HARVEY WHITEHOUSE

Explaining Religion and Ritual

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I used to run a large research project at Oxford University called, simply, "Explaining Religion".[1] Funded by the European Union and involving collaboration among numerous universities around the world, the goal of this project was to establish whether there were any universal features of religious thinking and behaviour written into our biological makeup – and to what extent our innate predispositions and susceptibilities could vary across space and time.

Upon hearing about the project, some people would immediately want to tell me why, in their opinion, humans have religious beliefs. Among the commonest explanations I heard was that religion emerged to ameliorate our terror of death, or as an instrument of political domination. Explanations like this might contain a grain of truth but they have serious limitations. After all, a lot of the belief systems we call "religious", far from offering comfort in the face of our mortality, actually cause us to think more than we would otherwise do about the gruesomeness of death and the sufferings of hell or purgatory. Likewise, while religions can serve the interests of power holders, they can also fuel rebellions and revolutions. In the 19th and early 20th centuries, many great scholars speculated about the causes of religion. Sir Edward Tylor argued that religion originated in an attempt to make sense of puzzling observations and experiences; Freud argued that religion resulted from repressed feelings of guilt; Durkheim argued that religion was a symbolic expression of the social order; Marx argued that religion emerged as a tool of class oppression. All these undoubtedly brilliant theorists, however, suffered from a common problem. Like many people nowadays who think

they know why we have religion, grand Victorian scholars were seeking a magic bullet explanation, a single cause that could explain religion in its entirety. On our "Explaining Religion" project, we soon came to the conclusion that this was unrealistic.

What we commonly think of as religion isn't really a single coherent phenomenon. It is actually a loose bundle of things, such as supernatural agent concepts, afterlife beliefs, creation myths, signs and portents, altered states of consciousness, rituals and so on. Although people happily lump these things together, they are founded on very different psychological systems and are sensitive to very different triggers. There isn't space in this short chapter to cover a long list of the traits that people associate with religion, so let us focus on just one: ritual.

Homo Ritualis

Rituals are everywhere. All human societies have them and, as far as we can tell, they always have. Like the broader category of religion, ritual can be fractionated into a number of different aspects, including things like synchronous movement, symbolic qualities, concerns about contamination (and associated concerns about threshold and entrance, exactness and symmetry, separating and boundary marking). Some rituals are such ingrained habits that we scarcely notice them. People often associate rituals with religion, but rituals are a pervasive feature of all aspects of our lives, not just contexts for worship. Even atheists perform a vast array of rituals every day – by following conventions for greeting each other, handling food, deciding what to wear, how to style their hair and so on.

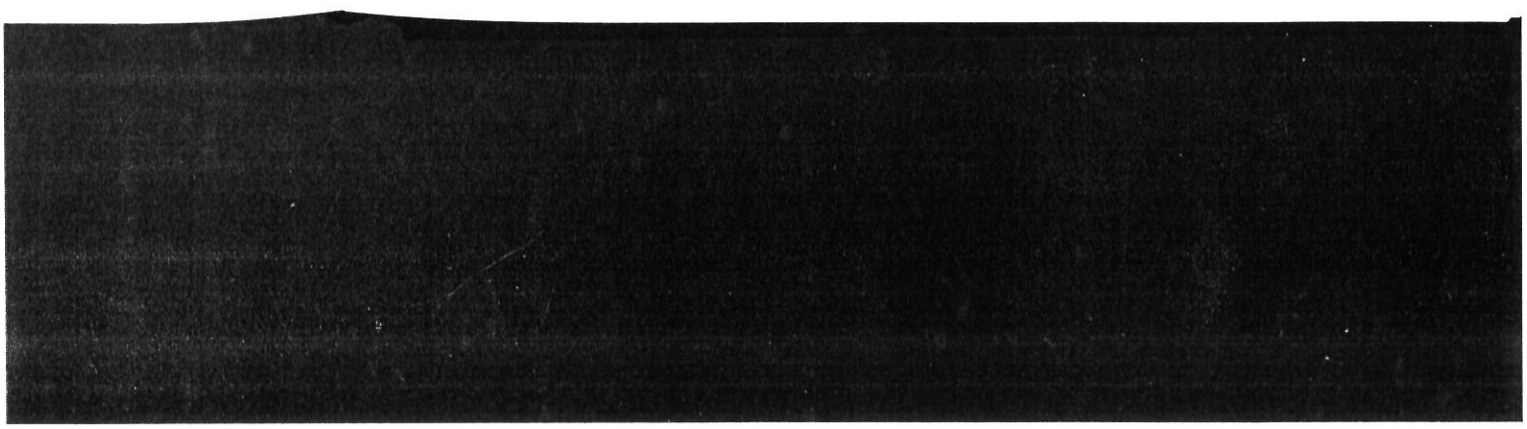
One of the most interesting features of ritual from an anthropological perspective is its "causal opacity". That is, rituals don't have a rational causal structure – it's simply a matter of following a convention, observing the proper or the "done" thing. When we think of ordinary instrumental behaviour, we assume it has a knowable causal structure. For example, when we observe the behaviour of an angler, we naturally infer that the rod, reel, line, hook and bait are all arranged so as to assist in the extraction of fish from the water. This even goes for elements we don't fully understand – like the cogs and other mechanisms in the reel, which we assume are there somehow to facilitate the process of casting out or reeling in. By contrast, when we observe a bottle of champagne being swung on a rope so that it shatters against the hull of a ship, we don't

interpret this action in purely instrumental terms. It would be absurd to imagine that the bottle is going to help push the ship down the slide into the water. If it assists in the process, it's assumed that it won't be in terms of ordinary physical causation. For many, sacrificing a bottle of bubbly is just a traditional entailment of launching a ship. If it's also thought to do something useful (eg bring good luck in some unknown way), such outcomes are never adequately explainable in physical-causal terms.

The reason we home in on causal opacity is that we think it picks out a very special feature of our evolved psychology. We're the only primates that rampantly imitate causally opaque behaviour. Chimps couldn't care less about how you eat your food – they don't clasp their hands in prayer, or do the goosestep. It's true that chimps and other primates sometimes learn things from each other, but they are much more attentive to skills that are technically useful – skills that you can see actually work. Since cultural rituals don't have any causal structure, most sensible animals wouldn't bother copying them. But what those other animals don't realise is that rituals contain a powerful secret: by slavishly conforming to arbitrary social conventions, human groups are binding themselves together into cooperative units – and thanks to our rituals, we are able to cooperate in ways that none of the other higher mammals has managed to accomplish.

One of the many little clues suggesting that ritualistic behaviour is written into our evolved biological make-up is the fact that it emerges very early. Even infants seem to be fascinated by causally opaque behaviour and will try to copy it. Indeed, the willingness to copy arbitrary conventions is essential to acquiring language – you have to accept that certain funny utterances refer to stable features of the world around us, not because there's a causal relationship between the sound and the thing it refers to, but simply because that's the accepted convention.

Our tendency to copy causally opaque behaviour is sometimes called "overimitation". Psychologists have known for some time that if you show children an unnecessarily complicated way of retrieving an object from a box they will copy not only the causally necessary behaviour, but also the pointless elements. In fact, even if you tell them to avoid reproducing any "silly" elements that don't really help with getting the object out of the box, they still copy them – apparently they can't help themselves. For some time, psychologists have been thinking that over-



imitation evolved to help children acquire complex technical skills before they could actually understand how they work. But a few years ago, I teamed up with developmental psychologist Cristine Legare at the University of Texas to explore a very different interpretation. Perhaps the function of overimitation, we reasoned, is to transmit arbitrary group conventions – rituals, in other words. And perhaps what motivates this behaviour is the desire to belong, rather than to learn anything technically useful.

To test this idea, we designed a study in which young children (4–6 year olds) are shown a novel action sequence, using objects they have never encountered before. The children were split into two groups, receiving slightly different treatments. In one condition, the modelled action sequence ended with all the objects back where they started. We called this the "ritual" condition because it made no sense to interpret the actions as having a causal structure leading to an outcome. In the other condition, the model handled all the objects in exactly the same way as in the first treatment, but with one crucial difference – the last object ended up not where it began, but in a box. We called this the "instrumental" condition because, even though it was undoubtedly an odd way of putting an object into a box, there was at least some kind of causal structure to the action sequence, leading to an end goal. Children in each of these two groups were then given the objects to handle themselves. Even though no instruction was given to copy what they had seen, all children imitated the modelled behaviour to some extent. Crucially, however, children copied more faithfully and were less prone to inventing novel behaviours of their own in the ritual condition.

Humans seem to interpret behaviour in two very different ways – either as instrumental (aimed at manipulating the causal structure of the world to achieve an end goal), or as ritualistic (aimed at sharing a set of conventions distinctive to their group). One of my PhD students, Rachel Watson-Jones, helped us replicate the findings of our original experiments while also extending the paradigm. What we found is that, if you prime the children with a threat of ostracism, then levels of imitation associated with the ritual condition go even higher. The ritual stance seems to be all about trying to belong, to affiliate with an in-group. When you are insecure about your status as a group member, you become even more anxious to conform to group conventions – basically, you overimitate even more. In some of our recent studies, we have used

verbal framings to activate the ritual stance – we tell children that the model "always does it that way", suggesting that this is a conventional preference, rather than an instrumentally motivated action. We have found that even this mild encouragement to adopt the ritual stance gets children copying opaque behaviour more slavishly.

Ritual as Social Glue

Collective rituals play a crucial role in binding groups together. Such rituals tend to fall into two basic clusters. On the one hand, there are those, such as initiation rites and fraternity hazings, which are dangerous, painful, scary, or humiliating. We call these imagistic rituals, because they make a powerful impression on people and leave a strong image in their minds. Many imagistic rituals are rare, or once-in-a-lifetime events. Then, on the other hand, there are more sedate or mild rituals, like those observed in church on Sundays, or the mosque on Fridays, which are performed regularly, usually as part of a system of religious doctrine. We call these doctrinal rituals.

Imagistic and doctrinal rituals affect people in different ways. Imagistic rituals are very effective at binding small groups of people into tightly knit, emotionally bonded groups. It's almost as if they create new family units, connected not by shared genes, but by their shared experiences in sacred rituals. Doctrinal rituals work differently. They are generally standardised over much large groups of people than imagistic rituals, because they are often linked to rigid belief systems that can be exported intact to new people. The frequent repetition of doctrinal rituals – from daily prayers to weekly holy days, through to all the events that fill up religious calendars – cements the social identity of potentially enormous social groups, making them feel like huge extended families.

Imagistic rituals build groups by creating a sense of family connection among participants. They do this by making us feel like we share something basic and essential about our innermost personal identities. Every one of us has a personal self – a set of traits that make us who we are. A lot of these key features come from our past experiences, events that have shaped our lives – our autobiography. The most self-shaping experiences are often rather negative ones – ordeals that we've overcome, often making us stronger or wiser. This is partly because bad experiences are remembered better than good ones and we tend to think about them

more afterwards. When self-shaping experiences are felt to be shared with other people – when we feel like they've been through what we've been through – the boundary between the core personal self and the social self seems to become more porous. It becomes harder to say where you end and the social group begins. We refer to this as "fusion" with the group.

Psychologists have shown that, wherever you go in the world, people are highly fused with their families, even if with no other group. It makes some evolutionary sense that sharing tough experiences should serve as a way of fusing kin groups – after all, in ancestral conditions, the people with whom you shared life's struggles would typically have been your kin. But what we think is going on, at least with some rituals, is that they hijack this fusion mechanism. Painful or frightening initiation rituals, for example, serve as life-changing experiences that we never forget – and because they are also causally opaque, we reflect deeply on their meaning and significance. Initiations shape our autobiographical selves, but they also making us feel we share these experiences with others who have gone through the same rituals. This bonding mechanism has been used for thousands of years in small-scale societies, especially ones that needed to bind together young men so that they'd stand by each other on the battlefield, or when engaging in other high-risk pursuits, such as hunting large and dangerous animals.

By contrast, doctrinal rituals are all about creating social identities that are separate from our personal identities. Imagine that the most important rituals for your group are conducted on a daily or weekly basis – like calls to prayer or Sunday services. What this means is that your knowledge about the group's beliefs and practices is stored in your semantic memory – it's part of your general knowledge of the world. You couldn't remember every single call to prayer or Sunday service as a distinct experience; instead you have a set of prototypes in your head telling you how those things should be done. And those prototypes are essentially depersonalising – they specify who does what in terms of roles and functions, rather than actual people. (The priest does this and then the congregant does that – but not Fred does this and Wilma does that.) And so we enter the world of large-group thinking and identification with groups.

Studying Rituals Scientifically

Originally we studied doctrinal and imagistic dynamics mainly through the analysis of detailed case study material, but this entailed a serious risk of self-selection. We needed to come up with a more objective way of testing our hypotheses. Our first major step in this direction was to build a database of 645 rituals taken from 74 cultures around the world. For each of the rituals in our database, we coded for approximately 100 variables – allowing us to test the principal predictions of the modes theory statistically – and without any danger of cherry-picking convenient examples. This not only confirmed some of our core predictions, but we also discovered something else that turned out to be important *archaeologically* – namely that, as rituals become more frequent and less dysphoric, agricultural intensity increases. This pointed to the possibility that the transition from foraging to farming in the early Neolithic period may have been linked to the rise of the doctrinal mode.

In an effort to find out whether a basic shift from imagistic to doctrinal dynamics did indeed feature in the rise of agriculture and the evolution of social complexity, we've been constructing a vast archaeological database covering a large chunk of Western Asia from the end of the Palaeolithic to the beginning of the Bronze Age. What seems to be happening with the invention of farming is a gradual transition from imagistic to doctrinal patterns of ritual and group formation. But we could never have known this without a huge amount of labour reorganising the archaeological evidence in a way that could be analysed statistically. The archaeological record is great for looking at patterns over very long periods of time, but the available evidence from prehistory is also incredibly patchy. So we've also been building databases on the recorded past.

Some years ago, we began building a vast historical database known as SESHAT. SESHAT will enable us to quantify various aspects of ritual behaviour and relate these to the evolution of social complexity. Our database will eventually be global in reach and go back in time as far as possible for each region coded. The basic idea is to assemble what we know about human history in the same way that GenBank has enabled the biosciences to organise and store our knowledge about gene sequences. So in the end, we'll have a vast storehouse of information about the evolution of social complexity that can be searched using statistical tools.

In an effort to understand how people become fused with the group, we have also been running experiments in our Oxford lab, but we ran into serious limitations on what we could do in terms of inducing pain and fear in our human subject pool. (You can imagine how difficult it is to get that kind of thing through ethics committees.) So now we're also increasingly taking our lab measures out into the field. For example, we are going to places where people naturally go through extremely dysphoric experiences together – in regions as far apart as Japan (where some rural communities subject their young people to ritual ordeals by ice and fire) and Mauritius (where thousands of Hindus, as in other regions of the world, pierce their skin with hooks, often attached to chains used to drag heavy objects behind them and parade for hours in the searing heat). More recently still, we have been studying the agonies of defeat on the football pitch. We have found that the worst-performing football teams in the UK Premier League have a more tightly bonded support base than the more successful teams and that this bonding seems to be an outcome of shared dysphoria in highly ritualised settings, involving a host of causally opaque identity markers and conventional behaviours. In all these studies, we measure not only fusion with the group but also people's willingness to fight and die for group causes and to harm members of opposing groups in various ways. So at the same time as we're learning about the psychology of group bonding, we're also gaining new insights into the drivers of intergroup conflict.

From Fusion to Fanaticism

People who engage in extreme behaviour sometimes seem to be driven by deeply held beliefs. Some recent research suggests that certain values can become sacred. Sacred values turn the normal logic of cost-benefit reasoning on its head. The more you offer somebody a material incentive to transgress their sacred values, the angrier they become. By contrast, an apparently sincere apology from a hated adversary may do much to quell intergroup hostility, despite its lack of material substance. We are currently planning a new programme of research to find out why this is. At least part of the answer might have to do with fusion.

We know that the most common fusion target anywhere in the world is family. So, for most people, the wellbeing of their families is a sacred value – something you just can't negotiate over, or buy at a price. But in

some parts of the world, people seem to have become fused with much larger groups – those groups can feel like family and their rights to land, political independence, or religious freedoms can assume the quality of sacred values – they become all-important and non-negotiable.

Some of our earliest efforts to study this phenomenon empirically began in Libya, during the revolution in 2011. Our research focused on the formation of relatively small bands of rebels that eventually (with some help from Nato) managed to topple Gaddafi's oppressive regime. One of my students, Brian McQuinn, was in Misrata throughout the long months when the city was under siege and, towards the end of the revolution, I joined him there to design a questionnaire measuring levels of fusion felt by Misrata's revolutionaries. The fighters we spoke to felt that their comrades on the battlefield were even more like family than their actual families. They would lay down their lives for each other without a moment's hesitation. We think that when people become radicalised, they basically fuse with each other and with the cause. If that cause involves religious beliefs, then it looks like the religion is what's making them engage in extreme behaviour – but the "deeper" underlying mechanism may be fusion.

Rethinking religion

The approach I've been describing is a result of breaking away from the idea that religion is something unique and monolithic – a "natural kind" worthy of study in its own right. Scientists interested in explaining religion nowadays mostly focus on bite-size features of religion, rather than religion as a whole. Here, we have considered ritual as an example of this approach. We have observed some strikingly recurrent patterns of ritual behaviour across all areas of human life and throughout the ages: from ancient cults to medieval churches, from revolutionary brigades to modern armies and from martial arts groups to football fans.

Ritual is popularly misconstrued as an exotic, even quirky topic – a facet of human nature that, along with beliefs in supernatural agents and magical spells, is little more than a curious fossil of pre-scientific culture. Nothing could be further from the truth. Humans are as ritualistic today as they have ever been. Even the most secular political systems ever devised, under the sway of historical materialism and visions of a communist utopia, were as devoted to ritual as any in human history. In part,

this is because rituals play a vital role in bonding groups and pitting them against each other. Understanding how these processes operate isn't simply a scholastic exercise. It is vital to fostering more cohesive and successful societies – and also, perhaps more urgently, managing the destructive and seemingly intractable conflicts that drive us into wars, riots and revolutions.