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A special feature at the Social Evolution Forum

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SOCIAL EVOLUTION FORUM

Three Wishes for the World

Harvey Whitehouse *University of Oxford*

If you had three wishes to change the world, what would they be? Perhaps you would like to put an end to war? Reverse global warming? Or eliminate extreme poverty?

Introduction

The key to solving all these problems is glue. It doesn't come in a tube. It's a very special adhesive – the kind that holds societies together. Social scientists call it 'social cohesion' or 'solidarity'. Whatever we choose to call it, social glue is what makes people cooperate and solve problems for the greater good.

Understanding how groups become glued together is crucial to addressing some of the biggest issues facing humanity today.

If I had three wishes for the world, they would be:

- 1. To predict, prevent, and resolve civil wars. We know that about half of all insurgencies peter out within a year of their formation. Those that survive seem to have found the knack for producing the social glue we are interested in. Attacking such groups with bullets and bombs actually seems to bind them even more tightly together. If you want to disband groups like this it would be more effective to sabotage the mechanisms that fuse them to a common cause. The more we understand these mechanisms the more we can do to curtail sectarian violence, genocide, and many other forms of civil conflict.
- 2. To channel social cohesion for the collective good. Civil strife can produce social glue. We had a researcher on the ground in Libya throughout the recent revolution observing how the collective will of ordinary citizens brought a modern army to its knees (albeit with some help from NATO). We now know more about the mechanisms that made this possible. If only that energy could have been harnessed more productively in the aftermath of Gaddafi's downfall, then Libya might be a very different place today.
- 3. To mobilize a global response to economic inequality and environmental threat. Many social movements in the twentieth century experimented with rituals aimed at binding us together as a species to solve world problems.

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Those experiments have largely failed — visions of a communist utopia or a brotherhood of man have been shattered by old divisions or faded in time. But that doesn't mean they couldn't work. We are currently studying movements of this kind on the Pacific island archipelago of Vanuatu. Imagine if we could find a new and more effective way of gluing together our species as a whole, championing a set of shared values and goals underwritten by a universal morality rather than a doctrinal orthodoxy of any kind. That would be the first crucial step in solving some of the world's biggest collective action problems — global warming and extreme poverty being only two examples.

Pie in the sky? Some of us don't think so. I direct a project that tries to explain how social glue is produced and how it can be used (Whitehouse 2012; Jones 2013). It is the single largest project ever funded by the UK's Economic and Social Research Council and it is also the most international one ever, involving the coordinated efforts of scientists not only in North America and Europe, but also around the world, including many countries that are not often associated with scientific breakthroughs. It has to be that way, because the glue we are interested in is often stronger in traditional or rural cultures and weaker in the big urban centres where scientists typically work.

Two Kinds of Social Glue

There are two main kinds of social glue: 'social identification' and 'identity fusion'. The latter is most simply described as a visceral sense of oneness with others in one's group. This may be manifested in a variety of ways. For instance, when another group member is threatened it prompts the same defensive reactions as a personal attack. For the fused individual, the boundary between the personal and social self is porous – activation of one's sense of personal self also serves to activate feelings about the social self. Fused individuals regard other members of their group as irreplaceable, and seek to reform and reintegrate them when they violate their group's norms rather than kicking them out for good. When the group is under attack, or their status threatened, fusion increases commitment to maintain the group.

Identity fusion is a widespread feature of kin groups and other small social units whose members share the trials and tribulations of life together. This sharing of experiences as well as the memories of those experiences, particularly of enduring and overcoming hardships, seems to be an important part of the mechanism generating fusion, most commonly within families but sometimes also within much larger groups.

My mother remembers how tightly glued together our family was throughout the war. During the Blitz they spent a lot of time huddled together in bomb shelters. One night, however, my mother's uncle and aunt and their young son emerged before the All Clear had been sounded, and went inside. The last bomb of the air raid fell on their house and they were killed instantly.

An evacuee at the time, my mother only heard about the tragedy months later. She was on the top deck of a bus. She remembers it being a glorious day, the pretty summer dress she was wearing, that it was a treat to get the seat at the front. Her mother turned to her and said: "Your uncle and auntie's house was bombed and they were inside it. Your cousin too." That was all. It would have been improper to display emotion in public, so where better to deliver the news than on a crowded London bus? My mother was nine years old at the time.

It is very unlikely my mother would have remembered the weather or what she was wearing or even where she was sitting that day on the bus, were it not for the emotional impact of my grandmother's words. Integral to our sense of self is a set of memories of past experiences, including episodes that are felt to be especially salient in forming who we are. Such episodes will often relate to painful or disturbing experiences because these are generally better remembered than pleasant or gratifying ones.

While these 'bad' experiences come to form part of our personal autobiographies that does not necessarily mean they are rehearsed as narratives. Often, there are social disincentives to talk about such experiences — because they conflict with idealized conceptions of family life, gender roles, Britishness, or whatever. But that doesn't mean the memories are lost. They remain as part of our private sense of self. Indeed this sense of privacy, of experience that is internally generated rather than externally imposed, adds to the authenticity of these aspects of our self-conception.

The impression that highly salient personal experiences are shared by others fuels the fusion of self and other. It is as if those who have been through the same thing are more 'like us' and the boundary between self and other becomes more porous. This would help to explain why people who endure terrible ordeals, such as natural disasters or wars, or who have experienced persecution or oppression, often feel a special bond with their fellow sufferers. My mother, for example, felt a special connection with children who turned up at school with black armbands. And conversely, it can feel as if people who haven't actually experienced your pain themselves cannot truly understand it, and may seem inauthentic if they talk about the subject with an air of authority.

In all these respects, identity fusion differs from what psychologists call 'social identification' (Swann et al. 2012). Social identity theorists have repeatedly shown that personal and group identities are non-overlapping. Social identity and group identity have a sort of hydraulic relationship to each other: the more one is activated, the less the other is. If your group identity prevails in your social life, the less prominently social identity will feature.

Attacks on the group activate social but not personal selves in people who identify with, but are not fused with, the group. Pro-group action is not motivated by the personal self. Members of the group are replaceable and norm violators can be more readily excluded from the group. When the status of the group is threatened, identification with the group is weakened.

Shared Dysphoria, Fusion, and Extreme Rituals

In 2011, project researcher Brian McQuinn went to Misrata, Libya, to study people's experiences of the siege of their city by Gaddafi's troops. Amid the victory celebrations, I joined him there. In collaboration with Bill Swann, a social psychologist based at the University of Texas at Austin, we designed and implemented a survey revealing that the more dysphoric (aversive or distressing) the shared experience of the fighting, the stronger the resulting identity fusion. To understand the mechanisms in more detail we are currently carrying out surveys with veterans of the Vietnam War, members of university fraternities and sororities who have undergone painful or humiliating hazing rituals, mothers who had particularly traumatic birthing experiences, survivors of disasters, and other groups that are formed around shared experiences of suffering.

Dysphoric rituals (such as painful initiations, ascetic ordeals, or severe forms of penance) are a bit like coming under fire in a warzone, but perhaps more powerfully bonding. By definition they are 'causally opaque' meaning that they can be interpreted in a seemingly infinite variety of ways: it's not clear how the actions one performs lead, through a causal chain of events, to any outcomes, so there's a lot of room for speculation and rumination. Unlike a car crash or even a traumatic experience on the battlefield, which provokes a rather limited array of reflections (who was to blame, why me, etc), the range of interpretations that one can place on a dysphoric ritual experience is more open-ended. Indeed, the sense of its significance can actually increase over time, rather than decay. In communal rituals we observe others undergoing the same experience, and can imagine them sharing the same rich interpretive process afterwards. The forces shaping one's own uniquely personal experiences are felt to be shared by a special cohort of others, causing group members who have undergone these rituals to 'fuse'.

That's one of our hypotheses, at least. In a series of experiments using artificial rituals and varying levels of arousal (intensity of feeling) we have shown that, after a time delay, the volume and specificity of interpretive reflection on the rituals is greater among participants in a high-arousal condition than for controls (Richert et al. 2005). Similar effects have been found using field studies, by systematically comparing the interpretive richness of people's accounts of rituals involving variable levels of arousal. The

impression of sharing subtle or hidden meanings of the ritual experience is thought to contribute to high levels of identity fusion among participants. We call this the 'imagistic mode' of group cohesion (Whitehouse 2004).

Shared Identity in the Big Religions

Although the sharing of especially salient and memorable experiences seems to play an important role in identity fusion, this does not seem to be such an important feature of social identification and the categorical ties on which this is based. Social identification is more like a badge or a uniform that we can put on and take off at will. Whereas the building blocks of the personal self are internally generated states (e.g. emotions, memories, and reflections), social identities are acquired from the world around us. The sense of likeness this produces can be compelling but it doesn't penetrate our sense of self to the same extent or in the same way.

When people participate in the same rituals on a daily or weekly basis, it is impossible for them to recall the details of every occasion. Instead they represent the rituals and their meanings as types of behavior—a Holy Communion or a call to prayer, for instance. Psychologists describe these representations as 'procedural scripts' and 'semantic schemas'. Scripts and schemas specify what typically happens in a given ritual and what is generally thought to be its significance. In a group whose identity markers are composed mainly of scripts and schemas, what it means to be a member of the tradition is generalized beyond people of our acquaintance, applying to everyone who performs similar acts and holds similar beliefs. This route to the construction of communal identity, based on routinization of rituals and other behaviours. appears to be a necessary condition for the emergence of imagined communities — large populations sharing a common tradition and capable of behaving as a coalition in interactions with non-members, despite the fact that no individual in the community could possibly know all the others, or even hope to meet all of them in the course of a lifetime.

Routinization may have other important effects as well. For instance, it allows very complex networks of doctrines and narratives to be learned and stored in collective memory, making it relatively easy to spot unauthorized innovations. Moreover, routinization seems to suppress reflection, in effect producing more slavish conformity to group norms. Part of the reason may be that, having achieved procedural fluency, one no longer needs to reflect on how to perform the ritual, and this in turn makes one less likely to reflect on why one should perform it. Thus routinization would seem to aid the transmission of doctrinal orthodoxies, which are traditions of belief and practice that are relatively *immune to innovation* and in which unintended

deviation from the norm is *readily detectable*. We call this the 'doctrinal mode' of group cohesion (Whitehouse 2004).

Local and Extended Fusion

So far, both in our experiments and in our studies of dysphoric rituals in the real world, we have focused our attention mainly on rituals in small face-to-face groups. This 'local fusion' may have its evolutionary roots in psychological kinship, where shared experience acted as a proxy for genetic relatedness. Our central hypothesis is that the belief that someone else shares and so truly understands your suffering blurs the boundary between yourself and that other person. But while this can be true among people who witness each other's trials and tribulations it can also be extended by less direct routes, for example by means of especially compelling narratives. To the extent that Jesus of Nazareth's sufferings on the cross can be convincingly equated with our own sufferings it may even be possible to fuse with a person who lived thousands of years ago.

Fusion can also be extended to larger groups and ideologies — and not always in ways we would want. Consider the highly ritualized and emotional gatherings organized at Nuremberg by Hitler and his cronies. During these dark days ordinary Germans were swept up in a tide of nationalistic fervor rooted in shared ritual experiences. Nevertheless, Hitler's rallies were too big for all those attending to have known each other personally. There was also a strong doctrinal aspect that is normally lacking in dysphoric rituals: Hitler was preaching an ideology that, however repugnant to us now, was hypnotically seductive to his audiences. Apparently, people were fusing with a belief system as well as with each other.

Extended fusion of this kind is likely to be different from local fusion. In the case of Nazis at the Nuremberg rallies, they couldn't encode all the other people attending and so couldn't recognize all of them subsequently. Somebody might claim to have been present and there might be evidence to support it but I don't think this could ever be as psychologically convincing as actually remembering them being there. Moreover, at least some of the ideas associated with this kind of experience have an external origin and so are less intimately connected with the personal self. Recall that one of the hypothesized features of *local* fusion is that personal experience, on which my sense of self is at least partly constructed, provides the main reference point for sharing a common bond. So extended fusion would seem to be a more tentative kind of fusion of self and other. Since it depends on external sources as well as direct personal engagement (e.g. testimony rather than experience) it carries less conviction.

You might think that extended fusion is somehow a midway point between local fusion with known individuals and identification with large anonymous communities. But this doesn't seem to be the case – fusion with country, for example, has all the same hallmark features as fusion with family, making both kinds of fusion distinct from identification (Swann et el. 2012).

The Social Functions of Ritual, Fusion, and Identification

Identity fusion could be seen as a form of insurance through investment in social networks based on relational ties. When the fate of the group is threatened or uncertain, fused individuals experience increased commitment. And when a transgressor is identified in the group they might be punished harshly but they are nevertheless welcomed back into the fold. This kind of investment in the group is not provided by identification with groups based on categorical ties. Although there may be some exceptions, when people merely identify with a group and its status declines, so does commitment to the group. And since the members of such groups are eminently replaceable, transgressors can be eliminated (e.g. by exclusion or execution). This means that the members of fused groups can rely on the group for support even when times are hard or when one's reputation has been damaged.

Identity fusion fosters courage and self-sacrifice in the face of external threats in a way that social identification cannot. When the group is at risk of predation, members not only band together but individually experience a sense of enhanced strength, invulnerability, and increased willingness to endorse acts of outgroup hostility. This means that members of fused groups will be more formidable adversaries in inter-group conflict, all else being equal.

Prior to the emergence of the doctrinal mode in human prehistory, group identity was forged largely on the basis of directly shared experiences, including participation in rituals. Thus, the imagistic mode has long been a means of generating the impression of shared mental content based on common experience. With the appearance of more routinized rituals, however, a new kind of group identity became possible based on semantic schemas and procedural scripts that could be generalized to any member of the in-group, even to complete strangers. Simply wearing a certain mode of dress or hairstyle now revealed a lot about a person's beliefs and practices. We could then make inferences on this basis about their trustworthiness, even people we had never met before.

Routinized rituals provide a foundation for social identification with large communities, capable of encompassing indefinitely many individuals singing from the same hymn sheet (literally as well as metaphorically). Expanding the size of the in- group in this way has implications for the scale on which people

can engage in cooperative behavior, establishing a basis for cooperation with strangers simply because they carry the insignia that display shared beliefs and practices. At the same time, however, ties based on identification fulfill different social functions from ties based on fusion.

While individuals are only capable of fusing with a small number of groups (typically two or three at most), it is possible to identify with a great many different groups. This means we can build a complex division of labour in which we shift flexibly between roles as changing social situations dictate. There is no limit on the size of groups with whom identification is possible.

The emergence and spread of the doctrinal mode was facilitated by the appearance of the first ever regular collective rituals, focused around daily production and consumption, and the spread of identity markers across larger populations, for instance in the form of stamp seals used for body decoration and more standardized pottery designs in the Neolithic Middle East (Whitehouse and Hodder 2010). The appearance and spread of routinized rituals seems to have been linked to the need for greater trust and cooperation when interacting with relative strangers. Consider the difficulties of persuading people you scarcely know that they should make long-term investments in your services based on a promise, or should pay taxes or tribute in return for protection or sustenance in times of need. In the absence of more detailed information about the trustworthiness of prospective trading partners or remote governors who promise protection by their militia, shared insignia proclaiming commitment to common beliefs and practices becomes a persuasive form of evidence. In such conditions, groups with routinized rituals capable of uniting large populations will tend to out-compete those who lack shared identity markers of this kind.

Using Social Glue to Change the World

My three wishes for the world may be granted as a consequence of understanding better the way social glue works.

The first of my wishes, recall, is to repair societies torn apart by civil war. People fight and die for the group because they are glued to each other in a particularly powerful way. True, people can be forced to fight on pain of torture or execution but coercion alone is a weak and unstable way of running an army. In a smoke-filled room in Misrata surrounded by eager young men with assault rifles, the head of the revolutionary forces looked intently at me from under his camouflaged cap: "I trained many soldiers for Gaddafi before I trained the men in this room," he said. "And I tell you that one civilian who believes in the cause and will die for his comrades is more deadly than ten soldiers who kill for a wage."

One of the most powerful binding agents in the military may turn out to be shared dysphoria – the experience of enduring hardships together, whether in hazing rituals, grueling forms of training, or the experience of coming under fire. For thousands of years tribal groups seem to have exploited this mechanism by using terrifying and painful initiations to fuse together their fighting units and raiding parties. In civil conflicts the outgroup is not always the tribe next door – sometimes it is an organ of the state, such as the British army on Bloody Sunday or the Egyptian police at the beginning of the Arab Spring. But whoever the enemy happens to be, what drives us to fight them is not that they are in the wrong. We may point to this as a rationale but that's not what really drives us. If we fought against dictators and thugs simply because they were in the wrong we'd all be at war, all the time. Rather, when we fight back against injustice it's because we believe that its victims share our suffering. The victims are, in an important sense, one with us. So when we respond with violence it is little more than self-defense.

Shared dysphoria and the fusion of identities it produces are like an unexploded bomb – it takes only one careless move, such as an unprovoked attack by an outgroup, to unleash its lethal force. And so we should treat the presence of this kind of fusion in a population with the same respect that we treat a minefield. Just as mines can be detected and safely exploded, it should be possible also to monitor the fusion levels of communities, identifying those that could blow at any time, and harnessing their capacities for collective action in peaceful and consensual ways. That is more or less what happened in Derry, the site of Bloody Sunday — eventually. But did there need to be years of sectarian violence and appalling loss of life to make a peace process work? If this period of civil war could have been predicted surely it would have been better to begin tackling tribalism and building a more consensual system of governance *before* rather than after so many lives were lost?

Learning how to build social cohesion for the betterment of humanity is the key not only to granting my three wishes but to solving *all* collective action problems facing our species. Understanding how social glue works is the first step. At the moment we have many hypotheses but few hard facts. However, we are now engaged in a massive programme of research to test our hunches against the evidence – from the lab, from history, from buried civilizations, from the internet, from ordinary people going about their lives, and from soldiers on the battlefield. Our project hopes to unlock the secrets of social bonding and cooperation in humans. If only we could understand better how social glue works and what it does, we could harness the passions of the collective and rebuild the social organization of our species in more globally consensual ways.

True, we could continue trying to change the world by hunting down terrorists, bombing dictators, imposing economic sanctions on fundamentalist

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states, and playing hardball around negotiating tables. But I believe we can change the world more, and more lastingly, by first understanding ourselves better.

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Commentaries

William Swann. How Can Social Glue Foster Cooperation Rather than Competition? A commentary on Harvey Whitehouse

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In an audaciously ambitious article, Whitehouse proposes a solution to three of the world's perennial problems: (a) predicting, preventing, and resolving civil wars; (b) channeling social cohesion for the collective good; and (c) mobilizing a global response to economic inequality and environmental threat. The solution, he contends, is to buttress our understanding of something he calls "social glue".

On the face of it, the core argument here seems plausible enough. That is, there is evidence that people who are identified or fused with groups are disposed to band together with other group members and make significant sacrifices for the group. Presumably, if one could expand the visions of group members so that they embraced "humanity" rather than their local group, the goals that Whitehouse laid out for us would be within reach. But how does one expand the horizons of group members in this way? Thus far, research has focused on the ways in which social glue *fuels*, rather than *minimizes*, divisions between people. For example, social identity researchers have repeatedly demonstrated that highly identified persons are biased toward the ingroup and against the outgroup, even when membership in the group is completely arbitrary. Similarly, the identity fusion literature has demonstrated that highly fused persons endorse fighting and dying for the ingroup against the outgroup. Such evidence suggests that social glue may contribute to intergroup competition and violence rather than cooperation and peace.

If I were looking for ways to make social glue foster cooperation rather competition, I might look in two places. Within the social psychological literature, Sheriff's (1955) classic Robber's Cave experiment showed that intergroup rivalry could be overcome by inducing rival groups to pursue the same superordinate goal. In a field experiment at a summer camp for boys, the researchers engineered a situation in which the only way for two groups of boys to achieve their goals was to cooperate with the rival group. Once the boys realized that they could achieve their own goals only by cooperating with a group they viewed as rivals, they set aside their differences and began working together. Soon, the barriers that had divided members of the two groups melted away and their relationships blossomed. Apparently, superordinate goals represent one means of fostering social glue.

For additional strategies for fostering social glue, I would look at Steven Pinker's (2011) book, *The Better Angels of Our Nature*. Pinker argues that the rates of violence in the world have declined precipitously over the course of human history. He attributes this decline to several factors, the most important one being the rise of the modern state, which suppresses violence and settles disputes among its citizens. In this instance, the modern state does not directly foster social glue. Rather, by regulating behaviors that are known to foster suspicion, distrust, and violence, the modern state creates conditions that favor the development of glue among its members.

Pinker also identifies several additional methods through which societies have fostered social glue, including the empowerment of women, increases in literacy and communication, and the rise of international trade. Much like superordinate goals, these factors have produced increases in empathy and better understanding of members of other groups, both of which may foster social glue.

In Pinker's scenario, then, the monumental changes he depicts came about through both indirect and direct strategies working together: strong government to prevent or punish destructive behaviors and social psychological processes such as super-ordinate goals that serve to bind people together. Working together, such processes may produce the social glue that encourage the better angels of our nature to emerge.

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Gordon Ingram¹ and Karolina Prochownik.² The Notion of "Identity Fusion" Raises More Questions Than It Answers. A Commentary on Harvey Whitehouse

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In his target article Whitehouse describes a fascinating and extremely worthwhile program of research. We understand that this research is in its early stages, and so we are not too concerned that at the moment, his exposition of it raises many more questions for us than it answers. We offer up these questions, not really as criticisms, but more to help him communicate the value of his project by attempting to answer them in the future.

- 1. How prevalent is identity fusion? The concept of identity fusion is
 - The concept of identity fusion is introduced without any data (either here or less forgivably in the fuller treatment of the concept by Swann, Jetten, Gómez, Whitehouse, & Bastian, 2012) on how common a phenomenon it is, whether it takes place equally in men and women, the age at which it first takes place, etc. Without such data it is impossible to draw any conclusions on whether identity fusion is part of normal human development, or a localized reaction to extreme social circumstances. Hence, it is very difficult to assess its importance for human cooperation.
- 2. How is identity fusion distinguished from social identification?

Whitehouse implies that identity fusion is logically distinct from social identification, because in the latter process the personal and social selves have a mutually inhibitory relationship, whereas in the former they have a complementary relationship. Yet social identification tends to be defined in very broad terms, simply as a feeling of belonging to a certain social category (Swann et al., 2012). Presumably, it is a prerequisite for feeling fused with a certain category that one should also feel that one belongs to that category. Therefore, identity fusion is not logically distinct from social identification, but an extreme form of social identification characterized by an abnormal relationship between the personal and social selves. Furthermore, it ought to be acknowledged that the personal and social selves are not as distinct, even in non-fused individuals, as Whitehouse suggests. The social self implies certain internal states (e.g., commitment to a social role, feelings of duty or obligation, feelings of guilt or shame), while the development of a 'personal' self relies on various kinds of information supplied by the social world, in forms such as internalized narratives (Vygotsky, 1986) and social comparison processes (Festinger, 1954).

3. How does identity fusion relate to other motivations for altruism? Identity fusion is clearly not the only motivation for cooperative or humanitarian behaviour; yet Whitehouse occasionally comes close to claiming this, with statements like:

"when we fight back against injustice it's because we believe that its victims share our suffering. The victims are, in an important sense, one with us. So when we respond with violence it is little more than self-defense."

This ignores the fact that many humans have an abstract, and probably innate, sense of justice (Walsh, 2000), which potentially applies equally to all other humans – or at least all other citizens – regardless of the extent to which one feels "fused" with them. (Was the heroism of the Fukushima nuclear workers really dependent on the fact that it was co-nationals who were the principal beneficiaries? Is it not more likely that as the only people qualified and on hand to deal with the crisis, they felt a sense of moral duty to humanity, and indeed the environment?) Proponents of identity fusion theory need to acknowledge that cooperation, cohesion and even self-sacrifice can all be achieved without any feelings of fusion: the latter just makes them more likely.

4. Why are shared trauma and dysphoric rituals believed to be so important for identity fusion?

Whitehouse clearly believes that shared trauma is vital for promoting identity fusion. However, while he offers anecdotal evidence that

trauma is a *sufficient* condition for fusion, he supplies no evidence that it is a *necessary* condition. A lot of the empirical research on identity fusion has taken place on individuals who have not in fact suffered any serious collective trauma (e.g. the Spanish participants of Gómez et al., 2011). Similarly, events such as the Nuremberg rallies, which Whitehouse holds partially responsible for the high levels of identity fusion that were presumably characteristic of Nazi Germany, were not dysphoric but rather euphoric occasions. Thus it may be that it is high levels of emotional activation in general, not just activation of negative emotions, that are important. If trauma is not necessary for building social cohesion, we are left with the question of why it is necessary to have dysphoric rituals at all. One possibility is that they are a kind of test of how group members will behave under genuinely dangerous conditions (which would explain why they are so characteristic of initiation rituals).

- What are the key differences between fusing with a small group of known others (what Whitehouse describes as "local fusion") and fusing with a large, impersonal group such as a nation or a religion? The target article does not explore the differences between the "local" and "extended" forms of identity fusion. We are sceptical that these really represent the same kind of process. Analyzing affiliation to an abstract category of nation or religion in terms of fusion with a vast group of unknown others seems problematic, because in such cases it is really the ideas that define the group, rather than vice versa. The group of one's co-religionists, for example, tends to be defined subjectively as the set of all those who follow the principles of one's religion correctly. People who socially identify with a particular religion but who are perceived as violating certain "sacred values" (Atran & Axelrod, 2008) of that religion will not be seen by the perceiver as fused with them; indeed, extremists' most bilious outpourings of hate are often reserved for such individuals. Atran's (2010) study of Islamic extremists is more sophisticated than simply relying on identity fusion, because it explicitly takes into account the interactions between voung men's social commitments to their comrades in arms, and their ideological commitments to the sacred values of their shared religion.
- 6. How exactly can an examination of the 'social glue' produced by shared trauma be used to solve major social problems?

 Whitehouse proposes without going into many details that when we better understand the social glue of identity fusion we may learn to use it for peace. Yet if identity fusion is most likely to occur in the case of shared traumatic experiences (including dysphoric rituals), is it possible for it to work in circumstances devoid of any sort of trauma?

Will we need to inflict simulated trauma on ourselves in order to achieve collective fusion, and therefore peace? In this respect it may be fortunate that collective trauma does not in fact seem to be necessary for identity fusion (see Question 4). But another problem is that it will be very difficult, if not impossible, ever to achieve identity fusion with people who hold different sacred values from our own (see Question 5).

Perhaps, if these questions were answered satisfactorily, we would be more convinced of the unique value of identity fusion in explaining altruistic behaviour. As things stand, it seems more plausible to us that identity fusion is simply an extreme form of social identification (see Question 2), which naturally predicts extreme forms of social commitment (such as laying down one's life for one's countrymen) better than does simply stating whether one belongs to a particular social category.

Yet Whitehouse's article is valuable in that it draws attention to the parallels between affiliation to small groups and affiliation to big cultural ideas. Perhaps, rather than invoking a specific construct of identity fusion, we may account for these parallels by falling back on the construct that inspired much of the work on social identification and identity fusion: that of attachment (Bowlby, 1969). There may indeed be a difference between groups to which we merely feel that we belong in an abstract sense (social identification), and those to which we also feel that we really belong (are attached) in an emotional sense. Attachment broadens considerably during childhood and adolescence as we become less dependent on close family members, and more dependent on first peers and then sexual partners. Although speculative, one possibility is that during a certain sensitive period in adolescence and early adulthood, it is also possible to become strongly attached to an idea (such as nationality or religion). It may be that reflection on dysphoric (or indeed euphoric) shared experiences plays a key role in this new attachment process.

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Jonathan Lanman. Two Stars and a (Fourth) Wish: Ritual Theory and the Challenges of Fusing Humanity. A Commentary on Harvey Whitehouse

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There is much to admire in Whitehouse's ambitious programme of research. There is the testing of a theory that offers greater precision in describing and explaining social cohesion. There is the formulation of an account of psychological kinship that can serve as a reminder that cultural and evolutionary approaches can work together to produce compelling insights. And there is the sense that, with such interdisciplinary collaboration, we stand on the verge of unprecedented progress in understanding the human condition. Yet, while we can appreciate Whitehouse's three wishes for the world, the move from descriptive to normative discourse faces significant ethical and practical challenges, necessitating a fourth wish.

Whitehouse's essay makes clear that the theory of divergent modes of religiosity (Whitehouse 2001; 2004) is not so much a theory of religion but of social cohesion, and has important implications beyond organizations employing non-physical agent concepts, such as civil war armed groups (Whitehouse and McQuinn 2013). Sharing traumatic experiences forges intense bonds through psychological kinship while frequent repetition of semantic information produces less intense but more diffuse bonds of ethnic or pseudo-ethnic affiliation. This is progress both for the theory itself and for the field of the cognitive science of religion in that one of its theories has demonstrated a much wider significance for our understanding of societies.

We often speak of the necessity and benefits of interdisciplinarity in the study of human life, but we also often face entrenched disciplinary boundaries and antipathy (Pinker 2002; McKinnon and Silverman 2005). Whitehouse's account of identity fusion as 'psychological kinship' (Swann et al 2012), which lies at the heart of the imagistic mode of cohesion (Lanman and Whitehouse in prep), utilizes the findings of both evolutionary psychology and socio-cultural anthropology and can serve as a reminder of the insights we can reach when we move past the more exclusionist rhetoric sometimes used by scholars in these fields.

Evolutionary psychologists have provided evidence of the importance of contextual cues, especially early co-residence, in the psychological perception of kinship and the altruistic dispositions that follow (Lieberman, Tooby et al. 2007; Lieberman and Lobel 2012). Socio-cultural anthropologists have provided evidence of the construction of kinship ties through specific contextual processes, such as shared residence and eating (Carsten 2004). The available evidence from both fields tells us that human beings use fallible heuristic cues to determine likely genetic relatives for the purposes of altruism and incest avoidance. Whitehouse's insight is that traumatic rituals can provide these cues and produce in participants the impression that they share essential parts of themselves with other people; they can effectively make kin and they can do so in a much shorter timespan than co-residence. If this claim is borne out by ongoing research, we will have demonstrated that insights of frequently opposed fields can be utilized together to make substantial progress in understanding one of the foundational topics of anthropology.

With such progress in our understanding of the human condition, however, come important questions about the uses of such understanding. Whitehouse presents a relatively uncomplicated and optimistic picture with his three wishes. Once we understand how social glue operates among human beings, we will be able to defuse violent movements and fuse billions of people with the notion of 'humanity', allowing us to solve the problems of poverty and climate change. I can appreciate this vision but I believe that anytime one seeks to follow Marx in not just understanding the world but changing it (not to mention changing it for all of humanity!), one must face serious questions and challenges. Whitehouse argues: "The more we understand these mechanisms the more we can do to curtail sectarian violence, genocide, and many other forms of civil conflict." This assumes a 'we' that judges which civil wars to put down and which to support. Who is included in this 'we'? How representative of the diverse moral visions of humanity will 'we' be? How worthy of trust?

Similarly, Whitehouse argues that it would be beneficial for people to fuse with the concept of "humanity" as a whole. "Humanity" is a relatively recent and universalizing identity term that potentially devalues existing ethnic and

religious identities, identities that both activists and many socio-cultural anthropologists view themselves as championing in a fight against globalization and cultural homogenization. What is the content of this vision of 'humanity' with which people are to fuse? What is it to be a human being? Who has a seat at the table in deciding the content of this vision? If we unreflectively assume the contemporary idealistic Western notion of humanity as a rational species working toward a world of individual freedom and mutual benefit (Taylor 2007), then other visions of humanity and its place in the world are marginalized. We must be careful to demonstrate the differences between such a project and the enterprises of colonialism and the neo-liberal push of global capitalism, not just for obvious ethical reasons but also for the practical reason that socio-cultural anthropologists are needed for cross-cultural research on the topics addressed here and one risks alienating many of them with a vision of global transformation and unification.

For these reasons I would ask Whitehouse to consider asking the genie for a fourth wish. This wish would be to make the process of establishing the content of our vision of 'humanity' globally peaceful, representative, and consensual. This, however, may be the hardest wish for our genie to grant.

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Timothy M. Waring. On the Application Methods for Various Types of Social Glue. A Commentary on Harvey Whitehouse University of Maine

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Whitehouse's article on social cohesion provides a mix of research agenda and aspirational vision. The research agenda springs from the "Ritual, Community, and Conflict" project that he directs, but Whitehouse also aspires to employ an advanced understanding of social cohesion to "predict, prevent, and resolve civil wars," and to "mobilize a global response to economic inequality and environmental threat." As a student of social group dynamics I would be excited to see Whitehouse and colleagues succeed in this regard, however fraught the task. The forces of social cohesion are critical in explaining social change and thereby provide stepping-stones to applying our understanding to higher social goals. With these goals in mind, I would like to consider how the types of social cohesion Whitehouse tables might influence societal evolution, and if and how such forces might be employed for a common good.

Before I start I would like to dispense with an issue of which Whitehouse is certainly very aware yet did not address in the target article, namely that the forces of social cohesion and those of social diversification are merely opposite sides of the same psychological coin. Theoretical and empirical research bears this out. Evolutionary theory shows that when the benefits of cooperation can be isolated to the same group that pays its costs, cooperation is more likely to arise and persist. Countless empirical studies demonstrate that human cooperation is obsessively group focused, suggesting that in-group favoritism, parochial altruism, conditional reciprocity and related behaviors are the sorts of adaptations that have made human cooperation stable and human societies successful over evolutionary time. Cultural group selection provides a succinct and efficient way of tracking the evolutionary linkages between individuals and groups, and it is of direct relevance to the evolution of cooperation, ritual and

institution. I believe this broad region of group-centric cooperation, cultural evolution and adapted human psychology to be the relevant context for interpretation of Whitehouse's article, and will return to the implications at the end.

On types of social glue

Whitehouse outlines two different mechanisms of social cohesion, identity fusion and social identification. *Identity fusion* is a personal, emotional bond shared by small groups that have undergone intense and stressful shared experiences such as wars and initiation rituals. Groups of individuals who have passed together through such events tend to have deep empathy for one another. These groups are often willing to sacrifice to aid and protect their fellows. This personal identity fusion differs in nearly every respect from symbolic "social identification," which does not require intense personal experiences but is instead mediated by categorical relationships, rote ritual, symbolic markings and may extend across vast social groups much larger than could possibly undergo personal identity fusion. While these symbolically marked social identities may include millions of individuals, they do so only weakly in comparison to the strength of commitment between people who have experienced intense shared events and become fused. As a result, individuals may belong to great number of symbolic social identities, whereas, people only ever have one or a few personal identity fusions.

Personal identity fusion and symbolic social identification are, of course, categories of convenience created to simplify the empirical world. Although they are extreme categories, with large grey zones and complex interactions, they are useful ones. They are useful because they expose distinct social properties in a manner that makes it easier to understand how societies change over time. Moreover, it seems that the two mechanisms of cohesion are not merely two extremes on a continuum, but, as can be seen in their links with euphoric vs. dysphoric ritual and imagistic vs. doctrinal social forms (Atkinson & Whitehouse, 2011; Whitehouse, 2002), the two mechanisms are also separable objects of empirical study.

To aid in considering the dynamical properties of these two social cohesion mechanisms (in preparation for building a theoretical model), it is useful to abstract or exaggerate their core differences. The purpose here is to consider the properties of two pure types of glue, so that we may consider their application, interactions and dynamical properties more clearly. I see five dimensions along which these two mechanisms of social cohesion differ, at least in theory.

Group size – Symbolic social identity may extend to millions of strangers, while personal identity fusion may only occur within relatively small groups with whom it is directly possible to share an experience.

Exclusivity – Humans may simultaneously belong to many social groups, each symbolically marked in various ways, but seldom undergo identity fusion and when they do it is an exclusive formation, not usually open to further members.

Cooperative strength – Both fused identities and social identities carry the capacity to elicit altruism and cooperation from group members, but the individuals whose identities have been 'fused' are usually willing to sacrifice more for their fellows than are individuals of the same large social group.

Symbolic membership – Social identities are often denoted with special symbols and language, or social markers. Social markers and other outward cues of belonging may be imitated or used strategically for the benefit of individuals and groups. Fused personal identities, on the other hand, derive membership from involvement in the defining event, and may not be imitated or manipulated as easily because members recognize each other personally.

Primary driver – Fused groups emerge largely as a consequence of traumatic events (be they ritual, catastrophe or war), while symbolic social identities arise, persist and spread through a combination of social processes including cultural diffusion and institutional dynamics.

Before coming to rest on the dynamical aspects, I will make a few notes about these two mechanisms. Personal identity fusion is by its nature inversely related to group size and physical distance, but positively related to catastrophe, conflict and death. While dysphoric hazing and initiation rituals make personal identity fusion a force that can be employed by societies and institutions, it is significant that in peacetime most of the fusion events that a experiences exogenous symbolic person may be groupings. Childhood, the physical challenge of survival and intra-group conflict likely provide the majority share of fusion events in peacetime, and many of these events occur frequently and perpetually in human life. This background frequency provides an important baseline of regional social cohesion against which the effects of ritual and institution and fusion due to inter-group conflict may be compared. Furthermore, it is possible that above a certain frequency of intense events even a large population may become "fused," in a chainmail fashion. Such a linkage could enable warfare or peaceful collective action such as the civil rights movement.

By contrast, the symbolic markers of social identity may be used strategically by group members and outsiders alike. Symbolic markers are ripe material for cultural evolutionary processes. Social identity markers may often arise endogenously (Efferson, Lalive, & Fehr, 2008), are prone to psychological mechanisms of imitation (Mesoudi, 2009), and are strengthened

at social group boundaries (McElreath, Boyd, & Richerson, 2003). Moreover, symbolic social identities such as those that designate large religious populations may have played a key role in the expansion of human cooperation in the last 10,000 years (Henrich et al., 2010). Thus, symbolic social identity would seem to be more directly susceptible to cultural evolutionary forces than fused personal identities, even when dysphoric fusion rituals are accounted for.

On mixing glues

To explore the dynamic influences of these types of social cohesion, it may be most instructive to explore a few of their possible interactions.

First, the two cohesive forces may often align. Alignment occurs when fusion events occur within a population delimited by its symbolic social identity. The amount of personal fusion occurring within a symbolic group may in fact be a more useful way to conceptualize social resilience. Ibn Khaldun called collective solidarity within a group asabiyya, and Turchin (2003) extended and enriched Khaldun's theory of the growth and decline of empires by creating mathematical models of the interaction between asabiyua, populations, and political boundaries. Khaldun's verbal model and Turchin's mathematical models suggest that asabiyya was strongest within small social groups and on social boundaries. Successful groups grow in population and space until they create vast cultural heartlands within which social homogeneity allows asabiyya to wane due to a lack of contact with other social groups. Eventually, an over-extended empire may collapse and be replaced by one that emerges from border areas. Mapping our two glues onto this pattern, asabiyya becomes the frequency or strength of personal identity fusion occurring within a symbolic social group. In small social groups and borderlands it is more likely that fusion events will involve interactions with other social identities, and thereby come to reinforce the strength of the existing symbolic boundaries. In ethnic heartlands, symbolic differentiation is low and thus cannot drive fusion events. Any fusion events that do occur will not occur across symbolic social boundaries, because there are none, and the personal fusion component of collective solidarity wanes.

Next, the two types of social glue may compete on various time scales. In a related interview, Whitehead suggests that rituals employing the two types of social cohesion may be competing over evolutionary time as design features in social systems (Jones, 2013). He states that low frequency intense rituals have been eliminated in modern social groups because they are powerful and destabilize larger social structures. This may be because symbolic social identities grow to include very large populations, and may control a larger share of observed cohesion. Symbolic social identities are also more prone to

cultural evolutionary forces than are fusion events and rituals. It may be then that the corpus of beliefs and customs that compose a large society tends to become dominated more by the types of rituals that can be easily transmitted and imitated, causing symbolic social identities to grow by contrast to personally fused identities.

Or, it may be that for the same reasons, practices exploiting symbolic cohesion spread fast while those exploiting identity fusion cohesion spread slowly. This last possibility would predict a U-shaped relationship between the fraction of cohesion that derives from identity fusion and time as symbolic processes at first outstrip fusion processes, which then eventually regain.

These speculative interactions between the two types of social cohesion and between the associated types of ritual may be tested theoretically (with models) and empirically (as Whitehouse is doing currently). Related research questions include:

- What is the baseline frequency of personal fusion events in peaceful times?
- What is the maximum group size that can hold a fusion event?
- What frequency of smaller fusion events is necessary to create the chainmail-like effect, or *asabiyya*?
- What is the difference in cooperative strength between identify fusion and symbolic identification when measured experimentally?
- Does the average correlation between fusion and symbolic identity (i.e. *asabiyya*) tend to vary across social scales, and if so, which scale leads to most cohesion, and which scale minimizes the chances of war?
- What measures of "social scale" are most relevant (e.g. population size, social network measures, etc)?
- What factors control the long-term evolutionary interactions between the dysphoric rituals that generate identity fusion and the more frequent scripted doctrinal rituals that help secure symbolic identification?

On applying social glues

The aspirational content of Whitehouse's article is, of course, hopeful in the extreme. Even ignoring the ethical black hole it conjures, we do not know if social cohesion can be effectively manipulated at all, let alone to positive social outcomes. But Whitehouse asks the right question, and I believe his categories of glue can be used constructively. So, how might one hypothetically apply the forces of social cohesion to constructive societal outcomes? I have two comments in this regard.

First, how might we use this knowledge to avoid war? If Whitehouse is correct that symbolic social cohesion has enabled the expansion of human society, then we should look to applying it for its more inclusive properties over the more exclusive and local process of identity fusion. However, we must always expect that at least a baseline level of fusion cohesion will occur. Also, the situation to be most avoided is when identity fusion events unfold across symbolic social identity boundaries, building social tension. This condition is often a precursor to revolution or war, and always a consequence. Therefore, societies should avoid situations where fusion events occur across symbolic social identity boundaries. The problem is boiling this mechanism down to a tip – to stop war, stop people of different social groups from fighting each other – makes mighty weak tea. Perhaps, as the research matures, Whitehouse will be in a better position to elaborate.

Finally, we return to the proper context – the evolution of cooperation, group functional rituals and cultural traits. As I mentioned earlier, there is abundant evidence that the evolved human capacities for social cohesion are tightly tied with the human proclivity to mark, segregate and discriminate between people of different types. When we think of glue, we think of applying it to hold things together. The problem with social glue, however, is that it binds one sub-population at the expense of a rift in the larger population. That is, neither type of social glue necessarily generates new, additional cohesion. Rather, human social cohesion seems to act in more of a thermodynamic way, extracting cohesion from one source and accumulating it in another. It seems better to me to approach application from a more fundamental level, when we ask the question, "what factors can retard the processes of social segregation or ethnogenesis?" or "which mechanisms add to total cohesion across social groups?" Two such mechanisms may be migration (Richerson & Boyd, 2008) and economic equality (Baland, Bardhan, & Bowles, 2007; Wilkinson & Pickett, 2009).

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Karl Frost. Ritual Theories, the Sacred, and Social Control. A Commentary on Harvey Whitehouse

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I am quite enthusiastic about Whitehouse's research program, an impressive body of empirical work in a variety of cultural contexts and using multiple methods, exploring diverging modes of religiosity and ritual practice and their implications for social structure. I'm delighted to have been asked to respond to his post.

I find Whitehouse's divergent modes hypothesis of ritual function and social structure both intuitively reasonable and well supported. There are a lot of complexities still to be explained, but a good start has been made on what is likely to be a long and fruitful research project. I'll confine my response to this specific post to three points. The first, an expansion of something I wrote in response to an earlier post on this blog, which is to address the problematic nature of the rather loose term 'ritual' as used historically by anthropologists and to assert that 'causally opaque' is not a useful definition of 'ritual'. The

second is to suggest an expansion of the divergent modes of religiosity program to include synthesis with the study of how people behave and make decisions around values constructed as 'sacred'. The final point I would like to make is actually a word of caution around the development of more sophisticated techniques of social control. Whitehouse presents here a positive picture of how this knowledge could be applied without addressing how different actors with different access to power and different motivations might use such knowledge for other ends than the public good.

As I began my own research on 'ritual' at UC Davis, I immediately came up against the problem of definition with which many others have wrestled. I find it hard to argue that the anthropological record is coherent around the definition of the term 'ritual', except perhaps the Durkheimian idea of those things that we Westerners don't know how to explain through obvious material/economic purpose.

'Ritual' is a folk category. It is a box in which we lump all sorts of interesting behaviors which grab our attention, yet whose purpose is not materially obvious to ourselves, the anthropologists doing the studying. It is like the kitchen junk drawer in which you put all sorts of things that you don't already have a place for. There are a lot of interesting things in the junk drawer, but their only relation to each other is that they don't fit in our other tidy categories... they are 'causally opaque' to us. As such, I don't think there is much hope for some sort of general theory of 'ritual' per se. Some researchers find a functional role for ritual in the formation and stability of groups at different scales (Atkinson & Whitehouse, 2011)(Barth, 1990)(McNeill, 1995)(Sosis & Bressler, 2003)(McElreath, Boyd, & Richerson, 2003), others assert that rituals destabilize large hierarchical structures (Ehrenriech, 2007). others demonstrate how rituals store locally specific functional ecological knowledge (Lansing & Kremer, 1993)(Rappaport, 1967), yet others find ritual to cause cognitive dysfunction (Legare & Souza, 2012), and on and on. They are all perhaps correct, but this is arguably because they have drawn distinct objects out of the conceptual box we call 'ritual'. There are a lot of interesting objects in this box, but I suspect it is going to be much more fruitful to then explore theories of the different, specific social 'objects' in this box than to try to argue for a general theory of those things which are causally opaque to the anthropologist performing the study. While Whitehouse still refers to this definition, I actually think it is one of the interesting things about his research program that it begins to differentiate objects in the box based on features other than opacity to the researcher. For example, as Atkinson and Whitehouse get more specific about euphoric/dysphoric activities, frequency, arousal level, they find correlations in the ethnographic literature between low frequency and high arousal 'rituals' and small scale societies and between high frequency low arousal rituals and larger scale societies. Getting similarly more

specific, McNeil and also Kirschner and Tomasello (Kirschner & Tomasello, 2010) find that synchronized rhythmic activity leads to increased prosociality (likely in-group limited). This will be entirely unrelated to the social or psychological effects of an augury ritual that does not involve synchronized movement, like drawing a card from a deck and reflecting on one's life in relationship to its imagery. We find both activities in the folk category of 'ritual', but there isn't much more that unifies them except the common perception of their mysterious function from the perspective of a cultural outsider.

The category 'ritual' reflects less on the unity of the phenomena in the category than on the cognitive biases of those creating the category, Heinrich et al's WEIRD (Western, Educated, Industrialized, Rich, and Democratic) people (Henrich, Heine, & Norenzayan, 2010). WEIRD people, who have dominated not just anthropology, but western academia in general, are psychologically shaped by a culturally novel mythology of radical individualism which perhaps renders opaque the social psychology of many different activities, which to others may be obvious from both internal experience and observed patterns of behavior in their communities. To whom, if anyone, is the activity supposed to be 'causally opaque' to be called a ritual? Is the causal opacity somehow necessary for the function?

A perhaps more fundamental problem with trying to find a theory of 'ritual' using this definition of 'obscurity of function' as one's definition is that the behavior of interest might not be confined to the box. For example, McNeil points out that some synchronized rhythmic activities, like folk dances or certain religious practices, have no clear economic purpose to the outsider (and thus tend to be called 'rituals'), but others are parts of functional economic activity, like Japanese fishermen rhythmically pulling in a net or military drills. Their purpose to an outsider is causally clear, but they have the same psychological effects as the more causally opaque variants. One might say that there is a layering of the obvious and the obscure with the fishermen, however the fishermen are likely quite aware of the social effects of their activities... it is hard to miss from the inside, the experience of camaraderie that comes with team work, As McNeil points out, the social function of the close order drill has certainly been clear to military professionals who continued its use well past the point in history when it's material training function was no longer relevant.

One could point to many groups who use synchronized activities with no sense of 'obscurity of purpose', very intentionally using the practice to bond groups. Modern military drills, Native American powwow or potlatch dances, and allegiance-forming dance events in Papua New Guinea are a few quick examples. Goebbels' social choreography at Nuremberg was certainly not causally opaque to Goebbels, but was done quite explicitly with an

understanding of group formation. It was also probably not causally opaque to those involved, and many are struck in a visceral way with an obviousness of social function when watching Riefenstahl's *Triumph of the Will*. 'Ritual' is best seen as a conceptual grab bag in which we can find specific behaviors like high arousal dysphoric activities or synchronized rhythmic activities to study and about which to create social and psychological theories. I suspect that a *general* theory of ritual is bound to either fail or not be usefully specific in its predictions. Whitehouse has demonstrated that theories of high arousal dysphoric activities and low arousal, repetitive activities have significant promise.

The second point I would like to make is a suggestion of what may turn out to be a very useful research question: how do different ritual forms bring participants to categorize specific rhetorical stances or norms as 'sacred'? When something is seen as 'sacred' people's behavior in relation to that thing becomes qualitatively different from other contexts: behavior becomes more unbending (Rappaport, 1999). Where the 'profane' may be subject to trade-offs and negotiation, conflicts around the sacred potentially become irreconcilable, or at least not subject to normal notions of economic trade-offs (Atran, 2010). In today's world, we see many politically important examples where different groups' notions of the sacred come into conflict, causing violent conflict and a consequent entrenching of stances.

While we are beginning to understand how 'sacredness' affects decision-making and negotiation, we have hardly begun to look at how a notion of the sacred arises in the first place. I suspect that there will be some very fruitful explorations in the next years that will help shed light on how people become bonded not just to other people but to ideas. As Whitehouse writes about 'fusing with a belief system' and how 'routinization seems to suppress reflection, in effect producing more slavish conformity to group norms', it is very easy to extrapolate to the manufacturing of the sacred through a synthesis of group ritual and rhetoric. Sacred values are characterized by an unquestionability, an inhibition of critically reflection. If we can find empirical support for the idea that specific kinds of routinization lead to suppression of reflection (and perhaps this already exists in the research of Whitehouse and his colleagues), we may have the beginning of an understanding of the dynamics of sacredness.

Finally, I would like to complicate Whitehouse's picture of where an increase in technical understanding of social control might bring us. I appreciate Whitehouse's bold assertion of the possible good of this research, as he presents a vision of the science of ritual leading to a better society. I feel motivated by a similar vision. However, I personally proceed cautiously, knowing that as I generate knowledge through public institutions, I relinquish control over who has access to that power. While I think that the attempt to

derive practical, applied understandings of the social function of rituals is going to be challenging, the potential success of the endeavor gives me as much pause as the potential failure. Whitehouse writes about the prevention of civil war, but sometimes a civil war is initiated to overthrow a tyrant. Using an understanding of the social function of ritual to disrupt group bonding in order to prevent civil war resembles a picture of an oppressive government achieving greater social control as much as it does one of a benevolent society inhibiting dysfunctional fissioning. Something similar could be said for the use of group bonding ritual by those in power to consolidate group commitment to an oppressive, authoritarian state. Goebbels is certainly a clear self-aware historical example of the latter. The Cointelpro program of the FBI in the United States, used to disrupt civil rights, anti-war, and socialist groups, is an example of the former. Where would civil rights be in the US, now, if the FBI had applied more effective tools than they did for disrupting social organizations like the Southern Christian Leadership Conference of Martin Luther King Jr? We aspire to a kind of benign, collaborative social engineering as we increase public knowledge of the social effects of ritual, but we should understand that this knowledge will be applied by the different political actors, potentially for cross purposes.

It is sometimes perhaps an academic fantasy that one's social science research will have some sort of potential application in the world, but to earn our public paychecks, it behooves us to act as if it will. However, we have every reason to suspect that any functionally useful knowledge we produce, should we succeed in producing it, will be used asymmetrically by people in positions of power to consolidate their power. We should not proceed blindly forward guided by rosy fantasies of how benevolent governments will use power purely for the public good. If we do have an intention of generating knowledge of socio-political dynamics in order to facilitate the public good, we have to think about how that understanding might be used by existing institutions and specifically aim for the development of social techniques that are structurally constrained from being utilized for oppressive purposes (Sharp, 2002). Some of the organizing strategies of the Arab Spring may be a beginning, but obviously as we look to Libya and the fallout into Mali, we aren't there yet.

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Douglas Jones. Modes of Interaction and Social Glue. A Commentary on Harvey Whitehouse

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Whitehouse convincingly argues for a distinction between two kinds of social glue – identity fusion and social identification. In his earlier work he related these to two memory systems, semantic and episodic (Whitehouse 2000). Here I take a different tack by briefly reviewing two modes of social interaction familiar to linguists and sociologists – the informal (or intimate) and the formal – and considering how they may be major ingredients in the two kinds of glue.

Two modes of interaction. Many languages distinguish between informal and formal in their second person pronouns. In contrast to the basic, unmarked, informal "you," the formal "you" may treat the individual and his social role as separate personalities, addressing the listener as a plurality — the French polite vous (you plural) — or in the third person — the German Sie or Italian lei (she). The informal/formal distinction may also show up as a difference in address — "Lizzie" or "dude" versus "Miss Bennett," "Your Excellency," "Your Holiness," or "Professor." The same distinction is evident in different strategies for making polite requests. Positive politeness makes a claim to intimacy ("Brother, can you spare a dime?"), negative politeness shows deference ("Sir, might I trouble you ...?") (Brown and Levinson 1987, Pinker 2007). The contrast also extends to clothing, comportment, and other social interactions outside language, with the formal mode in each case being more heavily scripted and allowing less room for improvisation.

Consider in more detail what intimacy involves. Intimacy among humans presumably has some of the same neurohormonal bases as bonding in other species. But there also seems to be a uniquely human cognitive side to intimate I-thou interactions, involving the effort to establish *shared intentions* (Tomasello et. al. 2005). This has been long studied in the field of linguistic pragmatics (Pinker 2007). By way of illustration: suppose Fred and Wendy Smith are a couple we know, and I tell you, "I saw Wendy kissing a man in the park yesterday." You are likely to infer that the man was not Fred. Why? I could just as easily have said, "I saw Wendy kissing Fred in the park yesterday." Since I didn't, presumably I meant to imply that the man wasn't Fred. This conclusion is not a logical deduction but a *pragmatic inference*, where you infer meanings that I encourage you to infer. Pragmatic inference, and shared intentions in general, depend on *common knowledge* (a term of art

from game theory: not just what we both know, but what we both know we both know). Our common knowledge in this case includes our particular knowledge of Fred and Wendy, and our general knowledge of the maxim that a cooperative speaker tries to supply as much relevant information as possible, other things being equal. Similar reasoning leads you to conclude that when I say something we know in common to be literally untrue ("What wonderful weather for a picnic," or "Death is the mother of beauty") I am speaking ironically or metaphorically.

Formal interactions may involve pragmatic inference as well, but they involve more centrally another uniquely human specialization, that of treating other people as occupants of social roles, apart from their personal qualities (Bloch 2008). This dramaturgic faculty depends not so much on developing shared intentions through one-off improvisation, as on following conventionalized interactional scripts, including sheer rote, as in the army, where "We salute the uniform, not the man."

Two kinds of glue. I suggest that in rituals involving identity fusion and social identification, the psychologies of informal and formal interactions, respectively, are activated, although these psychologies are also active in many non-ritual exchanges.

Consider identity fusion rituals. While most or (by definition?) all rituals involve some degree of formalization, this class of ritual seem less concerned with getting the ritual exactly right or exactly the same as last time, and more concerned with changing participants for life – not just gluing them together, but melting them down and reforging them. To some extent, identity fusion rituals achieve this result through pain, ecstasy, and other high arousal states. But there is also a cognitive side to these rituals, which (I suggest) comes from their activating a process of pragmatic inference. As Whitehouse notes "a car crash or even a traumatic experience on the battlefield [may] provoke a rather limited array of reflections." I suggest that identity fusion rituals are different from crashes and war trauma because they are understood as symbolic acts aimed at generating shared intentions. The intended meanings behind ritual symbolism may be obscure, triggering a lasting open-ended process of rumination. ("We have always fought wild pigs. But the initiator said that we initiates are wild pigs who must be killed. He couldn't have meant it literally. so maybe he meant ... or maybe ...") The episodic memory of shared extreme experiences and the ongoing pondering of "What did he mean by that?" seem to intensify social cohesion. While intense, intimate bonds develop without rituals sometimes – between mother and child for example – with identity fusion rituals they can extend further.

Social identity rituals, by contrast, involve more scripted behavior, and the significance of this behavior is more likely to be spelled out, rather than left open to pragmatic inference, as we would expect for formal social interactions.

How does this contribute to understanding the social evolution of ritual? As Whitehouse notes, although fusion is sometimes extended to very large impersonal groups, the tendency is to shift to social identity rituals in the doctrinal mode as societies grow more complex. Why is this? Why is the routinization of charisma the rule in large-scale societies? The evidence from linguistics and related areas suggests one possible partial answer: the formal mode is employed not just in interactions with socially distant individuals (where formality is expected on both sides), but in interactions with one's superiors (who are not obliged to be formal in return; they may answer your vous with a tu.) It may be, then, that social identity rituals are more compatible with the social stratification found in complex societies. By contrast, identity fusion rituals make for more social solidarity, but they also threaten to melt down hierarchies (Ehrenreich 2007). Attempts at extended fusion - as, for example, in messianic and millenarian movements — are likely to be regarded with suspicion by the powers that be, unless they are directed outward against external enemies, or diverted into harmless channels, like Saturnalia or Carnival.

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Zoey Reeve and Dominic Johnson. *Identity (con)fusion: Social Groups and the Stickiness of Social Glue. A Commentary on Harvey Whitehouse*

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Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has.

—Margaret Mead

Harvey Whitehouse argues that we will be better able to resolve major challenges of the 21st century—civil wars, collective action, poverty, and environmental change—if we understand the "social glue" that binds people together in common cause. In the past, research on this idea has been dominated by social identity theory (SIT), in which individuals identify with and favor ingroups. Whitehouse and colleagues suggest that SIT applies well enough to large, anonymous groups, but fails to capture perhaps the most powerful social glue of all: that which occurs in small groups undergoing danger or hardship—a different phenomenon they call "identity fusion". In identity fusion, individuals and groups effectively melt into one entity, permitting extraodinary levels of cooperation and altruism. SIT has been a bedrock concept in social psychology for decades, and we welcome the opportunity to rethink and bash the paradigm. We are fully onboard Whitehouse's boat, but want to paddle in a slightly different direction.

First, we think identity fusion highlights a major problem with SIT: how membership in one group overlaps with memberships in other groups. Social identity theory is problematic because it fails to predict how people will behave when there are multiple overlapping groups, and identify fusion offers an opportunity to sort out this deficiency. It offers predictions for when the glue will be strongest, not least because fused identities trump social identities when small groups share traumatic experiences.

Second, while identify fusion expands the SIT paradigm, we see fused identity and social identity not as different types of social glue, but rather as having different levels of stickiness. Individuals' level of identification with groups follows a continuum, from national identity that we have whether we like it or not (some reject it), to teams of fire-fighters, say, whose group integration is a matter of life or death. Social identity is usually just glue, and sometimes fails to do anything. Identity fusion is superglue, and often has amazing outcomes.

When Does Glue Becomes Superglue?

We think the notion of a continuum of levels of stickiness can help to reconcile Whitehouse's argument that there are two types of glue, with the counter-argument that there is only one glue, making identity fusion a version of social identity (see Ingram and Prochownik's commentary). We suggest that identity fusion explains interpersonal relations according to context. In the absence of groups, the notion of fused identity still seems to have a role as evinced by Whitehouse's example of "survivor bonds". But in group contexts, while fused identities may tend to occur in smaller groups, those individuals who make up that group inevitably belong to some of the same wider ingroups. In this way, fused identity seems located within social identity to an extent (which can vary), and not necessarily an alternative. Of course, Swann and others argue that identity fusion is empirically different from social identity, so there are two things to explain. But this may be a failing of definitions of social identity rather than of the concept itself (see also Ingram's follow up comment).

But how might a fused identity arise from a social identity? Such a question is key for those of us who are interested in explaining the process of radicalisation, and hinges on the assumption that there are different levels of 'groupness'. This problem is, we think, indicative of our own scholarly identity confusion: not knowing whether and how to separate an individual-as-agroup-member from a range of possible groups (social identities) that seem inextricably linked to one another, yet are also distinct in different contexts. Where does a fused identity start and a social identity end?

A good example of this might be the army unit, the regiment, the service (army vs. navy etc.), and the nation. The unit is fused having endured the same costly rituals, training, and sharing the same type of traumatic experiences of combat (Rielly, 2000). But this small group of individuals, so tightly bonded, are also members of the wider armed forces, who are distinct from the civilians they are fighting to protect within their nation, of which they are also members. Whilst the unit itself is likely to be most tightly fused, the fused group still has intimate ties with these larger, and more inclusive ingroups. These ingroups are examples of social identities. Of course, the argument may arise that they are members of "external identities" (one category of identity fusion), but is there enough to differentiate between external identity and social identity?

From Social to Fused Identity

The question then becomes, beyond a highly indoctrinated training programme utilising rituals and shared experiences (such as military training), or the direct experience of extreme hardship or danger, how do people form fused identities within, or even against the grain of, social identities? Here we

return to the process of social identity and suggest that individuals who vicariously experience, say, injustice or prejudice on account of their group membership (social identity) are likely to try and interpret these events through the lens of that group membership (see Ginges and Atran 2011). So, for example, I may not have been in Derry on bloody Sunday, but I was personally traumatized by the killing of my Catholic brothers. Social identity helps people understand this injustice according to their group membership—thus the very interpretation of events are increasingly based on group membership rather than individual experience (Tajfel and Turner, 1986; Deschamps, 1982; Hewstone and Jaspars, 1982; Tajfel, 1979; Cairns, 1982; Rabbie and Horwitz, 1982; Van Knippenberg, 1978).

It could well be this process of viewing the world through an ingroup lens that enables, in fact, some degree of identity fusion with a set of likeminded others, particularly in groups that may not have been particularly salient before a particular nasty event (such as Bosnians before the Serbian invasion). If so, identity fusion may begin to explain the notion of saliency of social identity (i.e. how important to the self-concept the group membership is) and interpersonal relationships within an ingroup that may lead to fractions. This is important to understand involvement in extremist and terrorist groups. Often terrorists are not directly affected by the events that underlie their grievances, but they are sufficiently impacted by the suffering of fellow ingroup members that they are prepared to die for the cause.

Self-versus Other-Centricities

Whitehouse differentiates the way in which social identity in individuals, and fused identity in individuals, enable the perception of other members of the ingroup. Social identity tends to lead to the deindividuation and homogenisation of others within the ingroup as group members rather than as individuals, whilst fused identities are porous, resulting in more vicariousness of experiences of other (fused) group members who are nevertheless recognised as unique individuals (Hornsey, 2008; Swann, et al., 2013). As Whitehouse suggests, fused and social identities appear to serve different functions. The process of identity fusion may enable a sort of other-concern, which enhances feelings of empathy towards ingroup members (although to what extent is not clear—i.e. to fused identity others or wider ingroup others?), whilst social identification triggers self-concern, since the status of the group is reflected in the individuals' self concept (although see Brewer (1991) for an alternative to self concept).

But in the absence of context (that is, different levels of groupness) it is difficult to say whether this would change. For instance, a study by Hein et al. (2010) showed that individuals in a group who experienced and then watched

others (ingroup and outgroup members) experience electric shocks had more activation in the empathy areas of their brains (anterior insula and anterior cingulate cortex) when watching ingroup rather than outgroup members receiving the same shocks. Group membership was football team supporters and subjects were tested in pairs. Would the shared suffering of group membership and electric shocks lead to some type of fused identity? Or were results simply based on group membership? We cannot be sure, but certainly there is a link between the two since there was a difference in activation and behavioural responses according to group membership. Interestingly, empathy was also triggered, albeit on a lesser scale and much less frequently, when outgroup members suffered too and this effect was mediated by positive personal opinions of the outgroup individual. There may be hope for us as a species yet.

Putting Social Glue to Use

In sum, identity fusion is a very welcome and much needed addition to social identity theory that can shed light on some of the crucial, yet underdeveloped concepts it is hinged on. We suggest that identity fusion operates within the rubric of social identity—an extreme form of social identity—in which rather than the group taking over the individual, the group becomes a vessel for the individuals to be bonded together rather than bonded to the group. The glue is not sticking them to a group concept, but to each other directly. This enables us to see how an individual may go from self-centric yet group-oriented (via social identity), to other-centric yet individual-centric (via identity fusion). Finally, it highlights an important limitation of social identity theory which is the inability to deal with multiple groups within groups and how those different groups might be separated from one another. Identity fusion sticks where mere social identity breaks.

If identity fusion is a superglue version of social identity, then what are the implications for Whitehouse's three wishes of resolving civil war, collective action, poverty and environmental threats? On the one hand, it may bring these wishes closer to the realms of possibility. If the vicarious exposure to injustice and prejudice—to an ingroup as a whole—can achieve some degree of identity fusion, then we may be able to make social glue stickier without putting people through traumatic experiences themselves. Information, presentation, and framing of good and bad events may be even more critical than we thought. On the other hand, it suggests that we have an additional obstacle, because in a globalizing world of broadening as well as narrowing groups (federalism versus devolution, migration versus ghettoization, world unions versus highly specific online groups), everyone is suffering from an increasing confusion of identities—family, party, religion, state, nation, social

network, west, east and so on. With so many strings of glue we may be pulled in counter-productive and unpredictable directions. Finally, we should not see social glue as a panacea. Roosevelt and Stalin got along well enough when they had a common enemy in Hitler (and Japan). No glue was necessary for remarkable levels of cooperation. But once Hitler was gone, the world was divided for decades by the communist block and the free world. There may be challenges of such gravitas that no glue is necessary to pull people together in common cause, as well as divisions of such perceived importance that no glue can bind them together.

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Harvey Whitehouse. More On Social Glue: A Response to Commentaries

The discussions in this forum have raised some big issues, ranging from the implications of two types of social glue for the evolution of groups (e.g. Waring; Smith) to the practical and ethical challenges of seeking public policy interventions based on our scientific theories and findings (e.g. Lanman; Waring). I agree with most of the comments that have been posted and as everybody points out we need more evidence before much more can be said. But there are two issues I'd like to pick up. The first is a very basic question about whether there really are two kinds of social glue (Kavanagh; Buhrmester) or just one with varying degrees of 'stickiness' (Ingram and Prochownik; Reeve and Johnson). The second is about whether social glue is really the most important issue in addressing my three wishes for the world or if other sources of altruistic behaviour should receive equal or greater priority (e.g. Swann; Smith). Altruism has many sources but in my view social glue plays an especially important role in solving collective actions problems that carry high individual costs.

One or two kinds of social glue?

As an anthropologist who studies religion, I am always an outsider looking in – albeit sympathetically. And that is often how I feel when trying to untangle the intricacies of the social identity perspective on group psychology, which appears (again, from the outside) to be forcibly reminiscent of a religious organization. Although the social identity perspective has two branches – Social Identity Theory (SIT) and Self-Categorization Theory (SCT) – all followers subscribe to a mainstream orthodoxy with varying degrees of piety and commitment. Core beliefs include that everything in group psychology, including the phenomenon of identity fusion discussed in my target article, falls within the ambit of the social identity perspective. As such, fusion appears to be just one more sect under the infinitely extendable umbrella of the mother church and her encompassing doctrines. Of course, outsider impressions can

be misleading and I cannot claim to have conducted long-term ethnographic research among social identity theorists. So my comments on this topic will be as tentative as they are curious and well intentioned – and no doubt shaped to a degree by my having been trained to recognize the trappings of religious fervour no matter how subtly it is expressed.

Field notebook in hand, I have spent the last few days tracking down informants. Let's begin by giving some space to their voices (it's standard practice in ethnographic research to disguise sources): "A while back, advocates of SIT and SCT (self-categorization theory) realized that many of their own workers didn't believe in the main tenets of one or more cardinal doctrines, e.g. functional antagonism (that activation of personal self reduces salience of social self and vice-versa) and depersonalization (that groups members are categorically interchangeable when the group is salient)." Another informant described what happened next: "Instead of providing a formal revision to the theory, some researchers simply endorsed arguments that were in direct opposition to the original tenets. The result was that the informally revised 'theory' now embraced both the original theoretical ideas (e.g. functional antagonism and collective ties) and their opposites (e.g. identity synergy and relational ties). The resulting 'social identity perspective' was immune to falsification."

Unfalsifiable? This sounds like a set of beliefs that can't be resolved on empirical grounds. Like a religious system perhaps? Let's explore this in more detail...

According to Ingram and Prochownik identity fusion is probably just an "extreme form of social identification." Reeve and Johnson agreed with this take on things, arguing that the notion of identity fusion merely "expands the SIT paradigm." But as Kavanagh and Buhrmester carefully argued in a series of posts, the empirical evidence points to systematic differences between fusion and identification. Kavanagh cited a body of empirical evidence showing that existing measures of social identification simply cannot subsume identity fusion. If, for example, personal and social identities are hydraulically related, what is one to make of evidence that activating a personal identity enhances the tendency for fused individuals to enact pro-group behaviour? Building on this, Buhrmester pointed out that fusion theory focuses on the causal role of relational ties to other group members as well as collective ties to the group whereas the social identity perspective is only concerned with the latter. The two kinds of social glue predict different psychological and behavioural outcomes.

What motivates efforts to make identity fusion part of the social identity perspective rather than, as the evidence suggests, an alternative theory of how groups are glued together? The motivation doesn't appear to stem from either empirical or logical considerations but from a desire to maintain the sovereignty of a tradition. It is easy to underestimate the extent to which academics (including good scientists) can form distinctive cultural traditions that, just like any other traditions, can glue adherents to each other and to a set of values and beliefs. And this makes the study of social glue all the more complicated.

If we think of the social identity perspective as a kind of church it is a relatively new one. There is of course a much bigger and older church, called 'social science'. As Michael E. Smith reminded us, in an informative post entitled somewhat indignantly "You Folks Should Pay Attention To Social Science", there is a grand tradition out there, one that has a more illustrious history than the social identity perspective and a greater plethora of special terms for things, ways of talking about them, and other special customs and beliefs. When I started to read Smith's commentary, I thought at first he was going to say that we'd made a basic error that could have been avoided if only we'd known about some previous research on the topic. But as I read on it became clear that his main point was something quite different – that there is another academic tradition over the hills that has lots of doctrines about social glue, including what to call it and how to think about it.

To my mind, however, the most thought-provoking response of all, from a big-picture perspective, was the one written by Lanman. He reminded us that when we're asking questions about human psychology we should ask about both mechanism and function. To put this in the language of the evolutionary sciences, we should address both proximate and ultimate causation. The social identity perspective has taught us much of importance about the proximate level but when we broaden the focus of groups research to consider issues of ultimate causation we begin to understand social glue rather differently.

To appreciate why fusion and identification may be different it could help to unpack their evolutionary histories. Lanman and I hypothesize that the categorical ties studied by social identity theorists evolved to bind together tribes and ethnic groups whereas identity fusion emerged to hold kin groups together: two functions, two psychological mechanisms, and two kinds of social glue. Kin psychology (on this view) regulates behavior among genetically related individuals, facilitating exceptionally high levels of altruism towards the group, rooted in the fusion of personal and social selves. Ethnic psychology, by contrast, solves collective action problems using categorical ties based on identification with groups. As Lanman succinctly put it: "Whitehouse's account of identity fusion as 'psychological kinship'... which lies at the heart of the imagistic mode of cohesion... utilizes the findings of both evolutionary psychology and socio-cultural anthropology and can serve as a reminder of the insights we can reach when we move past the more exclusionist rhetoric sometimes used by scholars in these fields."

How important is social glue?

Several contributors to this discussion pointed out that a range of factors contributes to altruistic behavior and that 'social glue' is only one of them. Bill Swann, for example, mentioned shared interests, top down incentives and deterrents, and ideologies that appeal to our capacities for empathy or right and wrong. Arguably, however, social glue has a special role in motivating altruism. You and I might share similar concerns about social problems, discover common vested interests, and even agree on the best courses of collective action, but I doubt whether any of this would motivate most of us to make big sacrifices for the greater good.

Not everyone shares my hunch. Some prominent activists insist, for example, that *morality* rather than social glue is the best way to address the major collective action problems faced by our species. One of my three wishes for the world was to eliminate extreme poverty. The moral philosopher Peter Singer famously gives away a third of his income to the charity OXFAM and he urges everyone else to do the same. I vividly remember a lecture given by Singer in Oxford, at which he pointed out the wrongness of allowing extreme poverty to persist in the world and the fact that we could eliminate the problem overnight if we all set our minds to it.

But that's the problem. We won't all do it. And since we know that other people won't all do it, we typically decide not to do it ourselves. After the lecture, I sat next to Singer at lunch and I put it to him that the moral argument wasn't going to change things. His response? It simply had to – there was no other way. But as Swann points out there are indeed other ways.

Aside from moralizing we've seen many efforts to solve world problems using a diversity of strategies. For example, over several decades concerted effort has been made via high level international initiatives to redistribute wealth from the world's wealthiest countries to help the poorest and there has long been broad agreement that 0.7% of GNP is a realistic target for provision of aid. But apart from some outliers like Scandinavia, we have fallen woefully short in achieving these kinds of targets. Swann mentions various mechanisms of regulation in modern states that can be used to solve collective action problems without relying directly on social glue – we can incentivize, legislate, tax, subsidize, and do other things in a top-down fashion to tackle poverty. But I would argue that none of these approaches works very well without the right kinds and quantities of social glue.

Social glue plays a vital role in solving collective action problems in a sustainable fashion. Without it, other mechanisms deteriorate and fail. Examples are legion but to take just one from my own country: social glue was essential to setting up the welfare state in the UK but it is now eroding because of a culture of sponging and entitlement symptomatic of a progressive

weakening of national cohesion. Whereas the social sciences have traditionally provided quite sophisticated ways of understanding systems of regulation – in economics, law, governance, politics, and so on – a more basic aspect of coordination in society – social glue – has not been understood so well, and figures less prominently in the thinking of policy makers and advisors. I think it's time to rectify the neglect.

Closing remarks

After much debate on points of detail, Gordon Ingram concluded an informative thread in this debate by taking issue with my suggestion that "when we fight back against injustice it's because we believe that its victims share our suffering. The victims are, in an important sense, one with us." Ingram retorted: "This, I think, is quite wrong: I predict that it is not necessary to feel fused with someone in order to feel a duty of care towards them... it comes down to the need for more empirical research: these are two testable predictions and I hope that someone will test them soon. Until then, Harvey is not really justified in making this sort of claim." Ingram's call for more data is well taken. And I should have been careful to emphasize repeatedly that my fusion-based explanation for altruism (including parochial altruism) is no more than a working hypothesis rather than an established fact. But by the same token Gordon is offering a counter-prediction rather than demonstrating the wrongness of mine. Although we do need more evidence, the idea that empathizing and moral reasoning are sufficient to motivate extreme sacrifice for the group warrants skepticism. By contrast, there is already quite compelling evidence that when compassion and morality are bolstered by a visceral belief that the group is me, self-sacrificial commitment markedly increases.