

DARK RITES

Logic and reason may set our species apart, but so does a penchant for nonsensical rituals, finds Dan Jones





The people of Shetland dress up as Vikings every year and burn a replica longship

It's cold and dark in Shetland at this time of year, but nobody is hibernating. Instead, the residents of these subarctic Scottish islands are furiously busy putting the final touches to their annual festival, Up Helly Aa. Come Tuesday 27 January, those living in the capital, Lerwick, will enjoy a full day of festivities culminating in a torchlit procession of some 1000 "guizers" – men disguised as Vikings – and the burning of a replica longship.

The festival is relatively young, having begun in the 1880s, but that doesn't prevent Up Helly Aa from being infused with mystery. For a start, there's the name: nobody knows quite where it came from or what it means. Then there are all the strange and intricate rituals to be followed. And finally, there is the small question of exactly what Up Helly Aa is supposed to celebrate.

Although unique to Shetland, the festival is not unusual as rituals go. Rituals are often complex and nonsensical. Yet every culture has them – and for good reason. "Rituals provide a very visible means of identifying who is a group member and who isn't," says developmental psychologist Cristine Legare from the University of Texas at Austin. "They help define us as a group, reflect our group values, and demonstrate shared commitment to the group." For a species like us, that is dependent on social support, this is crucial for survival – so much so that, Legare believes, we are born with a mind for ritual. Her studies with children suggest that the nonsensical nature of ritualistic behaviour triggers a mode of thinking distinct from the logical cause-and-effect approach. This ritualistic thinking, in turn, prompts us to copy actions that make no apparent sense.

Rituals come in a bewildering variety, and that makes it difficult to define exactly what counts as one (see "Ritual demarcations", page 38). However, they do have certain characteristics in common. In particular, they tend to involve several discrete, specific steps that follow a defined script (see "Complexity rules", page 39), and the actions are often hard to make sense of in terms of cause and effect, unlike other multi-step behaviours such as changing a tyre or baking a cake. "To an outsider, ritual behaviours seem utterly useless," says psychologist Matt Rossano at Southeastern Louisiana University in Hammond. "You have to do things in a very rigid, arbitrary way, but this is completely tangential to achieving any practical goal."

It is this "causal opacity" that led Legare to suspect a connection between rituals and a puzzling phenomenon observed by child



“Children copy apparently aimless sequences of actions more faithfully than ones with a clear goal”

RITUAL DEMARCATIONS

All rituals are social conventions: activities based on rules that groups and cultures develop in order to regulate social behaviour. But not all social conventions are rituals. Conventions such as the side of the road you drive on and the language you speak have no ritualistic component; they are simply solutions to problems of coordination. So what makes a social convention ritualistic?

In fact the dividing line is blurred, and ritualistic behaviours falls along a spectrum. At one end, there are things like social etiquette. Whether you greet a friend with one kiss on the cheek, or two, or plant your lips on their nose, is entirely arbitrary. But greet and kiss incorrectly and you mark yourself out as an outsider, someone who doesn't get how “we” do it. Such conventions are still too simple to make the grade as true rituals, though.

Activities like the Japanese tea ceremony or traditional Chinese New Year celebrations are more ritualistic. These comprise a highly formalised mix of custom and etiquette that

proceeds through a series of ritualised steps. But such activities are too purposeful to make it as full-blown rituals, which are set apart by their lack of clear purpose. They tend to comprise a complex series of actions that cannot be understood in terms of cause and effect and are performed to a script.

Some of the most significant rituals mark major life events and transitions, including birth, entry into adulthood, marriage and death. The most powerful tend to be performed in synchrony with other people or repeated many times to create a sense of cohesion. Group bonding is amplified even more by making rituals physically or emotionally intense - through the element of pain, fear or the use of hallucinogenic drugs, for example. Among the most viscerally compelling rituals are the many traditional initiation rites marking entry into manhood. These include such delights as bleeding the penis with pig incisors, and dangerous bungee-like jumps using inelastic vines.

psychologists in experiments over the past three decades. Show a child how to perform some action that they haven't seen before, and they will faithfully replicate not only the steps required to achieve the goal, but also superfluous ones. Why they do this is a puzzle, especially as other animals do not. It could be a clever strategy: the human world is so complex that it makes sense for kids to copy everything until they have time to work out what is necessary. But, wondered Legare, what if children can identify actions as causally opaque? If so, perhaps their brains see them as a cue to switch from normal reasoning to a “ritual stance” in which they interpret the behaviour of others as social signals, and go out of their way to copy them.

Lure of the illogical

In 2010, Legare began testing her idea. The first clue she was on to something came with the discovery that children copy apparently aimless sequences of actions more faithfully than sequences that move towards an obvious goal. In a range of experiments, she and her colleagues found the effect applied to children as young as 3, and the ability to emulate the actions improves as children get older. A causally opaque sequence might include actions such as picking up a blue cube, tapping it twice against a green peg on a wooden pegboard, putting the cube back in its original position, and then pressing your hands together. A more comprehensible series of actions with the same objects might end with the cube being placed inside a box, as if that was the goal.

The next step was to test whether any apparent social dimension associated with ritualistic behaviour influences a child's attempts to copy. Legare, together with Austin colleague Patricia Herrmann, psychologist Paul Harris at Harvard University and anthropologist Harvey Whitehouse at the University of Oxford, showed kids videos of people manipulating wooden pegs to no obvious purpose. There were 259 children, aged from 3 to 6 and split into four groups. Group one saw one person doing the actions, and watched the video twice. Group two saw videos of two people performing the same manipulation in succession. Group three watched two people performing the actions in synchrony. And group four saw the synchronised demonstration video twice.

The accuracy with which the children subsequently copied the nonsensical actions



A tea ceremony, unlike most rituals, has an obvious purpose



NIGEL PAVITT/ALAMY

All human societies have rituals, which define and bond them

increased progressively from groups one to four (*Cognition*, vol 129, p 536), supporting Legare’s idea. “Children are driven to copy behaviours in their group,” says Nicole Wen, a doctoral student in Legare’s lab. “Seeing multiple people doing the same thing provides a cue that it’s a social convention, which enhances that drive to imitate.”

If children copy ritual behaviours because these signal social affiliation, then feelings of being excluded could heighten the drive to copy. To test this idea, Legare, her colleagues Rachel Watson-Jones and Jennifer Clegg, and Whitehouse, primed kids aged 2 to 6 to think about ostracism, if only subconsciously, by watching an animation showing a group of three geometric shapes “playing” together and “ignoring” a fourth shape. Next, they watched either a video showing a goal-oriented series of actions or one where the actions were causally opaque. The children who had seen the spectre of ostracism copied more accurately, and the effect was especially marked when ritualistic actions were involved (*Evolution & Human Behavior*, vol 35, p 204). Ongoing research seems to suggest that this effect is even stronger when kids are ostracised from a group with which they identify – even merely one that they have been assigned to for the purposes of the experiment.

“Anthropologists have been studying rituals for a long time, usually looking at their social, symbolic and cultural significance,” says Rossano. But now the tools of developmental psychology are being brought to bear on ritual and focusing on children. “Legare’s innovative studies add a new and important piece to the research puzzle,” he says.

Psychologist Daniel Haun at the Max Planck Institute for Psycholinguistics in Leipzig, Germany, agrees, describing her work as “terrific”. He says we have a deep tendency to like people who are like us, and shared social conventions are an excellent way of creating similarity. “In a world in which people preferentially trust, trade and interact with those perceived as being similar, it makes sense to do what others are already doing,” he says. But rituals go beyond other social conventions. “They’re a special subset.” What’s striking about rituals is not just their power to signal group membership, but also to create the social glue that binds people into groups.

Creating togetherness

Legare and Wen have recently investigated this aspect of ritualistic thinking too. They recruited 81 kids aged 5 to 8, split them into groups and got them to make necklaces. Members of two groups spent 7 minutes making necklaces in synchrony with other group members, following a script such as “first we add a green heart, then an orange square”, and so on. Another two groups were simply given beads and allowed to spend 7 minutes stringing them up however they wished. After making necklaces three times a week for two weeks, the children were quizzed about how connected they felt – whether they wanted to stay in their group, for example, and whether a new kid would prefer being in their group to joining another. Those who had worked together ritualistically reported a greater sense of connection to their group than those who made freestyle necklaces.

COMPLEXITY RULES

In Brazil you can buy “recipes” for rituals at neighbourhood shops. *Simpatias* are designed to be performed at home to help achieve a particular goal such as finding a romantic partner or treating illness. A *simpatia* for getting a new job might run as follows: “During the full moon, take the jobs page out of a newspaper, fold it four times, and place it on the floor with a small white candle surrounded by honey and cinnamon, while imagining yourself in a new position with good pay. Then, bury the candle stub and paper under a plant and water it daily.”

It’s hard to see why these steps would elicit the desired effect, but that may be part of the appeal. When Andre Souza at the University of Alabama in Tuscaloosa and Cristine Legare from the University of Texas at Austin asked Brazilians to rate numerous *simpatias* according to their perceived effectiveness, it emerged that the more steps the *simpatias* had and the more specific these were, the higher they scored (*Cognition*, vol 124, p 1). Rituals the world over tend to share these characteristics of being complex and hard to make sense of. In fact, this may be the key to understanding how we think about them. It could also explain one of the most puzzling aspects of child psychology (see main story).

Rituals are often associated with religious beliefs and practices, but there’s nothing inherently religious about the drive to soak up and copy rituals, as Legare’s studies show. She sees rituals as a kind of cultural gadget to help groups survive. “Collective rituals are public signals that you are committed to the group,” she says, “which facilitates cooperation with the group and creates a sense of shared purpose.” Students at some universities are willing to endure humiliation and abuse to gain membership of select fraternities. Sports teams perform their own characteristic routines to psych themselves up for their next challenge. And in the military, nearly every aspect of daily life becomes a sort of collective ritual – from how beds are made to drills on the parade ground.

Even though they are ubiquitous, rituals often seem arcane, or even daft, to the uninitiated. Yet this is where they get their power. “For observant children, it’s the useless things we do that tell them the most about how to be a good group member,” says Rossano. ■

Dan Jones is based in Brighton, UK