Thank you very much. Thank you for your kind invitation to speak with you. It’s a pleasure and privilege to be here with you today. Ritual, religion, and the origins of humanity is my title, and you also see the main sources that I’ll be drawing from – two recent books of mine and a couple of recent papers, one published, one still under review. So if want more reading on these issues I certainly encourage you to get a hold of these, especially the books. I have children in school and I need all the royalties I can get!

Outline

This is Fernando “Nando” Parrado and Roberto Canessa in 1972, teammates on the Old Christians rugby club in Montevideo, Uruguay.

Pb (press button)

This is what they looked like after surviving 10 weeks in the Andes Mountains after their plane crashed on the way to Chile to play a rugby match; and after scaling a 15,000 foot mountain and trekking for 10 days across the Andes to get help.

Pb (press button)

With them is Sergio Catalan, the Chilean peasant, who while checking on his cattle in the Andean foothills early on the evening of Dec. 20, 1972 was surprised to find two exhausted, emaciated, young men frantically waving at him from across the Rio Azufre

PB

Here is the Rio Azufre not too far from where Catalan encountered Parrado and Canessa.

Before Catalan arrived at the riverbank, Canessa had collapsed from exhaustion and probably dysentery. As he lay nearly immobilized against a tree, Parrado gathered sticks and other combustibles intent on making a fire to fight off the impending cold. What transpired next could have been mistaken for slapstick comedy had the stakes not been so desperately high. Parrado, you see, was badly nearsighted and had lost his glasses long ago. Canessa spotted Catalan, but he could barely move. Instead, he alerted his friend. “I see a man” he said to Parrado. With that, Parrado, though he could not see Catalan, charged toward the river shouting and waving his arms. Canessa attempted to direct him “to the left, … no no too far to the right, to the right.”

The late hour, the long shadows, and the rushing waters of Rio Azufre made effective communication nearly impossible. Catalan could be forgiven for entertaining suspicious if not menacing thoughts about these two wild-looking mountain men calling to him from across the river. Were they lost tourists or hunters? Bandits? Revolutionaries on the run from the Army? (This is early 1970’s South American, after all).
Desperately, Parrado and Canessa sought for a way to make him understand – “Please for the love of God, don’t fear us, save us! We’re half dead; our friends are dying back at the crash site, Please! Please!”

PB

In that moment, Parrado’s plea instinctively became ritualized gesture: he fell to his knees, clasp his hands, and looking up at Catalan from across the river, he begged for his life. It worked. Moved by his act, Catalan shouted at the top of his lungs over the roaring current, a promise – in a single word “Tomorrow.” Catalan kept his promise. He returned the next day and as they say, the rest is history.

PB

And this is a shot of the fourteen remaining survivors at the crash site as the rescue helicopters circled above.

The story of the Andes survivors, immortalized in the book Alive and movie of the same name, is a remarkable survival story. It is probably best remember because of the necessity of cannibalism – or more accurately, anthropophagy, in order to fend off starvation. However, in the dramatic sequence marking the beginning of the end their ordeal, that is, Catalan’s encounter with Parrado and Canessa, we see what defines us as Homo sapiens being played out before us. That defining quality, I would argue, is our cooperative ability. More so than any other species, humans can build extraordinarily complex and effective cooperative communities. Nothing exemplifies this cooperativeness better than the teamwork demonstrated by Canessa and Parrado in getting their plea across to Catalan.

PB

The lame leading the blind: no other species could have pulled that off.

This scenario also highlights the essential mechanism by which we have constructed cooperative communities: ritual. Parrado gained Catalan’s trust and cooperation using an unmistakable ritualized act of supplication: he begged. That gesture effectively cut across national, cultural, and social class lines removing suspicion and creating a life-saving bond of mercy.

PB

Today I’m going to attempt nothing less than to convince you that ritual made us human. Laying my cards entirely on the table right here at the beginning, the argument I’ll make goes like this:

Humanity is defined by cooperative communities (strong reciprocity, third-party intervention, shared intentionality)

Community is defined by shared values (taboo; universality; taboo mentality)
Shared values are defined by ritual

Ritual sustains humanity

As a corollary to my main points, I would add that the specific function of religious ritual is to take shared values and turn them into sacred values, which in turn solidifies community even more intensely.

I’m gonna cheat right from the start. So that I don’t keep you here for three hours, I’m going to ask your indulgence on the first two premises. I think the empirical cases for premises 1 and 2 have been made pretty well by a number of researchers so I won’t go into a detailed defense of them and instead will focus on the role of ritual in defining shared values and, in the case of religious ritual, making them sacred.

I’ll start by going back to Parrado and Catalan and ask why did the begging gesture work? From where did it get its power?

PB

One of the reasons why ritualized acts are often so effective is that they have deep evolutionary roots. As such, they hit us hard in the gut – or put more accurately probably the limbic system of the brain. They appeal to us on a deep, primate, emotional level.

PB

Ritualized behaviors are widespread across the animal kingdom. Nature’s answer to the problem of how to unambiguously send an important message when cautious, precise communication is required.

PB

So here are some examples of ritualized behaviors in other species. The mating rituals of various birds, gazelles stotting, the low stretch ritual of male elk, and of course, the canine play bow. All of these gestures serve the purpose of regulating social behavior by clearly sending messages about desires and intentions.

For example, in the case of the play bow, fido wants to make it clear that all the actions that he does from this point on are meant to be fun and not mistaken for real aggression even though many of them, such as growling, chasing, and biting are used in real fights. That’s an important message and it’s critical that it be sent clearly and effectively, otherwise, a social encounter could easily spin out of control. And that’s why ritualized acts play such an important role in the social lives of so many species including ourselves.

PB
As primates, we humans come from highly social stock. Our primate cousins have a rich repertoire of ritualized acts for regulating social life.

PB

And you see some of them here: the begging gesture, grooming (which has a practical function, but is just as often used for social bonding); pant-hooting; and baring the canines (a threat).

What exactly is a ritualized gesture:

PB

Briefly – it is a gesture that has become emancipated and formalized. So take, for example, ritual washing. To wash a table or other object we use a series of elemental gestures: get some cleaner, we get a rag, hold the cleaner in one hand, rag in the other, we spray the cleaner, we wipe the table with the rag and so forth. Ritualization begins when we emancipate or segregate a single gesture from this sequence, say, the wiping gesture, and we then formalize it or execute it in more dramatic, exaggerated, stylized way. So now I don’t just wipe the table in any old way, I do it in a very deliberate, dramatic attention-getting way.

PB

Think of the way a military bugler raises and lowers the horn to his mouth in that very strict, disciplined manner.

Often this formalization includes repetition, so that the dramatic, stylized action is repeated again and again in order to attract and hold someone’s attention.

PB

Ritual washings, baptisms, anointings often involve repeated gestures. I baptize you in the name of the Father (pour), Son (pour) and Holy Spirit (pour).

Often the emancipated, formalized, repeated gesture itself becomes part of a rigidly ordered sequence that must be completed for the ritualized act to be done properly.

PB

Finally, and uniquely with humans: goal demotion, where executing the elemental gestures correctly becomes the goal in and of itself. So a meditator clears everything else from the mind and concentrates on mere act of breathing. The mental discipline required to remain focused on proper gestural execution despite discomfort or distraction is the foundation upon which costly ritual acts of endurance and pain tolerance are built.

End result: attention-getting, unambiguous social signal. But what is it signaling? When an object is ritually washed are we being told about the importance of hygiene? Or when a
uniformed bugler raises and lowers his horn in a distinctively military style are we being taught something about the importance of posture in horn-playing? No. In ritualized acts, practical, utilitarian ends give way to values. It is the sacredness of object that signaled by ritual washing. It is respect for the dead that is signaled by bugler. These are shared values or social norms that define what is important to group.

PB

In fact, it is through ritualized gestures that we transmit normative values, especially to infants and children.

PB

The earliest interactions between infants and their caregivers are ritualized interactions.

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These interactions typically begin with some exaggerated attention-getting signal, such as coo or call from the infant or cheery “hellooo” from mom. Once engaged, these interactions involve repetitive, stylized, strictly sequenced, rule-governed gestures; that follow the same general script as adult conversational turn-taking, which one reason why mother-infant interactions are often called “proto-conversations.”

Thus, it is through ritualized gestures that we acquaint infants and children with and increasingly draw them into the larger social world.

PB

By closely observing and imitating our intentional acts, infants and children begin the process of acquiring important skills.

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But the intentionality inherent in ritualized gestures does more than just teach children how things can be done; it teaches them how things are supposed to be done. Children don’t just imitate, they over-imitate – that is, they faithfully replicate intentional acts that are causally irrelevant.

PB

So if an adult obviously and intentionally waves a stick three times over a box before opening the box, the child will do the same, even when the child is fully aware that the stick-waving plays no causal role in the box opening. They understand the stick-waving, not as causally necessary, but as normatively necessary. We don’t have to open boxes this way, but this how we are supposed to open boxes.
Ritualized signals can send different messages. One type of message is one of self-interested manipulation: “I want something”. Another type of message is one of attention-directing to useful information. “I want to show you something” There are reasons to suspect that over the course of human evolution ritualized acts became increasingly used for the latter purpose. In other words, the “I want to show you something” function became increasingly important. One bit of evidence supporting this idea was recently found in a longitudinal study comparing the gestural acts of a human child with that of chimpanzee and bonobo.

While many commonalities were noted between the human child and the nonhuman apes significant differences were found in gestures such as referential pointing vs. intentional reaching and in “showing” gestures.

The self-interested “I want something” use of ritual signals is common among non-human primates. For example, the chimpanzee begging gesture is often used as a plea for food-sharing (“I want some of your banana or your monkey) or a supplication (I want your help or I want you to quit on beating me). It occasionally is even used deceptively to put an opponent off-guard during a fight.

There do seem to be some non-human primate rituals, however, that are honest signals of intentions and commitments. My personal favorite being the baboon scrotum grasp.

Two males will approach each other with ears flattened and lips smacking, present their backsides to each other another then exchange a little genital fondling or diddling as primatologist like to call it. Whitham & Maestripieri studied the baboon scrotum grasp ritual and concluded that it was an honest signal of relational commitment between males. Males with a past history of close affiliation (grooming, tolerance, mutual support) were more likely to engage in this ritual than “casual acquaintances”. Furthermore, there was no evidence of the ritual being used for reconciliation or in the context of aggression or mate or feeding competition.

Why does the baboon scrotum grasp work as an honest signal of relational commitment, while begging is more manipulative? The answer seems to be the inherent costs associated with the gestures. It’s risky to let someone grab your genitals – your very reproductive success is literally in his hands. It thus becomes an effective way of showing something – in this case, trust and that trust builds strong relations.
Religious rituals are especially effective as signals of commitment to community values because they force participants to incur costs. These costs take a number of forms:

They take time. Five times a day a good Muslim must stop what he is doing and pray.

They can involve physical risk, such as handling snakes or body piercings.

They can cost money.

And they are often done publicly and in synchrony with others, putting one’s reputation at stake.

The net result of all this cost, however, is increased group cohesion. Those who leave offerings, for example, have been found to be more trusted by other in-group members compared to those who donot.

Those who move in synchrony with others are more generous with each other than those who donot.

Those engage in public rituals are more generous with one another than those who engage in private rituals.

And finally those who engage in or even just witness high ordeal rituals are both more generous with one another and feel a stronger emotional attachment to their larger social group compared to those who engage in low ordeal rituals.

Along with building greater in-group cohesion, another recent study has shown that one particular cost element: synchrony, appears to effect perceptions of sacredness. Rituals with
greater synchrony of movement engendered a greater sense of shared sacred values among participants. These sacred values motivate increased generosity among group members. A path analysis indicated that causal effects ran from synchrony to shared values to greater cooperation.

PB

Religious ritual then, with its high cost requirements, seems to possess the power to make what is shared, sacred.

PB

When shared preferences become associated with religious ritual they are more likely to be seen as sacred values. In other words, values that cannot be compromised. Knowing that someone will not compromise an important shared value increases trust.

PB

Though American government is officially secular, the president’s constitutional oath has always invoked religion. We want our leaders to do more than just respect the constitution, we want them to hold it as sacred.

Elevating shared values to sacred ones has a dark side.

PB

Probably most eleventh-century European Christians viewed Christian control of the Holy Land as a shared value. When Pope Urban II convened the Council of Clermont in 1095 and declared this shared value to be a sacred mission, he unleashed the terrible brutality of the crusades. But sacred values also be sublime.

PB

For the Nickel Mines Amish Community of Lancaster Pennsylvania, forgiveness is not just a virtue, but a sacred duty. Something they demonstrated in October of 2006 when they actively and publically forgave Charles Carl Roberts, a gunman who had broken into their one-room school house and senseless murder five young girls.

PB

Using ritual, groups signals their shared values. Furthermore, ritual participants signal their commitment to those values. Upon this foundation of shared and sacred values we build uniquely human levels of in-group trust and cooperation. But the emotions, social bonding, and mental discipline associated with ritual do even more. They sustain. They give people the strength and inspiration to endure.

PB
Tibean monks have, for centuries, cultivated the sustaining power of ritual. Tummo mediation for example has been used to allow monks to remain scantily clad for hours in freezing temperatures.

PB

Ritual also proved essential for Parrado and Canessa as they made their arduous 10 day trek across the Andes. Parrado describes both the suffering he and Canessa endured, but also how his ability to focus on elemental gestures gave him the strength to carry on.

PB

The sustaining power of ritual is heightened when the supernatural is added. In one study, religious and non-religious subjects were allowed to contemplate either a religious or non-religious image while being exposed to electric shock. Here are the images: the Madonna and painting of a young woman by Rembrandt. Religious subjects showed both significantly stronger emotional reaction to the religious image as well as significantly higher pain tolerance when contemplating the religious image.

PB

Using supernatural ritual to endure may have been responsible for the very survival of our species. The first evidence of supernatural ritual appears to occur at a time of the greatest stress in our evolutionary history.

PB

It was about 70kybp in Africa, during a time when genetic evidence indicates that our species went through a severe bottleneck, dropping to approximately 2,000 breeding females; as close to extinction as we have ever come. Pushed into the few remaining viable areas in southern and eastern Africa, our ancestors had to work together, often by forming alliances with out-group members, in order to secure the few, remaining scattered resources necessary for survival.

PB

It is during this time that we see the first evidence of wide-ranging trade networks, body ornaments, and supernatural ritual.

PB

In the Tsodilo Hills in Botswana, we find an intentionally modified snake rock. The rock is natural outcropping in a deep cave site called Rhino Cave, that has been intentionally modified to enhance its serpent-like appearance. There is also evidence that raw materials from considerable distance were transported to the cave, fashioned into tools and then once the tools were
completed they were intentionally destroyed and burned in the cave. What a waste of time and effort. But that is one of the hallmarks of religious ritual – it is costly.

PB

Archeologist Shelia Coulson has argued that the best explanation for such apparently odd behavior is ritual. Now, of course, we don’t know exactly what was going on at Rhino Cave 70,000 years ago. But what we do know is that the serpent plays an important role in the creation myths of the indigenous San people of the area. We know that ritual plays an important role in building bonds of trust among human groups. And that human groups were trading and interacting to much greater extent during this period of time than ever before. Thus, the hypothesis that Rhino Cave was a venue for supernatural ritual is at least plausible.

PB

*Homo sapiens*, however, may not only hominins engaging in ritual. There is some evidence for Neanderthal rituals, maybe. For example, about 200 meters deep in Bruniquel Cave in Southwestern France, it appears that Neanderthals broke off stalagmites and stalactites and formed them into two circles on the cave floor.

PB

There is evidence of a fire in larger of the two circles. Burnt bone fragments, dating to about 50,000 ybp, long before *Homo sapiens* were in the area, have been found near the hearth but no real evidence of extended habitation is present, leading archaeologist Brian Hayden to argue that this most likely represent a ritual site, possible involving animal spirits such as the cave bear.

PB

Even if we accept that sites such as Bruniquel and others are ones where genuine ritual activity took place, there remains a notable and interesting difference between *Homo sapiens* rituals and those of Neanderthals – cost!

PB

We have scores of examples of *Homo sapiens* venturing a half a kilometer or more deep into pitch dark caves, through freezing deep water, across dangerous cliffs and crevices, squeezed on all fours through narrow passages with torches, scaffolding, artistic materials, and small children in tow.

PB
We have but one example of Neanderthals going more than 100 meters deep into a cave – Bruinquel. Interestingly, once in Bruinquel, Neanderthals made use of materials already present in the cave. Contrast this with sculpted bisons of Tuc d’Audoubert cave, where the clay used to make the bisons was transported over a kilometer and half deep into the cave.

PB

Burial practices provide another instance of stark difference in ritual cost.

PB

There’s little doubt that Neanderthals intentionally buried some of their own; Very recently three intentionally buried Neanderthal bodies were found at Sima de las Palomas in Spain.

PB

They may even have done so with some simple, readily available grave goods such as animal bones or stone tools. The famous old man of Chappelle-aux-saints in France was found with some stone tools, for example.

PB

However, there is simply nothing in the Neanderthal archeological record that compares with the elaborate burials associated with Cro-Magnons. The most famous of which is the triple burial at Sungir outside of Moscow. Here three bodies were found draped in thousands and thousands of beads, necklaces, headbands, and bracelets that have been estimated to have taken thousands of hours of labor.

PB

Even if we grant equal ritual capacity to both Homo sapiens and Neanderthals, the archeological record provides evidence that the two species were not expressing that capacity in the same way. Homo sapiens rituals were more costly and cost builds community. This may have been decisive when the two species confronted one another tens of thousands of years ago.

PB

Ritual specialist Catherine Bell has said that ritual is the way we take biological inevitabilities and turn them into cultural regularities. In other words, we use ritual to rob nature of the last word. Biology decides when we are born, but ritual decides when we are officially admitted into our communities. Biology decides when our bodies mature. But ritual decides when our societies deemed us men and women. Biology directs our lusts and desires. But ritual determines who our legitimate partner will be. Biology decides when we die. But ritual decides when we are dismissed from the lives our loved ones.
We humans are only species that are perplexed and offended at Nature’s indifference to our circumstances and our suffering. Ritual is the mark we leave testifying to that offense.