motivational basis of ritual and its intentional structure. Although examining these two components of religiosity together may complicate the analysis, this study has shown that it makes visible the mechanisms through which people engage with ritual actions and attribute meaning to them.

Because ritual manifests as outwardly observable action, it appears readily accessible to objective analysis. This can create the impression that studying ritual performance — the sequence of actions, gestures, and verbal formulas — is sufficient for a complete understanding of the phenomenon. However, ritual is not merely a physical act; it is a human intentional action rooted in subjective experience: in thoughts, emotions, fears, and hopes. To ignore this internal dimension — beliefs, intentions, cultural and personal interpretations — is to overlook a central explanatory component of ritual practice. For example, washing the body may serve either as an ordinary act of hygiene or as a ritual purification before prayer. The external movements may appear identical, yet the presence or absence of religious significance makes them, in fact, different kinds of action. Belief, as held by the subject, is what transforms the act into a ritual and defines the motivation behind it.

Beliefs, in turn, as phenomena rooted in subject's mental activities, are not accessible to direct observation. This has led to repeated calls within the study of religion to abandon their analysis in favor of focusing solely on observable phenomena, such as religious actions and utterances (Steadman & Palmer, 1995). However, the present study demonstrates that certain beliefs, which are inextricably linked to ritual, can indeed be reconstructed by combining the analysis of empirical research with a more comprehensive methodology — one that takes into account both the mental component of intentional action and its objectively observable expression. As shown in the Chapter 1, devoted to Lawson and McCauley's theory, the beliefs most directly related to ritual performance belong to the procedural class, and it is precisely this set of beliefs —

encompassing beliefs about ritual obligation, the correct ordering of actions, and the hidden meaning underlying the ritual sequence — that can be plausibly ascribed to the ritual practitioner.

The application of an enactivist framework — which explicitly seeks to overcome the divide between the observable and the experiential dimensions of behaviour — makes it possible to articulate the reverse influence of ritual performance on the formation and stabilization of religious beliefs. It also reveals the diversity of modes through which the relationship between the bodily dimension of ritual action and the abstract content of religious beliefs is realized. Although the relationship between belief and ritual is understood as mutually constitutive, a continuum can nevertheless be discerned. At one pole are rituals in which symbolic meaning predominates over bodily expression; at the other are rituals in which embodied practices prevail over symbolic content. This polarity reflects the diversity of aims pursued by ritual practice, ranging from the establishment of relations within a socio-cultural space to the transformation of the subject's own mental state.

The problem of the relationship between ritual and belief proved to be directly connected to the more fundamental question of why people engage in ritual practices at all — actions that lack an obvious instrumental purpose. This study concludes that there are two principal cognitive factors underlying ritual action: a sense of ritual obligation and the ritual stance. The primary cognitive driver of ritual performance is the belief in its obligatory nature — regardless of the more secondary, context-specific reasons that may justify this obligation. In other words, if we ask, “Why do people perform rituals — actions that yield no immediate benefit?”, the shortest answer would be: “Because they consider it a duty.” Ritual behaviour is initiated by a sense of duty, which arises from psychological tendencies characteristic of human cognition: the desire to conform to a reference group in thought and action, trust in authority, and a drive for cognitive efficiency that structures behaviour through the internalization of normative expectations about how actions ought to be performed.

At the same time, it is clear that ritual motivation is not limited to a compulsive feeling of oughtness. Throughout this work, I have consistently defended the thesis that ritual action, like other forms of action, is intentional. This implies that it is underwritten by mental states such as beliefs and desires. Accordingly, the mental state associated with ritual action can be characterized in terms of the ritual stance, which is presented in this study as a specific case of the intentional stance — namely, a way of explaining an agent's

actions by attributing beliefs and desires. As shown in Chapter 3, a defining feature of ritual is that these beliefs and desires do not originate in an isolated individual but are instead drawn from a shared repertoire of collective beliefs and motives. Chapter 4 deepens the analysis of the ritual stance by showing that one of its central properties is the suspension of the search for an instrumental relation between action and its outcome. By adopting the ritual stance, an individual comes to regard the ritual process as a kind of tool whose purpose, means, and mode of execution are pre-established, and whose design does not admit of modification by individual participants. Clarifying the concept of the ritual stance thus fulfills two important aims of the present study. On the one hand, it explains how ritual action, despite its causal opacity, remains an intentional form of action. On the other hand, the capacity of individual participants to appropriate shared motivations and beliefs helps to account for the collective effects of ritual practice, such as enhanced social cohesion and the reinforcement of group identity.

An important original contribution of this dissertation is the demonstration that beliefs related to religious ritual do not form a monolithic category defined solely by metaphysical or counterintuitive content. Rather, such beliefs comprise distinct types and are connected to ritual in different ways. To clarify this claim, the dissertation advances the idea of a heterogeneous system of religious beliefs structured into three layers: core beliefs, successively surrounded by justifying beliefs and, finally, by procedural beliefs. This structure operates in a manner analogous to secular systems of knowledge, such as scientific research programmes (Lakatos, 1978), in which fundamental principles are treated as basic and non-negotiable within a given field, supported by protective belt of justificatory frameworks and accompanied by methodological prescriptions. In religious systems, the role of such paradigm-shaping principles is played by core beliefs, which contain the most fundamental and non-revisable religious dogmas, such as belief in the existence of God in most theistic traditions. Whereas in science the rejection of foundational principles would amount to a paradigm shift, in religion the abandonment of these core beliefs by an individual would entail the termination of their religious affiliation. As in secular knowledge systems, core beliefs are sustained by justifying beliefs, whose function is to provide rationalizations, evidential support, religious narratives, accounts of saints and deities, and other forms of justification for the core doctrines. Finally, this layer of justifying beliefs is encompassed by a set of procedural recommendations regarding the proper forms of action. It is at this level that the beliefs

required for ritual performance are located: representations of the ritual obligation, of its implicit religious significance, as well as knowledge of how it should be properly performed. Unlike core beliefs, these procedural beliefs are directly and immediately connected to ritual action.

This similarity between structures of a religious belief system and a scientific knowledge system might suggest that they have a common ancestor, a primordial cognitive system. However, this conjecture belongs to a different field of study.

References

- Abelson, R. P. (1979). Differences between belief and knowledge systems. *Cognitive science*, 3(4), 355-366.
- Akmaliah, W., & Burhani, A. N. (2021). *Digital Islam in Indonesia: The shift of ritual and religiosity during COVID-19*. ISEAS–Yusof Ishak Institute.
- Alcorta, C. S., & Sosis, R. S. (2005). Ritual, emotion, and sacred symbols: The evolution of religion as an adaptive complex. *Human Nature*, 16(4), 323–359. <https://doi.org/10.1007/S12110-005-1014-3>
- Alderson-Day, B., Moseley, P., Mitrenga, K.J., Moffatt, J., Lee, R., Foxwell, J.M., Hayes, J., Smailes, D., & Fernyhough, C. (2022). Varieties of felt presence? Three surveys of presence phenomena and their relations to psychopathology. *Psychological Medicine*, 53, 3692 - 3700.
- Alksnis, N., & Reynolds, J. (2021). Revaluing the behaviourist ghost in enactivism and embodied cognition. *Synthese*, 198(6), 5785–5807. <https://doi.org/10.1007/s11229-019-02432>
- Andresen, J. (2001). Introduction: Towards a cognitive science of religion. In J. Andresen (Ed.), *Religion in mind: Cognitive perspectives on religious belief, ritual, and experience* (pp. 1–44). Cambridge, UK: Cambridge University Press.
- Arnett, J. J., & Jensen, L. A. (2002). A Congregation of One Individualized Religious Beliefs among Emerging Adults. *Journal of Adolescent Research*, 17(5), 451–467. <https://doi.org/10.1177/0743558402175002>
- Arponen, V. P., & Ribeiro, A. (2014). Understanding rituals: A critique of representationalism. *Norwegian archaeological review*, 47(2), 161-179.
- Aspalter, C. (2020). Back to the origins: The ideal-type methodology in social sciences as developed by Max Weber. In C. Aspalter (Ed.), *Ideal types in comparative social policy* (pp. 90–104). Routledge.
- Atran, S. (2002). *In gods we trust: The evolutionary landscape of religion*. Oxford, UK: Oxford University Press.
- Atran, S., & Henrich, J. (2010). The evolution of religion: How cognitive by-products, adaptive learning heuristics, ritual displays, and group competition generate deep commitments to prosocial religions. *Biological Theory*, 5(1), 18-30.
- Austin, J. L. (1962). *How to do things with words*. Oxford, UK: Oxford University Press.
- Barrett, J. L. (2004). *Why would anyone believe in God?* AltaMira Press.

- Barrett, J. L. (2007). Cognitive science of religion: What is it and why is it? *Religion Compass*, 1(6), 768–786. <https://doi.org/10.1111/j.1749-8171.2007.00042.x>
- Barrett, J. L. (2011). Cognitive science of religion: Looking back, looking forward. *Journal for the Scientific Study of Religion*, 50(2), 229–239.
- Barrett, J. L., & Hornbeck, R. G. (2017). Introduction: Homo religiosus and the dragon. In R. Hornbeck, J. Barrett, & M. Kang (Eds.), *Religious Cognition in China: “Homo Religiosus” and the Dragon* (pp. 1–14). Springer.
- Barrett, J. L., & Lanman, J. A. (2008). The science of religious beliefs. *Religion*, 38(2), 109-124. <https://doi.org/10.1016/j.religion.2008.01.007>
- Barrett, J. L., Hornbeck, R. G., Bleeker, B. D., Barrett, S. T., & Hao, C. (2017). Ritual imbalance in contemporary China: A ritual form theory analysis. In R. Hornbeck, J. Barrett, & M. Kang (Eds.), *Religious Cognition in China: New Approaches to the Scientific Study of Religion* (Vol. 2). Springer.
- Barrett, J. L., & Lawson, E. T. (2001). Ritual intuitions: Cognitive contributions to judgments of ritual efficacy. *Journal of Cognition and Culture*, 1(2), 183–201.
- Barrett, J., & Nyhof, M. (2001). Spreading non-natural concepts: The role of intuitive conceptual structures in memory and transmission of cultural materials. *Journal of cognition and culture*, 1(1), 69-100.
- Barsalou, L., Barbey, A., Simmons, W. K., & Santos, A. (2005). Embodiment in religious knowledge. *Journal of Cognition and Culture*, 5(1-2), 14-57.
- Becerra, M., Rivas Paladines, M. A., & Espinosa, M. (2020). Efectos psicológicos en los rituales ancestrales en Sagrario-Ecuador. *International Journal of Developmental and Educational Psychology: INFAD. Revista de Psicología*, 1(1), 463–476. <https://doi.org/10.17060/IJODAEP.2020.N1.V1.1810>
- Bechtel, W., & Richardson, R. C. (2010). *Discovering Complexity: Decomposition and Localization as Strategies in Scientific Research*. MIT Press.
- Bell, C. (1991). *Ritual theory, ritual practice*. Oxford university press.
- Bell, C. (2017). Ritual symbols, syntax, and praxis: Questions of cultural meaning and interpretation. In *Ritual theory, ritual practice* (pp. 21–51). Routledge. <https://doi.org/10.4324/9781315244099-2>
- Bell, C. M. (1997). *Ritual: Perspectives and dimensions*. Oxford University Press.
- Ben-Lulu, E. (2021). Zooming in and out of virtual Jewish prayer services during the COVID-19 pandemic. *Journal for the Scientific Study of Religion*, 60(4), 852–870. <https://doi.org/10.1111/jssr.12746>

Bering, J., Legare, C. H., Shtulman, A., & Whitehouse, H. (2009). The cognitive science of religion. *Proceedings of the 31st Annual Conference of the Cognitive Science Society*, 494–499.

Bloch, M. (2004). Bringing ritual to mind: psychological foundations of cultural forms. *Journal of the Royal Anthropological Institute*, 10(1), 202-204.

Bloch, M. (2008). Why religion is nothing special but is central. *Philosophical transactions of The Royal Society B: biological sciences*, 363(1499), 2055-2061.

Bonicalzi, S., & Haggard, P. (2019). From freedom from to freedom to: New perspectives on intentional action. *Frontiers in Psychology*, 10, 1193.

Boyd, R., & Richerson, P. J. (2005). *The origin and evolution of cultures*. Oxford University Press.

Boyer, P. (1994). *The naturalness of religious ideas: A cognitive theory of religion*. Berkeley, CA: University of California Press.

Boyer, P. (2001). *Religion Explained: The Evolutionary Origins of Religious Thought*. Basic Books.

Boyer, P., & Barrett, H. C. (2005). Evolved intuitive ontology: Integrating neural, behavioural and developmental aspects of domain-specificity. *Handbook of evolutionary psychology*, 1-31.

Boyer, P., & Liénard, P. (2006). Precaution systems and ritualized behaviour. *Behavioural and Brain Sciences*, 29(6), 635–650. <https://doi.org/10.1017/S0140525X06009332>

Boyer, P., & Liénard, P. (2008). Ritual behaviour in obsessive and normal individuals: Moderating anxiety and reorganizing the flow of action. *Current Directions in Psychological Science*, 17(4), 291–294. <https://doi.org/10.1111/j.1467-8721.2008.00591.x>

Boyer, P., & Liénard, P. (2020). Ingredients of ‘rituals’ and their cognitive underpinnings. *Philosophical Transactions of the Royal Society B*, 375(1805), 20190439. <https://doi.org/10.1098/rstb.2019.0439>

Bräunlein, P. J. (2012). “We are 100% Catholic”: Philippine passion rituals and some obstacles in the study of non-European Christianity. *Journal of Religion in Europe*, 5(3), 384–413. <https://doi.org/10.1163/187489212X653538>

Bronkhorst, J. (2012). Rites without symbols. *Method & Theory in the Study of Religion*, 24(3), 236–266. <https://doi.org/10.1163/157006812X635691>

Bronkhorst, J. (2017). Can religion be explained?: The role of absorption in various religious phenomena. *Method & Theory in the Study of Religion*, 29(1), 1-30.

Brooks, A. W., Schroeder, J., Risen, J. L., Gino, F., Galinsky, A. D., Norton, M. I., & Schweitzer, M. E. (2016). RETRACTED: Don't stop believing: Rituals improve performance by decreasing anxiety. *Organizational Behavior and Human Decision Processes*, 137, 71–85. <https://doi.org/10.1016/j.obhdp.2016.07.004>

Bulbulia, J. (2004). Religious costs as adaptations that signal altruistic intention. *Evolution and Cognition*, 10(1), 19–38.

Bulbulia, J., Geertz, A. W., Atkinson, Q. D., Cohen, E., Evans, N., François, P., Gintis, H., Gray, R. D., Henrich, J., Jordan, F. M., Norenzayan, A., Richerson, P. J., Slingerland, E., Turchin, P., Whitehouse, H., Widlok, T., & Wilson, D. (2013). The cultural evolution of religion. In M. Gelfand, C. Chiu, & Y. Hong (Eds.), *Advances in culture and psychology* (Vol. 4, pp. 381–404). Oxford University Press. <https://doi.org/10.1093>

Burger, J. M., & Lynn, A. L. (2005). Superstitious behavior among American and Japanese professional baseball players. *Basic and applied social psychology*, 27(1), 71-76.

Buskell, A., & Charbonneau, M. (2022). Fidelity, stances, and explaining cultural stability. *Behavioral & Brain Sciences*, 45.

Buttitta, I. (2024). The flames of the saints. Rites and symbolisms of fire in Europe. In *On the side of fire. Rites, approaches and cultivation practices in landscapes* (Vol. 21, pp. 29–49). Fondazione Benetton Studi e Ricerche.

Carney, D. R., Cuddy, A. J., & Yap, A. J. (2010). Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. *Psychological Science*, 21(10), 1363–1368.

Carr, P. (2003). Innateness, internalism and input: Chomskyan rationalism and its problems. *Language Sciences*, 25(6), 615-635. [https://doi.org/10.1016/S0388-0001\(03\)00016-0](https://doi.org/10.1016/S0388-0001(03)00016-0)

Chomsky, N. (1957). *Syntactic structures*. The Hague, Netherlands: Mouton.

Ciołkosz, M. (2017). Representation, enaction, religion. Different models of cognition and their implications for the cognitive study of religions. *Studia Religiologica. Zeszyty Naukowe Uniwersytetu Jagiellońskiego*, 50(2), 131-143.

Ciołkosz, M. (2020). Yoga: between meditation and movement 1. In *Routledge Handbook of Yoga and Meditation Studies* (pp. 490-501). Routledge.

Ciołkosz, M. (2021). Gods of Participation: Participatory Sense-making and an Enactivist Reframing of the Religion and Morality Problem. *Journal for the Cognitive Science of Religion*, 9(2).

Clark, A. (2012). Embodied, embedded, and extended cognition. In K. Frankish & W. M. Ramsey (Eds.), *The Cambridge handbook of cognitive science* (pp. 275–291). Cambridge: Cambridge University Press.

Clark, A., & Chalmers, D. J. (1998). The extended mind. *Analysis*, 58(1), 7–19. <https://doi.org/10.1111/1467-8284.00096>

Collins, P. (2005). Thirteen Ways of Looking at a ‘Ritual.’ *Journal of Contemporary Religion*, 20(3), 323–342. <https://doi.org/10.1080/13537900500249855>

Colombetti, G. (2010). Enaction, sense-making, and emotion. In J. Stewart, O. Gapenne, & E. A. Di Paolo (Eds.), *Enaction: Towards a new paradigm for cognitive science* (pp. 145–164). MIT Press.

Conway, B., Kühle, L., Alicino, F., & Bîrsan, G. (Eds.). (2024). *Religion, law, and COVID-19 in Europe: A comparative analysis*. Helsinki University Press. <https://doi.org/10.33134/HUP-28>

Cook, C. C., Powell, A., Alderson-Day, B., & Woods, A. (2022). Hearing spiritually significant voices: A phenomenological survey and taxonomy. *Medical Humanities*, 48(3), 273–284. <https://doi.org/10.1136/medhum-2020-012021>

Cruysberg, J. R., Hoefnagels, W. H., Verbek, A. L., Zitman, F. G., & Teunise, R. J. (1996). Visual hallucinations in psychologically normal people: Charles Bonnet’s syndrome. *American Journal of Ophthalmology*, 122(2), 293. [http://doi.org/10.1016/S0002-9394\(14\)72047-1](http://doi.org/10.1016/S0002-9394(14)72047-1)

Csibra, G., & Gergely, G. (2009). Natural pedagogy. *Trends in Cognitive Sciences*, 13(4), 148–153. <https://doi.org/10.1016/j.tics.2009.01.005>

Cuddy, A. J., Schultz, S. J., & Fosse, N. E. (2018). P-curving a more comprehensive body of research on postural feedback reveals clear evidential value for power-posing effects: Reply to Simmons and Simonsohn (2017). *Psychological Science*, 29(4), 656–666. <https://doi.org/10.1177/0956797617746749>

Cuffari, E. C., Di Paolo, E., & De Jaegher, H. (2015). From participatory sense-making to language: there and back again. *Phenomenology and the Cognitive Sciences*, 14, 1089–1125.

d’Errico, F., & Colagè, I. (2018). Cultural exaptation and cultural neural reuse: A mechanism for the emergence of modern culture and behaviour. *Biological Theory*, 13(4), 213–227. <https://doi.org/10.1007/s13752-018-0308-6>

- Davis, L. S. (2009). The view from the cushion: Zen challenges to duality in the contemporary practice situation. *Contemporary Buddhism*, 10(2), 260-272. <https://doi.org/10.1080/14639940903239801>
- Day, M. (2004). Religion, off-line cognition and the extended mind. *Journal of Cognition and Culture*, 4(1), 101–121. <https://doi.org/10.1163/156853704323074778>
- De Jaegher, H., & Di Paolo, E. (2007). Participatory sense-making: An enactive approach to social cognition. *Phenomenology and the cognitive sciences*, 6(4), 485-507.
- De Jesus, P. (2016). Autopoietic enactivism, phenomenology and the deep continuity between life and mind. *Phenomenology and the Cognitive Sciences*, 15, 265-289.
- Deeley, P. Q. (2004). The religious brain: Turning ideas into convictions. *Anthropology & Medicine*, 11(3), 245-267.
- Dennett, D. C. (1987). *The intentional stance*. MIT Press, Cambridge, MA.
- Dennett, D. C. (1995). *Darwin's dangerous idea: Evolution and the meanings of life*. New York, NY: Simon & Schuster.
- Di Paolo, E. A. (2005). Autopoiesis, adaptivity, teleology, agency. *Phenomenology and the cognitive sciences*, 4(4), 429-452.
- Di Paolo, E. A., & Potapov, K. (2024). Evald Ilyenkov and the enactive approach. *Studies in East European Thought*, 76(3), 439-463.
- Di Paolo, E. A., Cuffari, E. C., & De Jaegher, H. (2018). *Linguistic bodies: The continuity between life and language*. MIT press.
- Di Paolo, E., & Thompson, E. (2014). The enactive approach. In L. Shapiro (Ed.), *The Routledge Handbook of Embodied Cognition* (pp. 68–78). Routledge.
- Dooley, K. (1987). The sign of the cross. *Liturgy*, 7(1), 60–65. <https://doi.org/10.1080/0458063X.1987.10787802>
- Douglas, M. (1966/2003). *Purity and danger: An analysis of concepts of pollution and taboo*. Routledge.
- Duclos, S. E., Laird, J. D., Schneider, E., Sexter, M., Stern, L., & Van Lighten, O. (1989). Emotion-specific effects of facial expressions and postures on emotional experience. *Journal of Personality and Social Psychology*, 57(1), 100. <https://doi.org/10.1037/0022-3514.57.1.100>
- Dulaney, S., & Fiske, A. P. (1994). Cultural rituals and obsessive-compulsive disorder: Is there a common psychological mechanism? *Ethos*, 22(3), 243-283.
- Durkheim, E. (1912/2016). The elementary forms of religious life. In *Social theory re-wired* (pp. 52–67). Routledge.

Egan, F. (2003). Methodological naturalism and representational content. In L. M. Antony & N. Hornstein (Eds.), *Chomsky and His Critics* (pp. 279–302). Wiley-Blackwell.

Ehrsson, H. H., Geyer, S., & Naito, E. (2003). Imagery of voluntary movement of fingers, toes, and tongue activates corresponding body-part-specific motor representations. *Journal of Neurophysiology*, *90*(5), 3304–3316. <https://doi.org/10.1152/jn.01113.2002>

Eisenlohr, P. (2018). Suggestions of movement: Voice and sonic atmospheres in Mauritian Muslim devotional practices. *Cultural Anthropology*, *33*(1), 32–57. <https://doi.org/10.14506/ca33.1.02>

Eliade, M. (1959). *The sacred and the profane: The nature of religion*. Houghton Mifflin Harcourt.

Elks, M. L. (1996). Rituals and roles in medical practice. *Perspectives in Biology and Medicine*, *39*(4), 601–609. <https://doi.org/10.1353/pbm.1996.0030>

Emmerson, N. (2022). Understanding and scientific progress: Lessons from epistemology. *Synthese*, *200*(1), 1–18. <https://doi.org/10.1007/s11229-022-03501-8>

Engelke, M. (2007). *A problem of presence: Beyond scripture in an African church*. University of California Press.

Engler, S., & Gardiner, M. Q. (2009). Religion as superhuman agency: On E. Thomas Lawson and Robert N. McCauley, *Rethinking religion* (1990). In M. Stausberg (Ed.), *Contemporary theories of religion: A critical companion* (pp. 22–38). Routledge. <https://doi.org/10.4324/9780203875926-7>

Evans, C. L., Laland, K. N., Carpenter, M., & Kendal, R. L. (2018). Selective copying of the majority suggests children are broadly “optimal-” rather than “over-” imitators. *Developmental Science*, *21*(5), e12637. <https://doi.org/10.1111/desc.12637>

Evans, J. St. B. T. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology*, *59*, 255–278. <https://doi.org/10.1146/annurev.psych.59.103006.093629>

Evans, J. St. B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. *Perspectives on Psychological Science*, *8*(3), 223–241. <https://doi.org/10.1177/1745691612460685>

Fischer, R., Callander, R., Reddish, P., & Bulbulia, J. (2013). How do rituals affect cooperation? An experimental field study comparing nine ritual types. *Human Nature*, *24*(2), 115–125.

- Fuchs, T. (2020). The circularity of the embodied mind. *Frontiers in psychology*, *11*, 1707.
- Gallagher, S. (1986). Body image and body schema: A conceptual clarification. *The Journal of mind and behaviour*, 541-554.
- Gallagher, S. (2017). *Enactivist Interventions: Rethinking the Mind*. Oxford University Press.
- Gallagher, S. (2018). Rethinking nature: Phenomenology and a non-reductionist cognitive science. *Australasian Philosophical Review*, *2*(2), 125–137. <https://doi.org/10.1080/24740500.2018.1552074>
- Gallagher, S. (2023). *Embodied and Enactive Approaches to Cognition*. Cambridge, UK: Cambridge University Press. <https://doi.org/10.1017/9781009209793>
- Gao, J., Skouras, S., Leung, H. K., Wu, B. W. Y., Wu, H., Chang, C., & Sik, H. (2020). Repetitive Religious Chanting Invokes Positive Emotional Schema to Counterbalance Fear: A Multi-Modal Functional and Structural MRI Study. *Frontiers in Behavioural Neuroscience*, *14*, 548856. <https://doi.org/10.3389/FNBEH.2020.548856>
- García, E., Di Paolo, E. A., & De Jaeger, H. (2022). Embodiment in online psychotherapy: A qualitative study. *Psychology and Psychotherapy: Theory, Research and Practice*, *95*(1), 191–211. <https://doi.org/10.1111/papt.12359>
- Geertz, A. W. (2010). Too much mind and not enough brain, body and culture: On what needs to be done in the cognitive science of religion. *Historia Religionum: An International Journal*, *2*, 21–37.
- Geertz, A. W. (2024). What exactly is the “spirit” of enactivism? *Religion, Brain & Behaviour*, 1–3. <https://doi.org/10.1080/2153599X.2024.2379113>
- Geertz, C. (1973). *The Interpretation of Cultures*. New York: Basic Books.
- Geldhof, J. (2016). The figure of the monk as the ideal of a liturgical life? Perspectives from political philosophy and liturgical theology. *International Journal of Philosophy and Theology*, *77*(4–5), 237–251. <https://doi.org/10.1080/21692327.2016.1224197>
- Gergely, G., & Csibra, G. (2013). Natural pedagogy. In M. R. Banaji & S. A. Gelman (Eds.), *Navigating the social world: What infants, children, and other species can teach us* (pp. 127–132). Oxford University Press.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin, Boston.
- Gilbert, M. (1989). *On social facts*. London, UK: Routledge.

Giovagnoli, R. (2020). From habits to we-intentionality: Rituals as social habits. In *The Logic of Social Practices* (pp. 185-199). Cham: Springer International Publishing.

Gopnik, A. (2003). The theory theory as an alternative to the innateness hypothesis. In L. M. Antony & N. Hornstein (Eds.), *Chomsky and His Critics* (pp. 238–254). Wiley-Blackwell.

Greenway, T. S. (2022). Special objects. In *The Oxford Handbook of the Cognitive Science of Religion* (p. 191). Oxford University Press.

Gilbert, Margaret (1989). *On Social Facts*. London: Routledge.

Guthrie, S. E. (1993). *Faces in the clouds: A new theory of religion*. New York, NY: Oxford University Press.

Guthrie, S. E. (1996). Religion: What is it? *Journal for the Scientific Study of Religion*, 35(4), 412–419. <https://doi.org/10.2307/1386417>

Handelman, D. (2006). Conceptual alternatives to ‘ritual’. In J. Kreinath, J. Snoek, & M. Stausberg (Eds.), *Theorizing rituals, Vol. 1: Issues, topics, approaches, concepts* (pp. 37–49). Brill.

Head, H., & Holmes, G. (1911). Sensory disturbances from cerebral lesions. *Brain*, 34(2–3), 102–254. <https://doi.org/10.1093/brain/34.2-3.102>

Heine, S., & Wright, D. S. (Eds.). (2007). *Zen ritual: Studies of Zen Buddhist theory in practice*. Oxford University Press.

Henrich, J. (2009). The evolution of costly displays, cooperation, and religion: Credibility enhancing displays and their implications for cultural evolution. *Evolution and Human Behaviour*, 30, 244–260. <https://doi.org/10.1016/j.evolhumbehav.2009.03.005>

Herrmann, P. A., Legare, C. H., Harris, P. L., & Whitehouse, H. (2013). Stick to the script: The effect of witnessing multiple actors on children’s imitation. *Cognition*, 129(3), 536-543. <https://doi.org/10.1016/j.cognition.2013.08.010>

Hirschkind, C. (2006). *The ethical soundscape: Cassette sermons and Islamic counterpublics*. Columbia University Press.

Hobson, N. (2017). *The psychology of ritual: An empirical investigation of ritual’s regulatory functions and psychological processes* [Doctoral dissertation, University of Toronto]. TSpace.

https://tspace.library.utoronto.ca/bitstream/1807/89646/1/Hobson_Nicholas_M_201711_PhD_thesis.pdf

- Hobson, N. M., Bonk, D., & Inzlicht, M. (2017). Rituals decrease the neural response to performance failure. *PeerJ*, 5, e3363. <https://doi.org/10.7717/peerj.3363>
- Hornbeck, R. G., & Barrett, J. L. (2020). Ritual forms and ritual stuff: Implications of Lawson and McCauley's ritual form hypothesis for material culture. *Ethos*.
- Hornbeck, R. G., Bentley, B., & Barrett, J. L. (2015). Examining special patient rituals in a Chinese cultural context: A research report. *Journal for Cognition and Culture*, 15(5), 530–541.
<https://doi.org/10.1016/j.cognition.2015.08.002>
- Huang, J. Y., Ackerman, J. M., & Newman, G. E. (2017). Catching (up with) magical contagion: A review of contagion effects in consumer contexts. *Journal of the Association for Consumer Research*, 2(4), 430–443.
- Humphrey, C., & Laidlaw, J. (1994). *The archetypal actions of ritual: A theory of ritual illustrated by the Jain rite of worship*. Oxford University Press.
- Hutchins, E. (1995). *Cognition in the wild*. Cambridge, MA: MIT Press.
- Hutto, D. D., & Myin, E. (2013). *Radicalizing Enactivism: Basic Minds Without Content*. MIT Press.
- Hutto, D. D., & Myin, E. (2017). *Evolving enactivism: Basic minds meet content*. MIT Press.
- Iltis, A. S. (2012). Ritual as the creation of social reality. In D. Solomon, R. Fan, & B. Luo (Eds.), *Ritual and the moral life: Reclaiming the tradition* (pp. 17–28). Springer.
https://doi.org/10.1007/978-94-007-2756-4_2
- Immink, G. (2016). The sense of God's presence in prayer. *HTS Theologische Studies/Theological Studies*, 72(4), a4122. <https://doi.org/10.4102/hts.v72i4.4122>
- Irons, W. (2001). Religion as a hard-to-fake sign of commitment. In R. M. Nesse (Ed.), *Evolution and the capacity for commitment* (pp. 292–309). Russell Sage Foundation, New York.
- Jilek, W. G. (1982). Altered states of consciousness in North American Indian ceremonials. *Ethos*, 10(4), 326–343.
- Johnson, P. C. (2007). *Diaspora conversions: Black Carib religion and the recovery of Africa*. University of California Press.
- Johnson, S. K. (2020). Online communion, Christian community, and receptive ecumenism: A Holy Week ethnography during COVID-19. *Studia Liturgica*, 50(2), 188–210.
<https://doi.org/10.1177/0039320720938169>

Jones, J. (2020). How ritual might create religion. *Archive for the Psychology of Religion*, 42(1), 29–45. <https://doi.org/10.1177/0084672419897584>

Kádár, D. Z. (2024). *Ritual and Language*. Cambridge University Press.

Kaliff, A. (2005). The Vedic Agni and Scandinavian fire rituals: A possible connection. *Current Swedish Archaeology*, 13(1), 77–97. <https://doi.org/10.37718/CSA.2005.05>

Kapitány, R., & Nielsen, M. (2015). Adopting the ritual stance: The role of opacity and context in ritual and everyday actions. *Cognition*, 145, 13–29.

Kapitány, R., & Nielsen, M. (2017). The ritual stance and the precaution system: The role of goal-demotion and opacity in ritual and everyday actions. *Religion, Brain & Behaviour*, 7(1), 27–42. <https://doi.org/10.1080/2153599X.2016.1141792>

Kapitány, R., & Nielsen, M. (2019). Ritualized objects: How we perceive and respond to causally opaque and goal-demoted action. *Journal of Cognition and Culture*, 19, 170–194. <https://doi.org/10.1163/15685373-12340053>

Kapitány, R., Davis, J. T., Legare, C., & Nielsen, M. (2018). An experimental examination of object-directed ritualized action in children across two cultures. *PLoS One*, 13(11), e0206884.

Kapitány, R., Kavanagh, C., & Whitehouse, H. (2020). Ritual morphospace revisited: the form, function and factor structure of ritual practice. *Philosophical Transactions of the Royal Society B*, 375(1805), 20190436. <https://doi.org/10.1098/rstb.2019.0436>

Ketola, K. (2024). The impact of the COVID-19 pandemic on religious communities in Finland. In B. Conway, L. Kühle, F. Alicino, & G. Bîrsan (Eds.), *Religion, law, and COVID-19 in Europe: A comparative analysis* (pp. 313–334). Helsinki University Press. <https://doi.org/10.33134/HUP-28-15>

Klocová, E. K., & Geertz, A. W. (2019). Ritual and embodied cognition. In R. Uro, J. J. Day, R. E. DeMaris, & R. Roitto (Eds.), *The Oxford handbook of early Christian ritual* (pp. 74–94). Oxford University Press.

Kochetkova, T. (2022). The impact of ideas on bodily processes: Lessons from mantra techniques. In G. Enthoven, S. Rudnicki, & R. Sneller (Eds.), *Towards a science of ideas: An inquiry into the emergence, evolution and expansion of ideas and their translation into action* (pp. 53–68). Vernon Press.

LaFrance, M., & Mayo, C. (1978). Cultural aspects of nonverbal communication. *International Journal of Intercultural Relations*, 2(1), 71–89.

- Lakatos, I. (1978). The methodology of scientific research programmes: Philosophical papers (Vol. 1; J. Worrall & G. Currie, Eds.). Cambridge: Cambridge University Press.
- Lake-Thom, B., & Lake, R. G. (1991). *Native healer: Initiation into an ancient art*. Quest Books.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: University of Chicago Press.
- LaMothe, K. L. (2008). What bodies know about religion and the study of it. *Journal of the American Academy of Religion*, 76(3), 573-601. <https://doi.org/10.1093/jaarel/lfn054>
- Lane, J., & Shults, F. L. (2018). The Computational Science of Religion. *Journal for the Cognitive Science of Religion*, 6(1-2), 191-208. <https://doi.org/10.1558/jcsr.38669>
- Lang, M., & Chvaja, R. (2023). Examining the possible adaptive value of ritualized behavior. Y. Lior, & Lane (Eds.), *The routledge handbook of evolutionary approaches to religion*, 164-184.
- Lang, M., Krátký, J., & Xygalatas, D. (2020). The role of ritual behaviour in anxiety reduction: An investigation of Marathi religious practices in Mauritius. *Philosophical Transactions of the Royal Society B*, 375(1805), 20190431. <https://doi.org/10.1098/rstb.2019.0431>
- Lang, M., Krátký, J., & Xygalatas, D. (2022). Effects of predictable behavioural patterns on anxiety dynamics. *Dental Science Reports*, 12(1). <https://doi.org/10.1038/s41598-022-23885-4>
- Lang, M., Kratky, J., Shaver, J. H., Jerotijevic, D., & Xygalatas, D. (2015). Effects of anxiety on spontaneous ritualized behavior. *Current Biology*, 25(14), 1892–1897. <https://doi.org/10.1016/j.cub.2015.05.049>
- Lawson, E. T. (2012). Religious thought and behaviour. *Wiley Interdisciplinary Reviews: Cognitive Science*, 3(5), 525–532. <https://doi.org/10.1002/wcs.1189>
- Lawson, E. T. (2022). The historical genesis of cognitive science of religion. In *The Oxford Handbook of the Cognitive Science of Religion* (p. 13). Oxford University Press.
- Lawson, E. T., & McCauley, R. N. (1990). *Rethinking Religion: Connecting Cognition and Culture*. Cambridge University Press.
- Lawson, O. E. T., McCauley, R. N., Engler, S., & Gardiner, M. Q. (2009). Religion as superhuman agency. In M. Stausberg (Ed.), *Contemporary theories of religion: A critical companion* (pp. 22–38). Routledge. <https://doi.org/10.4324/9780203875926-7>
- Leach, E. (1968). Ritual as Expression of Social Relationships. In M. Douglas (Ed.), *Man in Society: Patterns of Human Organization* (pp. 120–132). London: Routledge.

Lee, D. B. (2000). *Old Order Mennonites: Rituals, beliefs, and community*. Rowman & Littlefield.

Lee, E., Klement, K., Ambler, J., Loewald, T., Comber, E., Hanson, S., Pruitt, B., & Sagarin, B. (2016). Altered states of consciousness during an extreme ritual. *PLoS ONE*, 11, Article e0153126. <https://doi.org/10.1371/journal.pone.0153126>

Lee, S. W. S., Chen, K., Ma, C., & Hoang, J. (2024). Wipe it off: A meta-analytic review of the psychological consequences and antecedents of physical cleansing. *Psychological Bulletin*. <https://doi.org/10.1037/bul0000421>

Legare, C. H., & Nielsen, M. (2015). Imitation and innovation: The dual engines of cultural learning. *Trends in cognitive sciences*, 19(11), 688-699.

Legare, C. H., & Souza, A. L. (2012). Evaluating ritual efficacy: Evidence from the supernatural. *Cognition*, 124(1), 1–15. <https://doi.org/10.1016/j.cognition.2012.03.004>

Leighton, T. D. (2008). Zazen as an enactment ritual. In S. Heine & D. S. Wright (Eds.), *Zen ritual: Studies of Zen Buddhist theory in practice* (pp. 167–184). Oxford University Press.

Levy, F. (2011). Cortico-striatal-thalamic-cortical (CSTC) circuits, Tourette's disorder, and OCD. *The ADHD Report*, 19(2), 8–9. <https://doi.org/10.1521/adhd.2011.19.2.8>

Levy, G. (2022). *Beyond heaven and earth: A cognitive theory of religion*. MIT Press.

Levy, G. (2024). A welcome intervention, but stops just where things will get interesting. *Religion, Brain & Behaviour*, 1–4. <https://doi.org/10.1080/2153599X.2024.2378148>

Levy, T. E., Schneider, T., & Propp, W. H. (Eds.). (2015). *Israel's exodus in transdisciplinary perspective: Text, archaeology, culture, and geoscience*. Springer. <https://doi.org/10.1007/978-3-319-04768-3>

Liénard, P., & Boyer, P. (2006). Whence collective rituals? A cultural selection model of ritualized behaviour. *American Anthropologist*, 108(4), 814–827. <https://doi.org/10.1525/aa.2006.108.4.814>

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.

Lüddeckens, D., Langer, R., Radde, K., & Snoek, J. (2006). Transfer of ritual. *Journal of Ritual Studies*, 20(1), 1-10.

Luhrmann, T. M. (2020). *How God becomes real: Kindling the presence of invisible others*. Princeton University Press.

Luhrmann, T. M., Alderson-Day, B., Chen, A., Corlett, P., Deeley, Q., Dupuis, D., Lifshitz, M., Moseley, P., Peters, E., Powell, A., & Powers, A. (2023). Learning to discern the voices of gods, spirits, tulpas, and the dead. *Schizophrenia Bulletin*, 49, S3–S12. <https://doi.org/10.1093/schbul/sbac005>

Luhrmann, T. M., Nusbaum, H., & Thisted, R. (2010). The absorption hypothesis: Learning to hear God in evangelical Christianity. *American Anthropologist*, 112(1), 66–78. <https://doi.org/10.1111/j.1548-1433.2009.01197.x>

Luhrmann, T.M. (2012). *When God talks back: Understanding the American evangelical relationship with God*. New York: Knopf.

Luhrmann, T.M. (2018). The faith frame: Or, belief is easy, faith is hard. *Contemporary pragmatism*, 15(3), 302–318. <http://doi.org/10.1163/18758185-01503003>

Lyngsøe, M. L. (2022). Digitizing the field of women's Islamic education: Changing infrastructures during coronavirus lockdown in Denmark. *Approaching Religion*, 12(1), 184–200. <https://doi.org/10.30664/ar.111015>

Lyngsøe, M. L., & Stjernholm, S. (2022). Nearness to God: Danish Muslims and Taqwa-infused faith frames. *Contemporary Islam*, 16(2), 173-191.

Malinowski, B. (1948). *Magic, science and religion and other essays*. Glencoe, IL: Free Press.

Malley, B., & Barrett, J. (2003). Can ritual form be predicted from religious belief? A test of the Lawson-McCauley hypotheses. *Journal of Ritual Studies*, 1-14.

Maño, P., & Xygalatas, D. (2022). Ritual form and ritual choice among Mauritian Hindus. *Slovenský Národopis / Slovak Ethnology*, 70(2), 186–209. <https://doi.org/10.31577/SN.2022.2.18>

Marsh, L. E., Ropar, D., & Hamilton, A. F. D. C. (2014). The social modulation of imitation fidelity in school-age children. *PLoS One*, 9(1), e86127.

Maturana, H. R., & Varela, F. J. (1980). *Autopoiesis and cognition: The realization of the living*. Dordrecht: D. Reidel.

Mauss, M. (2001). *A general theory of magic* (Original work published 1902). Routledge.

McAdams, R. H. (1997). The origin, development, and regulation of norms. *Mich. L. Rev.*, 96, 338.

McCauley, R. N., & Lawson, E. T. (2002). *Bringing ritual to mind: Psychological foundations of cultural forms*. Cambridge University Press.

McDannell, C. (1995). *Material Christianity: Religion and popular culture in America*. Yale University Press.

Menary, R. (Ed.). (2007). *The extended mind*. MIT Press.

Merleau-Ponty, M. (1964). *Le visible et l'invisible* (C. Lefort, Ed.). Paris: Gallimard.

Merleau-Ponty, M. (1969). *La prose du monde*. Paris, France: Gallimard.

Michael, J., Sebanz, N., & Knoblich, G. (2016). The sense of commitment: A minimal approach. *Frontiers in Psychology*, 6, Article 162497. <https://doi.org/10.3389/fpsyg.2015.01624>

Michaels, A. (2007). *Perfection and mishaps in Vedic rituals*. In U. Hüsken (Ed.), *When rituals go wrong: Mistakes, failure, and the dynamics of ritual* (pp. 121–132). Leiden: Brill.

Monteiro, P., & Feng, G. (2016). Learning from animal models of obsessive-compulsive disorder. *Biological Psychiatry*, 79(1), 7–16. <https://doi.org/10.1016/j.biopsych.2015.04.020>

Nielbo, K. L., & Sørensen, J. (2011). Spontaneous processing of functional and non-functional action sequences. *Religion, Brain & Behaviour*, 1(1), 18–30. <https://doi.org/10.1080/2153599X.2010.547664>

Nielbo, K. L., Schjoedt, U., & Sørensen, J. (2013). Hierarchical organization of segmentation in non-functional action sequences. *Journal for the Cognitive Science of Religion*, 1(1), 71–97. <https://doi:10.1558/jcsr.v1i1.71>

Nielsen, M., Kapitány, R., & Elkins, R. (2015). The perpetuation of ritualistic actions as revealed by young children's transmission of normative behaviour. *Evolution and Human Behaviour*, 36(3), 191–198. <https://doi.org/10.1016/j.evolhumbehav.2014.11.002>

Nikolaisen, B. (2004). Embedded motion: Sacred travel among Mevlevi dervishes. In S. Coleman & J. Eade (Eds.), *Reframing pilgrimage: Cultures in motion* (pp. 93–106). Routledge, London.

Noë, A. (2004). *Action in perception*. Cambridge, MA: MIT Press.

Noë, A. (2009). *Out of our heads: Why you are not your brain, and other lessons from the biology of consciousness*. New York: Hill and Wang.

Norenzayan, A. (2012). *Big gods: How religion transformed cooperation and conflict*. Princeton, NJ: Princeton University Press.

Norenzayan, A., & Gervais, W. M. (2012). The cultural evolution of religion. *Creating consilience: Integrating science and the humanities*, 243–265.

Norenzayan, A., & Gervais, W. M. (2013). The origins of religious disbelief. *Trends in Cognitive Sciences*, 17(1), 20–25.

Norenzayan, A., & Shariff, A. F. (2008). The origin and evolution of religious prosociality. *Science*, 322(5898), 58-62.

Nugteren, A. (2013). Sensing the “sacred”? Body, senses and intersensoriality in the academic study of ritual. *Jaarboek voor Liturgieonderzoek*, 29, 49–65.

Nyarko, E. (2024). Understanding the Christian Sacrament of Baptism: Perspectives of Some New Testament Personalities. *European Journal of Theology and Philosophy*, 4(3), 1-9.

Osiurak, F., & Badets, A. (2016). Tool use and affordance: Manipulation-based versus reasoning-based approaches. *Psychological review*, 123(5), 534. <https://doi.org/10.1037/rev0000027>

Othman, M. L. B. (2022). Listening for/as presence: Religious mediation of a Sufi ritual in the time of COVID-19. *Religion*, 52(2), 265–283. <https://doi.org/10.1080/0048721X.2022.2053037>

Parish, H. (2020). The absence of presence and the presence of absence: Social distancing, sacraments, and the virtual religious community during the COVID-19 pandemic. *Religions*, 11(6), 276. <https://doi.org/10.3390/rel11060276>

Perry, G., Polito, V., Sankaran, N., & Thompson, G. (2022). How Chanting Relates to Cognitive Function, Altered States and Quality of Life. *Brain Sciences*, 12(11), 1456. <https://doi.org/10.3390/brainsci12111456>

Piaget, J. (1987). *Possibility and necessity* (Vol. 2). University of Minnesota Press.

Pink, S. (2015). *Doing sensory ethnography* (2nd ed.). SAGE Publications.

Platvoet, J. G. (2006). Ritual: Religious and secular. In J. Kreinath, J. Snoek, & M. Stausberg (Eds.), *Theorizing Rituals: Issues, Topics, Approaches, Concepts* (pp. 161–205). Brill. https://doi.org/10.1163/9789047410775_009

Poletti, S. (2020). The good, the dead, and the other: Chronicles of a Nepali phantasmicide. *Ethos*, 48, 271–294. <https://doi.org/10.1111/etho.12279>

Powell, A. J., & Moseley, P. (2020). When spirits speak: Absorption, attribution, and identity among spiritualists who report “clairaudient” voice experiences. *Mental Health, Religion & Culture*, 23, 841–856. <https://doi.org/10.1080/13674676.2020.1793310>

Purzycki, B. G., Apicella, C., Atkinson, Q. D., Cohen, E., McNamara, R. A., Willard, A. K., ... & Henrich, J. (2016). Moralistic gods, supernatural punishment and the expansion of human sociality. *Nature*, 530(7590), 327-330.

Putnam, H. (1967). The 'innateness hypothesis' and explanatory models in linguistics. In R. S. Cohen & M. W. Wartofsky (Eds.), *Proceedings of the Boston Colloquium for the*

Philosophy of Science 1964/1966: In memory of Norwood Russell Hanson (pp. 91–101). Springer Netherlands.

Pyne, S. J. (2016). Fire in the mind: changing understandings of fire in Western civilization. *Philosophical Transactions of the Royal Society B*, 371(1696), 20150166. <https://doi.org/10.1098/RSTB.2015.0166>

Pyysiäinen, I. (2009). *Supernatural agents: Why we believe in souls, gods, and Buddhas*. Oxford University Press.

Pyysiäinen, I. (2021). *How religion works: Towards a new cognitive science of religion* (Vol. 1). Brill.

Quinn, S., Donnelly, S., & Kidd, E. (2018). The relationship between symbolic play and language acquisition: A meta-analytic review. *Developmental Review*, 49, 121–135. <https://doi.org/10.1016/j.dr.2018.05.005>

Rakoczy, H., & Tomasello, M. (2007). The ontogeny of social ontology: Steps to shared intentionality and status functions. In S. L. Tsohatzidis (Ed.), *Intentional acts and institutional facts: Essays on John Searle's social ontology* (pp. 113–137). Springer. https://doi.org/10.1007/978-1-4020-6104-2_5

Rappaport, R. A. (1999). *Ritual and religion in the making of humanity*. Cambridge University Press.

Rietveld, E., & Kiverstein, J. (2014). A rich landscape of affordances. *Ecological psychology*, 26(4), 325–352.

Riskind, J. H., & Gotay, C. C. (1982). Physical posture: Could it have regulatory or feedback effects on motivation and emotion? *Motivation and Emotion*, 6, 273–298.

Rolla, G., & Figueiredo, N. (2023). Bringing forth a world, literally. *Phenomenology and the Cognitive Sciences*, 22(4), 931–953. <https://doi.org/10.1007/s11097-022-09822-2>

Rossano, M. J. (2009). Ritual behaviour and the origins of modern cognition. *Cambridge Archaeological Journal*, 19(2), 243–256. <https://doi.org/10.1017/S0959774309000298>

Rossano, M. J. (2012). The essential role of ritual in the transmission and reinforcement of social norms. *Psychological Bulletin*, 138(3), 529–549. <https://doi.org/10.1037/a0027038>

Ryle, G. (1949). *The concept of mind*. Oxford, England: Oxford University Press.

Sakuta, A. (2018). ‘No mind’: A Zen Buddhist perspective on embodied consciousness. *Dance, Movement & Spiritualities*, 5(1), 119–136.

Schieffelin, E. L. (2007). *Introduction*. In U. Hüsken (Ed.), *When rituals go wrong: Mistakes, failure, and the dynamics of ritual* (pp. 1–22). Brill.

Schiff, J. W., & Moore, K. (2006). The impact of the sweat lodge ceremony on dimensions of well-being. *American Indian and Alaska Native Mental Health Research: The Journal of the National Center*, 13(3), 48–69. <https://doi.org/10.5820/aian.1303.2006.48>

Schjødt, U., & Geertz, A. W. (2017). The beautiful butterfly: On the history of and prospects for the cognitive science of religion. In *Religion Explained* (pp. 57–67).

Schjøedt, U., Sørensen, J., Nielbo, K. L., Xygalatas, D., Mitkidis, P., & Bulbulia, J. (2013). Cognitive resource depletion in religious interactions. *Religion, Brain & Behaviour*, 3(1), 39-55.

Schüler, S. (2012). Synchronized ritual behaviour: Religion, cognition and the dynamics of embodiment. In D. Cave & R. S. Norris (Eds.), *Religion and the body: Modern science and the construction of religious meaning* (pp. 81–101). Brill. https://doi.org/10.1163/9789004225343_006

Seaquist, C. (2009). Ritual individuation and ritual change. *Method & Theory in the Study of Religion*, 21(3), 340–360. <https://doi.org/10.1163/157006809X460356>

Searle, J. (2010). *Making the social world: The structure of human civilization*. Oxford University Press. Watson, R., & Coulter, J. (2008). The debate over cognitivism. *Theory, culture & society*, 25(2), 1-17.

Searle, J. R. (1995). *The construction of social reality*. Simon and Schuster.

Seawright, J. (2016). *Multi-Method Social Science: Combining Qualitative and Quantitative Tools*. Cambridge: Cambridge University Press.

Sellers-Young, B. (2013). Motion in stillness—Stillness in motion: Contemplative practice in the performing arts. In *Embodied Consciousness: Performance Technologies* (pp. 75–90). Palgrave Macmillan UK.

Shabalina, A. (2024). Making Mind Real: Adapting Tanya Luhrmann's Theory to Non-Theistic Practices of Buddhism. *Journal for the cognitive science of religion*, 9(2), 111-138. <https://doi.org/10.1558/jcsr.27263>

Shabalina, A. (forthcoming). Negotiating the body and meaning: A study of tantric initiations online. *Journal of Religion, Media and Digital Culture*.

Shulman, D. (2012). *More than real: a history of the imagination in south India*. Harvard University Press, Cambridge, Mass

Smith, L. B., Maouene, J., & Hidaka, S. (2007). The body and children's word learning. In J. M. Plumert & J. P. Spencer (Eds.), *The emerging spatial mind* (pp. 168–192). Oxford University Press.

Sørensen, J. (2005). Religion in mind: A review article of the cognitive science of religion. *Numen*, 52(4), 465–494.

Sørensen, J. (2007). Acts that work: A cognitive approach to ritual agency. *Method & Theory in the Study of Religion*, 19(3–4), 281–300.

Sørensen, J. (2024). Representation without representationalism. *Religion, Brain & Behaviour*, 1–7. <https://doi.org/10.1080/2153599X.2024.2378152>

Sørensen, J., Liénard, P., & Feeny, C. (2006). Agent and instrument in judgments of ritual efficacy. *Journal of Cognition and Culture*, 6(3–4), 463–482.

Sosis, R. (2005). Does religion promote trust?: The role of signaling, reputation, and punishment. *Interdisciplinary journal of research on religion*, 1.

Sosis, R., & Alcorta, C. (2003). Signaling, solidarity, and the sacred: The evolution of religious behaviour. *Evolutionary Anthropology: Issues, News, and Reviews: Issues, News, and Reviews*, 12(6), 264–274. <https://doi.org/10.1002/evan.10120>

Sperber, D. (1975). *Rethinking symbolism*. Cambridge, UK: Cambridge University Press.

Sperber, D. (1997). Intuitive and reflective beliefs. *Mind & Language*, 12(1), 67–83.

Staal, F. (1979). The meaninglessness of ritual. *Numen*, 26 (Fasc. 1), 2–22.

Steadman, L. B., & Palmer, C. T. (1995). Religion as an identifiable traditional behaviour subject to natural selection. *Journal of Social and Evolutionary Systems*, 18(2), 149–164. [https://doi.org/10.1016/1061-7361\(94\)90002-7](https://doi.org/10.1016/1061-7361(94)90002-7)

Sugawara, K., Masuda, A., & Sargent, K. (2017). Zen and body. In *Handbook of Zen, Mindfulness, and Behavioural Health* (pp. 77–84).

Taft, R. (1991). *Beyond East and West: Problems in liturgical understanding*. Pontifical Oriental Institute.

Talmont-Kaminski, K. (2013). For God and country, not necessarily for truth: the nonalethic function of superempirical beliefs. *The Monist*, 96(3), 447–461.

Tambiah, S. J. (1985). *Culture, thought, and social action: An anthropological perspective*. Harvard University Press.

Taves, A. (2009). *Religious experience reconsidered: A building-block approach to the study of religion and other special things*. Princeton University Press.

Teehan, J. (2024). Towards an embodied cognitive science of religion: Enaction, evolution, emergence. *Religion, Brain & Behaviour*, 1–33. <https://doi.org/10.1080/2153599X.2024.2378168>

- Thompson, E. (2007). *Mind in life: Biology, phenomenology, and the sciences of mind*. Harvard University Press.
- Toh, W. L., Moseley, P., & Fernyhough, C. (2022). Hearing voices as a feature of typical and psychopathological experience. *Nature Reviews Psychology*, 1(2), 72–86. <https://doi.org/10.1038/s44159-021-00013-z>
- Tollefsen, D. P. (2002). Collective intentionality and the social sciences. *Philosophy of the Social Sciences*, 32(1), 25–50. <https://doi.org/10.1177/004839310203200102>
- Tomasello, M., Carpenter, M., Call, J., Behne, T., & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and brain sciences*, 28(5), 675–691.
- Tooby, J., & Cosmides, L. (1992). The psychological foundations of culture. In J. H. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind: Evolutionary psychology and the generation of culture* (pp. 19–136). New York, NY: Oxford University Press.
- Torbjørnsen, R. R., & Hipólito, I. (2024). Widening the screen: Embodied cognition and audiovisual online social interaction in the digital age. *AI & Society*, 1–15. <https://doi.org/10.31234/osf.io/8u3a5>
- Tulving, E. (1972). Episodic and semantic memory. *Organization of memory*, 1(381–403), 1.
- Tuomela, R. (2007). *The philosophy of sociality: The shared point of view*. Oxford University Press.
- Turner, L. (2021). Synchronous rituals and social bonding: Revitalizing conceptions of individual personhood in the evolution of religion. *Zygon*, 56(4), 898–921. <https://doi.org/10.1111/zygo.12724>
- Turner, V. (1967). *The Forest of Symbols: Aspects of Ndembu Ritual*. Ithaca, NY: Cornell University Press.
- Turner, V. (1969). *The ritual process: Structure and anti-structure*. Chicago, IL: Aldine Publishing.
- Vai, E. (2024). The ‘Sensoryscape’ of the Good Friday Procession in Early Modern Venetian Bergamo. In *Listening to Confraternities* (pp. 25–61). Brill.
- Valentin, A. (1953). The stations of the cross. *Life of the Spirit (1946–1964)*, 7(82), 430–437.
- van Cappellen, P., & Edwards, M. E. (2021). The embodiment of worship: Relations among postural, psychological, and physiological aspects of religious practice. *Journal for the Cognitive Science of Religion*, 6(1–2), 56–79. <https://doi.org/10.1558/jcsr.38683>

van Elk, M. (2023). Explaining religion from the inside-out. *Religion, Brain & Behaviour*, 13, 72–76. <https://doi.org/10.1080/2153599X.2022.2050788>

van Elk, M., Maij, D., & 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 Gennep, A. (1909/2019). *The rites of passage* (M. B. Vizedom & G. L. Caffee, Trans.). London, UK: Routledge.

van Leeuwen, N., & van Elk, M. (2019). Seeking the supernatural: The interactive role of culture and cognitive biases in the interpretation of religious experiences. *Religion, Brain & Behaviour*, 9(3), 221–238. <https://doi.org/10.1080/2153599X.2018.1453529>

van Leeuwen, N., Weisman, K., & Luhrmann, T. M. (2021). To believe is not to think: A cross-cultural finding. *Open Mind*, 5, 91-99.

Van Slyke, J., & Slone, D. J. (2022). Key ingredients for a world religion: Insights from cognitive and evolutionary science.

VanPool, C. S., & VanPool, T. L. (2023). Neurology, physiology, and the mind/spirit interface. In *An anthropological study of spirits* (pp. 199–234). Springer Nature Switzerland.

Varela, F. J., Thompson, E., & Rosch, E. (1991). *The Embodied Mind: Cognitive Science and Human Experience*. MIT Press.

Veissière, S. P., Constant, A., Ramstead, M. J., Friston, K. J., & Kirmayer, L. J. (2020). Thinking through other minds: A variational approach to cognition and culture. *Behavioural and brain sciences*, 43, e90.

Venhorst, C., Quartier, T., Nissen, P. J. A., & Venbrux, H. J. M. (2013). Islamic ritual experts in a migration context: Motivation and authority in the ritual cleansing of the deceased. *Mortality*, 18(3), 235–250. <https://doi.org/10.1080/13576275.2013.819321>

Watson, R., & Coulter, J. (2008). The debate over cognitivism. *Theory, culture & society*, 25(2), 1-17.

Watson-Jones, R. (2013). *The ritualistic child: imitation, affiliation, and the ritual stance in human development* [Doctoral dissertation, Oxford University, UK].

Watson-Jones, R. E., & Legare, C. H. (2016). The social functions of group rituals. *Current Directions in Psychological Science*, 25(1), 42-46. <https://doi.org/10.1177/0963721415618486>

Weber, M. (1949). *The Methodology of the Social Sciences* (E. A. Shils & H. A. Finch, Trans. & Eds.). Glencoe, IL: Free Press.

- Wen, N. J., Herrmann, P. A., & Legare, C. H. (2016). Ritual increases children's affiliation with in-group members. *Evolution and Human Behaviour*, 37(1), 54–60. <https://doi.org/10.1016/j.evolhumbehav.2015.08.002>
- Wen, N. J., Herrmann, P. A., & Legare, C. H. (2016). Ritual increases children's affiliation with in-group members. *Evolution and Human Behavior*, 37(1), 54–60.
- Whitehouse, H. (2001). Transmissive frequency, ritual, and exegesis. *Journal of Cognition and Culture*, 1(2), 167–181. <https://doi.org/10.1163/156853701300063570>
- Whitehouse, H. (2004). *Modes of Religiosity: A Cognitive Theory of Religious Transmission*. AltaMira Press.
- Whitehouse, H. (2012). Ritual, cognition, and evolution. In R. Sun (Ed.), *Grounding the social sciences in the cognitive sciences* (pp. 265–284). MIT Press.
- Whitehouse, H. (2018). Dying for the group: Towards a general theory of extreme self-sacrifice. *Behavioural and Brain Sciences*, 41, e192. <https://doi.org/10.1017/S0140525X18000249>
- Whitehouse, H. (2021). *The ritual animal: Imitation and cohesion in the evolution of social complexity*. Oxford University Press.
- Whitehouse, H., & Kavanagh, C. M. (2022). What is the role of ritual in binding communities together? In J. L. Barrett (Ed.), *The Oxford handbook of the cognitive science of religion* (pp. 278–302). Oxford University Press, Oxford.
- Whitehouse, H., & Laidlaw, J. (2007). *Religion, Anthropology, and Cognitive Science*. Carolina Academic Press.
- Whitehouse, H., & Lanman, J. A. (2014). The ties that bind us: Ritual, fusion, and identification. *Current Anthropology*, 55(6), 674–695. <https://doi.org/10.1086/678698>
- Wilks, M., Kapitány, R., & Nielsen, M. (2016). Preschool children's learning proclivities: When the ritual stance trumps the instrumental stance. *British Journal of Developmental Psychology*, 34(3), 402–414. <https://doi.org/10.1111/bjdp.12139>
- Winder, B. (2009). Positive aspects of fire: Fire in ritual and religion. *The Irish Journal of Psychology*, 30(1–2), 5–19. <https://doi.org/10.1080/03033910.2009.10446295>
- Wright, D. S. (2008). Introduction: Rethinking ritual practice in Zen Buddhism. In S. Heine & D. S. Wright (Eds.), *Zen Ritual: Studies of Zen Buddhist Theory in Practice* (pp. 3–20). Oxford University Press.
- Xygalatas, D. (2007). Firewalking in northern Greece: A cognitive approach to high-arousal rituals. *Cognitive Science*, 31(5), 743–765. <https://doi.org/10.1080/03640210701530742>

Xygalatas, D. (2014). Cognitive science of religion. In L. Nadel (Ed.), *Encyclopedia of cognitive science* (pp. 343–347). Springer. https://doi.org/10.1007/978-1-4614-6086-2_9261

Xygalatas, D. (2022). Extreme rituals. In *The Oxford handbook of the cognitive science of religion* (pp. 237–256). Oxford University Press.

Xygalatas, D. (2022). *Ritual: How seemingly senseless acts make life worth living*. New York, NY: Basic Books.

Xygalatas, D. (2023). Culture, cognition, and ritual. In M. J. Gelfand, C.-Y. Chiu, & Y.-Y. Hong (Eds.), *Handbook of advances in culture and psychology: Volume 10* (pp. 118–). Oxford University Press.

Xygalatas, D., Khan, S., Lang, M., Kundt, R., Kundtová-Klocová, E., Krátký, J., & Shaver, J. (2019). Effects of extreme ritual practices on psychophysiological well-being. *Current Anthropology*, 60, 699–707. <https://doi.org/10.1086/705665>

Yelle, R. A. (2006). Ritual and Religious Language (pp.633–640). Ludwig-Maximilians-Universität München. <https://doi.org/10.1016/B0-08-044854-2/03042-X>