INTRODUCTION

Experiencing Rituals

Abigail Graham and Blanka Misic

Seeing Is Believing?

Pluris est oculatus testis unus, quam auriti decem.
Qui audiunt, audita dicunt: qui vident, plane sciunt.

One eyewitness weighs more than ten hearsays.
Seeing is believing, all the world over.

Plautus, *Truc.* Act II. Sc. 6 line 8.

The ways in which we engage with rituals are tied inextricably to cognitive experiences: sound, sight, scent, taste, touch, and space. It is through these mechanisms that an understanding and a memory of a ritual experience are created and codified. But can we trust our senses or the cognitive process that encodes experiences as memories? Plautus's evaluation assumes that an eyewitness account of an event is more valuable than hearsay; while this may be true, it does not mean that one person's version of events is a reliable or definitive account. When assessing the ancient world, eyewitness accounts seldom survive (one would be lucky to have ten hearsays) and surviving sources must be approached with caution. Rituals are not only scripted events but performed experiences, designed to ensnare the senses of performers and participants alike. How these senses are engaged impacts the perception and memory of an event. To understand how ritual memories were made, therefore, one must assess the sensory engagement and cognitive processes through which ritual memories were created and codified; namely the experience of rituals.

Through engagement with different senses and cognitive processes, rituals are transformed from a series of scripted actions in a specific place to an interactive experience, whose outcome depends on several different factors: the performance, the audience, the context, and the atmosphere of the ritual event. While these factors often serve to strengthen the emotive context and meaning of a ritual, they can also act as variables, resulting in a plurality of different outcomes for a ritual event: some positive/inclusive,

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others negative and/or exclusive. An 'eyewitness account' reflects an embodied experience, a multifaceted memory that is the culmination of sensory interpretations: not only seeing an event but also reading faces, speech, tone, gestures, and atmosphere. For Plautus, this 'first hand' experience appears to lend value and credulity to an eyewitness account as well as an opportunity to assess the source. Experience, however, is a double-edged sword: what unites can create discord, what provides a sense of belonging can alienate, what is meant to portray continuity can represent change, and what is meant to honour can bring shame. While an eyewitness account is undoubtedly valuable, one must also acknowledge its limitations: a single version of an experience cannot capture the plurality of possible experiences, interpretations, or outcomes of a ritual performance.[1] The experience of a ritual event is a crucial factor in the perception and remembrance of ritual; but how can one embed the variability of experience(s) into approaches and analyses of rituals?

Focusing too much on individual experiences (if there is enough evidence in order to do so), can result in becoming myopic to larger socio-cultural factors which inform religious experiences and drive religious change. On the other hand, analysing only religious rituals and experiences in terms of cult-wide and/or collective phenomena, risks overlooking localized religious practices and of ignoring neurodiverse experiences. Unlike other scholars who research rituals and ritual experiences (in psychology or anthropology, for example), scholars of ancient religions cannot rely on designing group experiments or conducting participant interviews to gather data. Instead, our evidence is often incomplete or corrupted and can be tainted further by bias or misinterpretation. All of these elements render the tightrope between individual/subjectivist approaches (i.e. where religious experiences are seen as subjective and highly individual) and collective/constructivist approaches (i.e. where religious experiences are understood to be rooted in cultural and social factors) even more perilous to tread.[2] The cross- and inter-disciplinary cognitive sciences, by viewing cognition as multifaceted – embodied, distributed, situated, extended, materialized, and encultured[3] – offer new perspectives

[1] As Eidinow *et al.* (2022: 10) have observed, 'humanities and social science accounts have not in general informed attempts to identify the cognitive and brain processes underlying variations in experience – in other words, the full set of processes by which religiously interpreted experience arises within specific human contexts.' On the limitations of historical sources in analysing religious experiences see Martin 2022: 218–219.

[2] Patzelt 2020: 11, 13.

[3] Geertz (2017: 37) states: 'cognition is embodied (i.e. that it is integrated in body and brain through the nervous system), distributed (i.e. that we share with networks of other brains and bodies), situated

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in understanding *both* individual *and* collective elements of rituals and ritual experiences.[4]

In the last two decades, spurred by scientific advancements in neuroscience and the cognitive sciences, a growing number of scholars have begun to apply cognitive and sensory theoretical approaches to the study of archaeological and historical evidence, especially with respect to ancient religions and rituals.[5] This edited volume assembles a series of case studies from international scholars (at varying stages of their careers), which explore interdisciplinary aspects of religious ritual and ritual experience in the Roman world. Focusing on cognitive and sensory approaches, these case studies critically (re)examine established views and material finds relating to rituals and ritual experiences. As Esther Eidinow notes 'some current ancient historical research . . . has tended to privilege mind *or* body as its focus . . . by distinguishing sensory from cognitive approaches'.[6] By understanding sensory and cognitive processes as inextricably connected, and by merging sensory and cognitive scholarship and approaches, this volume pushes disciplinary boundaries and offers novel interpretations. The case studies in this volume were chosen because they address elements of both polytheistic and Christian rituals, covering the period from the late Republic to late Antiquity, while offering a comprehensive examination of evidence (historical, archaeological, iconographic, and epigraphic) from Italy as well as (a range of) Roman provinces.

In discussions between contributors of this volume, it became clear that the cognitive approaches applied to ancient rituals were relevant not only to the ancient world, but reflect an approach to ritual performances and events that could be applied across time, space, and disciplines on a broad scale, including one's own personal ritual experiences. While ancient religion is often placed in a separate realm, viewed with values and approaches that are distinct from modern society,[7] the case studies in this volume employ a broad range of cross- and inter-disciplinary

(i.e. that we learn from these others), extended (i.e. that we exude our emotions, thoughts and experiences into the world), materialized (i.e. that we materially manifest and ground our cognition in material culture) and encultured (i.e. that our cognition is deeply anchored in and realized by cultural ideas, models, values and so on).' See also Ambasciano 2017: 142, Geertz 2010, Kundtová Klocová and Geertz 2019, and Eidinow *et al.* 2022: 3–4.

[4] Anderson *et al.* (2018: 15) state: 'notions of cognition can be shown to be fundamental to how we conceptualise debates in every discipline – the study of cognitive phenomena cannot be considered a specialist niche, but is rather a necessary underpinning of any study of humans in the world.'

[5] Some of these studies include: Chaniotis 2006, Chaniotis 2013, Cusumano *et al.* 2013, Day 2013, Hamilakis 2013, Rüpke 2013, Rüpke 2016, Van der Ploeg 2016, Cairns and Nelis 2017, Mackey 2017, Driediger-Murphy and Eidinow 2019, and Papadopoulos *et al.* 2019, among others.

[6] Eidinow 2022: 70, n.4. [7] Eidinow *et al.* 2022: 7.

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perspectives to address fundamental and universal questions about religious ritual and ritual experience. These questions include:

- What role do the senses play in the performance/understanding/remembering of ritual?
- How does the organization of physical space (religious space, urban space etc.) inform ritual movement?
- What role do emotions play in religious rituals/performances?
- How does material culture reflect/inform ritual understanding?
- How are religious rituals learned/remembered/transferred?

Cognitive Science of Religion and Cognitive Historiography

> The cognitive science of religion is paving the way for new explanations of religion. Indeed, CSR has changed the way we view the world and how we analyze it.
>
> Geertz, van Mulukom and Laigaard Nielbo[8]

The year 2020 marked the thirty-year anniversary since the founding of cognitive science of religion (CSR) as a discipline.[9] To understand the ways in which cognitive studies have shaped approaches to religion, and specifically to rituals, a brief exploration of this emerging field and its methodologies is necessary. The interdisciplinary field of CSR was initially established to challenge the approaches and theories of cultural determinism and extreme cultural relativism, which predominated in the study of religion in the second half of the twentieth century, and which lacked a comprehensive explanation for how religious concepts are formed, learned and diffused. Departing from earlier approaches, CSR asserts that religion and its components can be studied scientifically; that humans have innate inclinations to hold certain cognitive biases (such as the tendency to anthropomorphise[10] divinities); and that cognitive processes, influenced by evolutionary, environmental, and cultural factors, can mould and constrain religious ideas, beliefs, and behaviours. As such, CSR scholars explore how religions are formed, and how religious ideas,

[8] Geertz *et al.* 2017/2019: 2. [9] Geertz 2017: 36–37.

[10] Anthropomorphism (i.e. the tendency to imagine and depict divinities in human form) has been attested in cultures throughout the world, dating back to the Late Stone Age. The ancient Greeks and Romans were aware of this cognitive bias, with the Greek philosopher Xenophanes of Colophon famously remarking that humans tend to depict their gods looking and behaving like humans, and that if horses could draw their gods they would draw them as horses (fragments B14 and B15).

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beliefs, and behaviours are learned, remembered, and transmitted between individuals and groups (horizontal transmission) as well as through generations (vertical transmission).[11] As CSR scholar Claire White states: 'At the core, CSR scholars accept that religion is a product of the mind situated in its cultural environment.'[12] Employing a methodology that deconstructs religion into principal components (e.g. religious rituals and experiences, supernatural agents, beliefs about the afterlife etc.), CSR scholars apply a variety of interdisciplinary approaches to formulate and empirically test theories and hypotheses concerning these components, in order to assess cross-cultural patterns of religious thought and behaviour. This methodology contributes to a more comprehensive and universal understanding of religion and religious phenomena.[13]

These bottom-up, scientific approaches to religion have been especially lucrative with respect to the study of religious rituals. One particular contribution of CSR is in explaining how religious ideas, beliefs, and practices (including rituals) are successfully transmitted and why particular concepts and practices endure across cultures and throughout history.[14] Although most CSR scholars agree that ritualization initially developed among early human populations and that humans are psychologically predisposed to ritual behaviour,[15] the extent to which ritual behaviours are an evolutionary adaptation or a by-product of cognitive processes is still debated.[16] Whether one views the successful transmission and endurance of religious practices as an adaptation or a by-product, it is a universal truth

[11] White 2021: 1–6 and 20. For a summary of key CSR studies on ritual see White 2021: 255–305.

[12] White 2021: 28.

[13] White 2021: 11–15, 32–33, 36–37. By merging evolution, culture, and cognition to explore universal cognitive and cross-cultural aspects of religion, CSR aims can be viewed to align with the omniculturalism imperative. Fathali Moghaddam (2012: 306) describes the omniculturalism imperative as: 'During the first stage, the *omniculturalism imperative* compels us to give priority to human commonalities . . . in omniculturalism, the focus is on universals in human behavior as established by scientific research . . . During stage two of omniculturalism, group-based differences are introduced, and the value of also having diversity is highlighted. However, the priority remains with human commonalities, and group-based differences are treated as secondary. The end result of omniculturalism is a society in which people are knowledgeable about, and give priority to, human commonalities, but also leave some room for the recognition and further development of group distinctiveness.' These approaches should be especially encouraged in the context of analysing Roman religious rituals and ritual experiences, given the diverse socio-cultural context of the Roman empire and the recent rise of globalization and glocalization theoretical approaches in Roman archaeology.

[14] White 2021: 255–256.

[15] White 2021: 95, table 4.2, and 312.

[16] Scholars such as Richard Sosis, Joseph Bulbulia, Cristine H. Legare and Ara Norenzayan propose that aspects of ritual which promote individual health and/or group cooperation and cohesion may have been selected for and were therefore successfully transmitted, enduring across cultures and historical periods. However, other CSR scholars, such as Pascal Boyer, E. Thomas Lawson and Robert N. McCauley, propose that aspects of religions (such as rituals) can be understood as by-products of

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that certain religious ideas, beliefs, and behaviours recur across time and societies. As Claire White states 'This is in part because ideas are constrained by our experience of the world.'[17] The common constraints of ritual experiences, which have been observed across cultures, time, and space, reflect the illuminating results of cognitive approaches to rituals: finding commonality through a series of diverse and dynamic assessments. By integrating perspectives from evolution, cognition, and culture into the study of religion, CSR can provide us with a richer understanding of how human cognitive processes merge with environmental factors to produce and communicate ritual practices, and why humans have continued to seek out ritual experiences.

CSR approaches also address longstanding challenges in the study of ritual behaviours, in particular ritual deviations, emotional contexts (e.g. fear of rejection or anxiety), and group dynamics, as is explored further in Abigail Graham's Chapter 4 in this volume. Since it is not always clear how performed ritual actions achieve the desired ritual goal (i.e. rituals are causally opaque) and since individual experience is limited, humans are therefore less prone to deviate from ritual behaviours which are perceived as traditional or 'correct'. From an evolutionary standpoint, challenging group norms or refusing to participate in group activities may have resulted in social ostracism and death for our ancestors. Therefore, fear of social rejection and the desire to signal group commitment may also explain why individuals are prone to faithfully imitate and transmit ritual behaviours, and why aspects of ritual persist over time.[18]

Why rituals persist can also be explained partly by the beneficial effects that they produce. In terms of effects on individuals, CSR research has shown that rituals contribute to improving the physical and mental health of ritual participants, such as reducing anxiety, as well as providing a semblance of control during tumultuous times.[19] Pascal Boyer and

human cognitive processes and biases. See Bulbulia 2004, McCauley 2020: 112–115 and White 2021: 66–69, 257, and 315–316.

[17] White 2021: 49.

[18] See Legare and Nielsen 2015 and Watson-Jones *et al.* 2016. White (2021: 262) states: 'As Legare and colleagues have argued, from an evolutionary perspective, given the variability and limitations of personal experience and intuition, and the cognitive effort involved in inferring intentions and goals, natural selection ought to favor a social learning strategy where we imitate ritual behaviors as closely as possible. In other words, what you know about the world is limited, and when uncertain about something, a sound strategy is to copy others whom you think know better.'

[19] White 2021: 65, 285. On the anxiety-relieving effects of rituals and sense of control see: Whitson and Galinsky 2008, Sosis and Handwerker 2011, Lang *et al.* 2015, and Lang *et al.* 2020, among others. McNamara (2014: 162–163) notes that several studies in neurosciences have found that religious practices have beneficial effects on individuals, such as increased happiness and self-control.

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Pierre Liénard's 'Hazard Precaution System' theory posits that when faced with unpredictable or threatening situations we spontaneously exhibit ritualized behaviours, which provide an anxiety-reducing effect and re-instil a sense of control over our environment.

> Anxiety is lowered by subjectively containing it through scripted action . . . Participants focus on the activity they are performing, not on the goal of each behavior, which swamps working memory. Thus, attention is readily deployed towards the concern to perform the actions correctly . . . These effects are at least temporary, while the acts are performed, and so the actions are repeated . . . to reduce anxiety.[20]

The ways in which we cognitively process and experience the world around us influence our actions, which, in their turn, exert an effect on our cognitive and affective states.

At the level of the group, rituals serve to build trust, cohesion, and cooperation among group members, as well as to instil and reinforce group values (these effects are discussed in Blanka Misic's Chapter 1).[21] Participating in extreme rituals can serve as a costly signal of group commitment and belonging, promoting trust and cooperation between group members.[22] For example, experimental research in CSR indicates that high-intensity and painful rituals create stronger bonds between ritual participants. Physiologically, extreme rituals can lead to increased heart rates and even synchronized heart rates among close-knit ritual participants and spectators, in addition to inducing feelings of euphoria, which opens ritual participants to social bonding as well as strengthening existing bonds.[23] Rituals can also become Credibility Enhancing Displays (CRED) – an individual's credibility is enhanced within their social circle when they actively participate in a costly ritual, with other individuals then being encouraged to follow and imitate their ritual behaviour, therefore successfully transmitting ritual knowledge.[24]

Although CSR research on the psychological, physiological, and social effects of rituals has yielded illuminating results, further research on ritual experiences is still needed. Only a few CSR researchers have focused on

[20] White 2021: 286. On Hazard Precaution System theory see: Boyer and Liénard 2006 and Liénard and Boyer 2006.
[21] White 2021: 288–289, Dunbar 2021: 24, Hobson *et al.* 2017: 11, and Watson-Jones and Legare 2016.
[22] White 2021: 293–295. On costly signaling theory see Sosis 2004.
[23] Konvalinka *et al.* 2011, Xygalatas *et al.* 2013, Xygalatas *et al.* 2013b, Fischer *et al.* 2014, Xygalatas *et al.* 2019, McCauley 2020: 107, and White 2021: 292–293.
[24] McCauley 2020: 115–116 and White 2021: 295–296. On the theory of Credibility Enhancing Displays see Henrich 2009. On costly rituals and Credibility Enhancing Displays see Xygalatas 2022: 198–207.

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a detailed study of ritual experiences, such as Dimitris Xygalatas and his colleagues on experiences of extreme, fire-walking rituals (discussed further in the Conclusion chapter).[25] Ann Taves and colleagues at the UC Santa Barbara Religion, Experience and Mind Lab Group have also conducted research on aspects of religious experience, such as near-death experiences.[26] Research on religious experience has further been informed by neuroscientific approaches. For instance, neuroscientist Patrick McNamara has observed that specific areas of the brain which generate and process religious experiences also regulate a sense of Self, therefore arguing that religion (and religious experiences) can serve to develop one's self-consciousness.[27] However, criticisms have been laid against CSR research for focusing too much on cognitive processes and not enough on the roles of emotion, body, and environment in religion.[28] Certainly, ritual experiences cannot be studied without all of these elements – we use our brains, our bodies, and our senses to perform ritual actions, and the engagement of our brains, bodies, and senses with our environment and our affective states produces ritual experience.

One promising way towards studying ritual experiences is by understanding individual brains and bodies as interconnected with each other and with their environments, therefore viewing cognition as embodied, distributed, situated, extended, materialized, and encultured. CSR scholar Armin W. Geertz has championed this view with his biocultural theory of religion 'which is based on an expanded view of cognition that is anchored in the brain and body, dependent upon culture, and extended and distributed beyond individual minds … Geertz proposes that understanding which manipulations are at play in religion, and how they implement cultural values, alter emotional states, and interact with cognitive processing can enrich our understanding of religion'.[29] The aim of this volume is to contribute to CSR research on ritual experiences and to build upon Geertz's findings by analysing Roman ritual experiences as products of cognitive processes, affective states, and sensory organs – all of which are influenced by neurological, environmental, and socio-cultural factors. Yet, how can these cognitive approaches enhance our understanding of the ancient world?

Although the cross- and inter-disciplinary field of CSR is growing every day, it is only within the last fifteen years or so that historians,

[25] Konvalinka *et al.* 2011, Xygalatas *et al.* 2013b, among others.
[26] Taves 2011 and White 2021: 324.
[27] McNamara 2014: 246.
[28] Geertz 2010b, and Gibson 2008.
[29] White 2021: 318 (quote) and Geertz 2010.

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classicists, and other scholars of ancient religions have started to engage with CSR approaches, creating a new subfield of the discipline called cognitive historiography.[30] Inspired initially by the pioneering work of CSR scholars such as anthropologists Pascal Boyer[31] and Harvey Whitehouse,[32] and philosophy and comparative religion scholars Robert N. McCauley and E. Thomas Lawson,[33] scholars of cognitive historiography have enriched and pushed the boundaries of the study of ancient religions, especially through their (re)examination of ancient religious experiences and rituals. For example, Harvey Whitehouse's 'Modes of Religiosity' theory, which describes ritual and ritual experience in terms of two modes – the imagistic and the doctrinal – has been particularly popular among historians and archaeologists, resulting in several publications which test Whitehouse's model within various ancient religious contexts.[34] In addition to the Modes of Religiosity approach, the application of a variety of other cognitive perspectives to case studies of ancient religions have further enhanced our understanding not only of ritual practices and ritual experiences, but also recast the way we now examine religious texts, religious objects, religious iconography, and religious beliefs and attitudes. These case studies range from the study of monotheistic religions (Judaism and Christianity),[35] to the examination of select Graeco-Roman polytheistic cults (including Asklepios,[36] Isis and Serapis,[37] Cybele/Attis,[38] Dionysos,[39] and Bona Dea[40]), belief systems,[41] and religious experiences.[42]

More than with any other ancient cult, the application of cognitive approaches to the study of the cult of Mithras has yielded particularly fruitful scholarship to date.[43] In general, the cult of Mithras has been

[30] The creation of the International Association for the Cognitive Science of Religion (IACSR) in 2006, alongside the creation of the *Journal for the Cognitive Science of Religion* and the *Journal of Cognitive Historiography*, whose first volumes were published in 2013 and 2014 respectively, has spurred a wider range of scholars to engage with cognitive approaches in the study of religion; bridging disciplinary gaps and encouraging collaboration among international scholars from the Humanities, Social Sciences and Natural Sciences.

[31] Boyer 1994.

[32] Whitehouse 2000 and 2004, and Whitehouse and Laidlaw 2004, among others.

[33] Lawson and McCauley 1990, and McCauley and Lawson 2002.

[34] See, for example, Whitehouse and Martin 2004, Martin and Pachis 2009, Martin and Sørensen 2011, Martin 2015, Misic 2015 and 2019, and Panagiotidou and Beck 2017, among others. For a brief summary of Whitehouse's Modes of Religiosity theory see White 2021: 269–278.

[35] Lundhaug 2014, Harkins 2015, Feder 2016, Hallvard Korsvoll 2017, and Robertson 2017, among others.

[36] Panagiotidou 2014 and 2022. [37] Pachis 2014. [38] Anders 2009.

[39] Giovanni 2009, and Ulrich 2009. [40] Ambasciano 2016 and 2022. [41] Larson 2016.

[42] Ustinova 2009 and 2018.

[43] Beck 2004 and 2006, Martin 2006, Chalupa 2011, Beck 2014, Griffith 2014, Martin 2015, Misic 2015, Panagiotidou and Beck 2017, and Panagiotidou 2018, among others.

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approached from two cognitive perspectives: Harvey Whitehouse's Modes of Religiosity theory for the study of Mithraic rituals,[44] and Roger Beck's 'Star-Talk' for the study of mental representations and astrological/astronomical elements of Mithraism.[45] Luther H. Martin has emerged as the leading scholar in applying cognitive approaches, and especially Whitehouse's Modes of Religiosity theory, to archaeological and iconographic evidence from the cult of Mithras. Martin's work, among other contributions, has argued for the importance of emotionally arousing and imagistic aspects of Mithraic rituals, and has helped to dispel the 'top-down' approach to Mithraism (i.e. the view of a common, standardized Mithraic myth-narrative belief system among all initiates of the religion).[46] On the other hand, Roger Beck's application of cognitive approaches has helped Mithraic scholars gain a deeper understanding of astrological and astronomical belief systems of Mithraism. His 'Star-Talk' concept, as a way to understand mental representations and to decode systems of signs, has influenced not only Mithraic scholarship,[47] but has also been applied to other ancient 'mystery' cults such as the cult of Isis.[48] In addition to these approaches, the ever-growing body of cognitive research on social cohesion and extreme rituals,[49] as well as ritual encoding and recall[50] is helping to open new pathways to understanding ritual behaviour and ritual experiences both in modern and ancient religions.

The emergence of cognitive historiography and the broader application of CSR approaches to the ancient world offer vast potential for further study. This volume presents one small step in applying cognitive approaches, including aspects of CSR's successful framework, to explore the role of ritual experiences in the ancient world. While ritual case studies in this work fall across a broad range of time, space, and purpose, they converge on similar aspects of ritual experience: the role of repetition, ritual deviation, group dynamics, object agency, and the evolution of a ritual within various emotional, physical, and spatial contexts. However divergent the resulting ritual experiences may have been, these components continue to emerge as the foundation of a ritual experience.

[44] Beck 2004, Martin 2006, Misic 2015, and Panagiotidou 2018, among others.
[45] Beck 2006 and 2014, Panagiotidou 2012.
[46] Martin 2006. See also Martin and Pachis 2009 and Martin 2022.
[47] Panagiotidou 2012.
[48] Pachis 2012.
[49] Dimitris Xygalatas and his scholarship on fire-walking rituals (see, for example, Xygalatas *et al.* 2019) have been instrumental in understanding extreme and/or painful rituals from a cognitive perspective. Specifically, on Mithraic ritual and social cohesion see Panagiotidou 2018.
[50] Hobson *et al.* 2017 and van Mulukom 2017, among others.

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Cognitive Experience and Rituals: History, Memory, and Emotions

> The brain, body and mind have often erroneously been thought to be more or less independent organs. They are enmeshed, however, not only internally (embodied) but also externally in a vast network of other brains, bodies and minds (encultured).
>
> Armin W. Geertz[51]

The relationship between rituals, history, and memory is clearly a productive one, in which an understanding of past rituals and performers can contribute to a better understanding of rituals in the present.[52] How we understand and access rituals as experiences and memories in a cognitive framework, however, is less clearly defined in classical scholarship. Simon Price, a leading scholar on ritual and memory in ancient history, had set out four contexts for the construction of memory: objects, locations (place and space), ritual actions, and textual narratives.[53] Recent scholarship, such as Dignas and Smith's 2012 volume *Historical and Religious Memory in the Ancient World*, dedicated to the late Simon Price, covers an impressive range of rituals across time and space and raises a number of questions about how ritual memory exists in the mind: is it stable or unstable depending on the approach, does it exist as only an image in the mind?[54] These questions seem to be moving towards the concept of a cognitive framework for ritual and memory but, as observed by Julia Shear in her otherwise glowing review, engagement with broader interpretative frameworks and scholarship on ritual memory is needed:

> If scholars working on the Graeco-Roman world are to have any impact on the larger field of memory studies, then they will need to start reading more broadly and to engage with studies on the creation of remembrance in more recent periods . . . One of memory's great benefits as a subject is its lack of conformation with the traditional subdivisions of the field: we need to approach it holistically and not to allow the traditional boundaries to limit our discussions and the questions which we ask.[55]

Price's contexts for constructing memory (objects, locations, ritual actions, and textual narratives) are very similar to the interpretive frameworks that have been employed by broader disciplines in assessing ritual performances; approaching rituals not only as scripted events but as individual and

[51] Geertz 2017: 35. [52] Dignas and Smith 2012: 1–2.
[53] Price 'Memory in Ancient Greece' in Dignas and Smith 2012: 15–36. Price's observations, particularly his four aspects of ritual perception, align very well with assessments from cognitive science of religion which are discussed further in Blanka Misic's Chapter 1.
[54] Dignas and Smith 2012: 11. [55] Shear 2012.

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interactive cognitive 'experiences'. Psychologists, philosophers, geographers, anthropologists, and archaeologists combine these contexts as part of a cognitive network through which concepts of 'place' and 'space' are defined: 'Place is how we make the world meaningful and the way that we experience the world'; 'Materiality, meaning and practice are combined in the production of a place of memory'.[56] Anthropologists, psychologists, and scholars of 'performance theory' have used similar factors as a means of assessing how cognitive experiences impact the perception of ritual performances and their codification in memory.[57] These interdisciplinary approaches assess ritual performances as embodied emotional events that are not only enhanced by cognitive experiences but defined by them.[58] Studies of ritual spaces and performances illustrate how the experience of an event can transform a viewer's concept of self, imbuing objects, spaces, and places with new meanings.[59] Interdisciplinary scholarship on ritual and memory converge upon a similar point: how one experiences a ritual event impacts both its perception and its recollection.[60] The inextricable connections between

[56] Creswell 2015: 19 and 128. See also Hamilakis and Theou 2013: 192: 'Place is produced through sensorial practise, performance, and memory', and Moser and Feldman 2014: 1: 'Sacred space does not exist *a priori* but is the outcome of actions, intentions, and recollections-it is the result of past and present interactions among humans, material implements, architecture and landscape.' For Place Theory in geography and philosophy see: Tuan 1977: 6, Pred 1984, Smith 1987, Casey 2001: 408–9, Cresswell 2015: 15–19. For Place and Memory see a summary of scholarship in Cresswell 2015: 120–128. For an overview of scholarship on cognitive and biocultural approaches to religious place/space see Geertz 2017: 48–51. For multi-temporal applications of Place and Performance theories at archaeological sites, see Hamilakis and Theou 2013: 181–94. For the application of 'Place Theory' in classical scholarship see summaries provided in the introductions of the following edited volumes: Totten and Samuels 2012, Moser and Feldman 2014, van Opstall 2018.

[57] For ritual theory in cognitive psychology see Lawson and McCauley 1990, McCauley and Lawson 2002 (esp. chapters 1–3), Whitehouse and Laidlaw 2004, Tyng *et al.* 2017, and Kundtová Klocová and Geertz 2019, among others. For ritual and modern performance theory see Schechner 1988, Garner 1994, Sofer 2010. Schechner 1988: 71 figure 30 describes and depicts the interaction between different aspect of a performance (drama, script, location, performance). For ritual performances in the ancient world see Chaniotis 2006: 9–16, Stavrianopoulou 2006, Chaniotis 2011: 211–38, Graff 2011, Chaniotis 2013, Latham 2016, and Cairns and Nelis 2017 (all of which are discussed in Abigail Graham's Chapter 4).

[58] The role of cognitive factors in performance and ritual efficacy (Schechner 1988: 102–560) is discussed further in Steven Muir's Chapter 5 and Abigail Graham's Chapter 4 in this volume.

[59] For a discussion of space/place, ritual and religious experience see Wescoat and Ousterhout's 2012 edited volume. For the role of props as accessories in sensory experiences and memory see Sofer 2010 (also discussed in Steven Muir's Chapter 5 in this volume). For further reading: Smith 1987, Schechner 1988: 121–160, Schieffelin 1998, Gardiner and Richardson-Klavehn 2000, Stavrianopoulou 2006, Chaniotis 2006, 2011, 2013, 2017, Elsner 2007, Hüsken 2007, Moser and Feldman 2014, Cresswell 2015, Dillion, Eidinow, and Maurizio 2016, Latham 2016, Ng 2018, van Opstall 2018, and Driediger-Murphy and Eidinow 2019.

[60] Cairns and Nelis 2017: 8 'The truth established by emotional research across the disciplines in which it is practiced is the ubiquity, persuasiveness, and centrality of emotion in everything that human beings do, and everything that they have ever done.'

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cognitive experience, the understanding of rituals, and their codification in memory are the founding principles of this volume and the tie that binds the individual case studies in the various chapters together.

Recent scholarship on rituals in ancient history has benefitted from broader interdisciplinary engagement in many ways. Of chief importance for this volume have been assessments of rituals that transcend traditional script-based approaches. As noted by many scholars, the limitations of 'text' or 'script'-based approaches to ritual are manifold: this perspective presents ritual from a single (often elite) perspective, depicting rituals as static, repeated events with a universal perception, function, and meaning, rather than as subjective experiences.[61] Without situating rituals in emotional contexts or applying practical human constraints, one risks disassociating these experiences from the cognitive frameworks that were used to create and retrieve memories. Script-based rituals often present perfectly enacted events with positive outcomes, which stand in contrast to the elasticity and variation (in both experience and outcome) that pervade performances in ancient and modern contexts.[62]

Key research initiatives on this topic include Angelos Chaniotis's ERC project *The Social and Cultural Construction of Emotions* which integrated text, object, location as well as an emotional context in the recreation of a ritual event.[63] This study and those that have followed transcend traditional limitations by incorporating a broader scheme of material evidence together with concepts of object agency, embodied spaces, and sensory experiences to illustrate the dynamic nature of rituals as events with numerous possible perceptions, meanings, and outcomes.[64] Similarly,

[61] For limitations of script-based approaches to ritual see the following works, which cover materials from historical and literary texts to art and archaeology: Chaniotis 2007: 49–51, Chaniotis 2012: 85–95, Chaniotis 2013: 216–18, Masseglia 2013: 131–147, Moser and Feldman 2014: 1–2, Latham 2016: 29–32, Rüpke 2016, Cairns and Nelis 2017: 13–15, and Driediger-Murphy and Eidinow 2019: 2–4.

[62] For theoretical discussions of ritual deviance and failure see Schechner 1988: 151–162, Schieffelin 1998 and Hüsken 2007. For individual historical studies of ritual failures see Stavrianopoulou 2006, Chaniotis 2007: 49–51, Graff 2011, Moser and Feldman 2014, Cresswell 2015, Rüpke 2016: 6–10, and Latham 2016: 39–43.

[63] Masseglia 2013: 132 states 'If we are to engage with emotions in antiquity . . . we must engage equally with their externalised expressions in form of textual and material culture, and with a cultural medium through which this transformation occurred.' Chaniotis' project produced prolific publications, the following is a selection of those that are more relevant to ritual performances as experiences: Chaniotis 2007, Chaniotis 2011, Chaniotis 2012, Chaniotis 2013, Chaniotis 2017 as part of Cairns and Nelis 2017.

[64] Cairns 2019: 8 state 'Epigraphic texts, dedications, religious architecture and the configuration of the site more generally, all contribute to the creation of a shared space for emotional experience. . . and emotions- awe, fear, wonder, respect, hope, gratitude, and so on- on which religious experience depends.' For expansive studies on specific types of ritual performances see Latham 2016: 39–43 (on *pompa* in Rome) and Driediger-Murphy and Eidinow 2019 (on divination).

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Rüpke's approach, shaped by the anthropologist Meredith McGuire, assesses 'lived religion' which is 'reconstructed as everyday experiences, practises, expressions and interactions', providing a broader framework for exploring rituals.[65] This dynamic framework addresses a larger corpus of religious materials, practices, and outcomes, highlighting variance, deviance, and failure in ritual performances, despite claims of repetition, consistency, and positive outcomes.[66] Both Rüpke and Chaniotis employ imaginative approaches to ritual reconstruction, addressing the emotional contexts of ritual accounts as individual experiences with divergent expectations and outcomes. Their surveys and many others advocate further investigation of specific ritual experiences through the application of interdisciplinary cognitive approaches.[67] These scholars also employ a wider range of primary source materials connecting history (often based on literary sources) with epigraphy, material evidence, and archaeological sites.

Experiencing Rituals: Challenges in Cognitive Approaches

This volume contributes to existing dialogues on ritual and cognition by providing a series of individual case studies on cognitive experiences of ritual in the ancient world. Approaching memory and ritual as a 'lived experience', the chapters employ a range of cross- and inter-disciplinary perspectives as well as a broader line of questioning on how ritual proceedings were constructed, performed, processed, and remembered as an experience of the mind, the body, and the external environment (material world). This approach also builds upon Simon Price's contexts of ritual (objects, locations, ritual actions, and textual narratives), using cognitive and sensory approaches to expand the scope of ritual as a cognitive and sensory experience. The ritual case studies in this volume are not meant to be definitive accounts of rituals but reflections of the plurality of experiences, perspectives, and outcomes an individual might have. Understanding how we experience events on a cognitive level is not so much a means of 'knowing' how rituals were perceived but a means of exploring what we don't know about ritual experiences: how we are captives of subjective experiences, memories, and evidence. The variance of ritual experiences in these case studies illustrates

[65] Rüpke 2016: 4–5. See also Rüpke 2013.
[66] Rüpke 2016: 5. Similar observations about ritual performances and constraints are also made in cognitive psychology: McCauley and Lawson 2002: 1–6.
[67] Day 2013: 2–4, Hamilakis 2013: 418–9, Masseglia 2013: 132 (supra), Moser and Feldman 2014: 6, Latham 2016: 150, Cairns and Nelis 2017: 13–14, and Driediger-Murphy and Eidinow 2019: 9–10.

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both how and why dynamic approaches to ritual experiences are necessary, through a means of critical and imaginative engagement with a broad range of evidence.

Constructing a broad-ranging study of ritual experiences across the Roman world has a number of limitations. Providing one account of a ritual can present it as a singular or universal experience with a consistency in context, audience, atmosphere, performance, imagery, and outcome that may not reflect the reality of ritual performances across time and space.[68] It is difficult to employ a 'universal' approach to assessments of ritual experiences – each place/space, each context, each ritual action and object, was as unique as the individuals or religious communities who participated in the event. Even when accounting for a successful recreation of the same environment and a perfect repetition of a specific ritual action, the shifting cognitive and affective states of the participants and performers would have influenced ritual experiences, rendering each experience inimitable. The existence of a single account of a ritual, therefore, should not be taken as proof of a singular experience or audience.

Assessing rituals as cognitive processes can be challenging: there are so many rituals, places, and experiences in antiquity; what can be gained by reconstructing a single experience? Several recent edited volumes on ritual and ritual experience address the study of specific and individual rituals as a means of exploring a single event within a broader framework of cognitive perspectives (e.g. how a ritual may have functioned socially, politically, spatially, historically, performatively).[69] Chapters in this volume illustrate a number of ways in which cognitive approaches can contribute to our understanding of rituals as experiences. Blanka Misic's Religious Learning Network (RLN) theoretical model (Chapter 1) illustrates how rituals could be learned and transmitted through engagement with objects, people, places, and events, which formed a dynamic network of memories. Chapter 2 by Emma-Jayne Graham and Chapter 3 by Vicky Jewell explore this concept further in terms of haptic experiences. These object-based studies employ interdisciplinary approaches to sensory engagement between objects, images, performers, communities, and places.[70] Stepping beyond ritual objects

[68] Schieffelin 1998, Hüsken 2007, and Latham 2016.

[69] This list is but a selection of edited volumes on the subject: Stavrianopoulou 2006, Corrigan 2007, Chaniotis 2011, Chaniotis 2012, Dignas and Smith 2012, Totten and Samuels 2012, Cusumano *et al.* 2013, Moser and Feldman 2014, Dillion, Eidinow and Maurizio 2016, and Cairns and Nelis 2017.

[70] Reconstructing ritual experiences solely with objects through cognitive and sensory networks has been the subject of interdisciplinary scholarship, such as McCauley and Lawson 2002, as well as recent archaeological initiatives: Papadopoulos *et al.* 2019 considers sensorial engagement with

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themselves, this work also explores how one can recreate ritual experiences without surviving ritual objects, by using accounts of ritual and/or ritual performances in literature and epigraphy together with surviving ritual contexts. The final two chapters, Chapter 4 by Abigail Graham and Chapter 5 by Steven Muir, use cognitive approaches to explore the transformation of a ritual performance through a broad range of sources, from literary accounts to the 'lived' experience of an individual engaging with ritual objects and spaces.

Rituals As Cognitive Experiences: Differing Contexts and Approaches

Examining ritual experiences across a broad scope of time (from the late Republic to the fourth century CE), space (across the Roman Empire), and religion (Pagan and Christian, state cults and foreign cults in Rome, as well as local cults in context), the volume does not claim to provide a comprehensive survey of rituals and ritual experiences across the Graeco-Roman world. This expansive scope does, however, illustrate both the variability and syncretism that define ancient religion, demonstrating why its beliefs, rituals, sacred spaces, objects, performers, and audiences require dynamic and flexible approaches. On the whole, the volume aims to show how different cognitive approaches to experiencing and remembering rituals can contribute to our understanding of rituals as dynamic and emotional acts, which were subject to a lived experience. As Emma-Jayne Graham notes in Chapter 2 (p.84):

> Acknowledging the variability inherent within ancient lived religion is important principally because it suggests that even the most strictly traditional elements of Roman religion – those which on the surface appeared to Romans (and which still appear to us today) as unchanging, inflexible, and almost inevitably encoded within Roman ways of being – could still provide space for personal, deeply individualized experiences of lived religion.

Each case study in this volume considers the role that experience and cognition could play in the perception of a ritual event; how a sensory experience with a specific place, time, and gestures could shape the meaning and perception of ritual as well as the way that it was remembered in the human mind.

In the first chapter Blanka Misic proposes a new, cognitive-based theoretical model for analysing rituals, called the Religious Learning

Neolithic figurines and how sensory approaches can be applied more broadly to the study and display of these objects.

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Network (RLN) model, in order to explain how religious knowledge (including ritual proceedings) could be learned, remembered, and transmitted among worshippers. Relying on archaeological, iconographic, and epigraphic evidence, she tests the RLN model within a case study of *Nutrices Augustae* – a cult of protective mother-goddesses whose worship was almost exclusively restricted to the city of Poetovio (modern-day Ptuj, Slovenia), located in the Roman province of Pannonia Superior. The model sheds new light on the type of rituals performed within the cult and demonstrates that rituals were learned and transmitted through a combination of emotional attachment and repeated sensory exposure to fellow worshippers and the cult environment (objects, places, and events). These elements helped to create a dynamic network of memory associations in the form of a life-experience narrative for the worshippers, therefore facilitating the storage and retrieval of ritual memories.

In the second chapter, Emma-Jayne Graham examines religious knowledge from another cognitive perspective. Combining 'lived religion' with haptic, materially-informed approaches, she explores the important role that objects played in the production of religious knowledge. By examining the frieze of the Vestal Virgins from the *Ara Pacis Augustae*, Graham demonstrates that the diversity of ritual 'lived' experiences, combining human and more-than-human material things, created differing types of religious knowledge. In her chapter, Graham sheds new light not only on the possible ritual experiences of the Vestals but also on how the study of individualized religious knowledge can contribute to broadening our understanding of public and communal rituals.

In the third chapter Vicky Jewell adds to the analysis of haptic and materially-informed approaches by exploring how polychromy informed worshippers' engagement with ritual space and ritual objects. By examining perceptions of colour on Mithraic reliefs and inside Mithraea, Jewell contributes to broadening our understanding of Mithraic ritual and ritual experience. Jewell combines ancient literary and philosophical explanations with modern scientific examinations of sight and perception of colour, in order to decode some of the semantic messages which colour may have conveyed to the ancient viewer and worshipper. Jewell shows that colour, in addition to form, design, and decoration of Mithraea, served to instil fundamental concepts of the universe among worshippers of Mithras.

In the fourth chapter, Abigail Graham applies cognitive theories to interpreting and reconstructing a specific ritual event: Salutaris's procession at Ephesus in the second century CE. Through a careful examination

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of the monumental inscriptions (including a script of how the procession was meant to take place: Salutaris's foundation), the surviving urban context, and a contemporary (albeit fictive) account of a procession in Ephesus, Graham attempts to reconstruct the ritual within practical and emotional constraints, juxtaposing the claims of the text with the reality of the ritual experience. Employing Chaniotis's 'Murphy's Law of Ritual Events', she explores the variant experiences and outcomes (successes and failures) for viewers, performers, as well as the objects, spaces, and places involved. Is repetition a medium for the expression of solidarity or change? Her survey of a single ritual event illustrates the complexity and capricious nature of performances as emotional and sensory experiences, whose perception and memory were subject to many variables.

In the fifth chapter of the volume Steven Muir reconstructs the Christian pilgrim Egeria's experience of a Good Friday ritual in Jerusalem during the fourth century CE. Through a detailed consideration of literature, archaeological context, and object agency, Muir considers the networks through which Christian rituals were experienced, remembered, and recorded as complex ritual drama. Examining the archaeological site and space of the sacred procession, he employs aspects of place theory as a means of situating the ritual experience within a specific context: the Church of the Holy Sepulchre. Then, applying performance theory to the complex relationships between individuals and ritual objects (e.g. the ring of Solomon, fragments of the true cross), Muir assesses the sensory and emotional engagement between performers and a network of symbolic images or 'the props of faith'. His study illustrates how ritual performances could transform ritual objects, which were often constructed for the performance, from props into powerful and emotive symbols of faith.

Overall, this volume is an attempt to explore the cognitive processes through which we experience rituals and the role this framework can play in embedding meaning. Exploring the different sensory and cognitive networks of ritual experience in Roman religion, these studies illustrate the plurality of ways one could experience and remember a ritual. By critically assessing and recreating rituals and their sources, this work also demonstrates the various ways that one can approach rituals as dynamic and emotive experiences. The aim is to set singular 'eyewitness' accounts within a broader cognitive network of lived experiences and embodied interactions between individuals, objects, spaces, and actions. The global appeal of this work lies in the emerging field of study (cognitive and sensory experience), the broad range of material (Pagan and Christian), and the geographic scope of the work (from a local temple in Pannonia, to

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an iconic monument in Rome, to a spectacular festival at Ephesus), which offer a wide yet uniquely inclusive view of Roman religion. These case studies contribute to scholarship across a broad range of disciplines, engaging readers at various career stages from undergraduates to experts in fields of history, archaeology, religion, anthropology, memory studies, and beyond.

Concluding Thoughts

In his 2017 article, Armin W. Geertz praises cross- and inter-disciplinary scholarship stating: 'It is exciting and admirable that scholars of the classics have opened their arms to the new cognitive approaches and the results and theories of neuropsychologists. This area is indeed in urgent need of exploration because their results are clearly relevant to our field of expertise.'[71]

The present volume is an answer to his call and hopes to further the disciplines of cognitive historiography and cognitive science of religion by applying and testing cognitive theories within a wider array of Graeco-Roman cults than has been done before (*Nutrices Augustae*, Vestal Virgins, Artemis), as well as by contributing new cognitive perspectives to more conspicuous religions (by examining theatrical aspects of Christian rituals, and effects of polychromy on ritual experience in the cult of Mithras).

In approaching the study of ritual and ritual experience from a variety of disciplinary and theoretical perspectives (archaeology, classics and ancient history, religious studies, psychology and cognitive sciences, sensory studies, and performance studies) this volume offers scholars and students in Humanities and Social Sciences a wide yet uniquely inclusive view of Roman religion. Many preceding publications on Roman religion are constrained not only by disciplinary barriers (requiring advanced knowledge of ancient languages, cultures, and disciplinary terminology); but also by topical (often focusing on a specific cult, religion and/or religious practice) and geographical (examining a specific province or settlement) limitations. This approach can impede non-specialist readers from gaining a grasp of the complexities of Roman religion. By critically examining a series of different rituals and concomitant religious experiences across time and space in the Roman Empire, this volume emphasizes the universal importance of cognition in constructing, performing, experiencing, and remembering religious rituals. Focusing on cognitive and sensory

[71] Geertz 2017: 46–47.

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experiences of Roman ritual is also an approach to ancient religion that is relatable to broader audiences – all of whom have at one point in their lives participated in a ritual. Observations made in this work represent a point of connection between cultures, societies, and religions both ancient and modern, with global relevance and transdisciplinary application.

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