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THE MANAGEMENT
OF MUTUAL
EXPECTATIONS
IN LARGE-SCALE
INTERACTIONS

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Ringling the First Bell: ritual and the management of mutual expectations in large-scale interactions¹

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Abstract

Effective cooperation depends on the coordination of expectations and intentions. In very small groups this can be achieved through the human capacity for empathetic interaction; but in larger groups and ongoing communities something more is required. This is provided by a universal system of structure-and-time cognition, which is manifested in temporal rituals of transition and renewal. The main features of the system are described, and its relations to rational choice and evolutionary theory are discussed. The argument is illustrated by an analysis of the ceremony that opens the Russian school year.

¹ The fieldwork for this paper was supported by the Max Planck Institute's Property Relations Focus Group. Alexander Nikulin introduced me to Kalikino where my hosts, the Harmina family, suggested that the first bell ceremony would be worth recording. Alexander Nikulin and Sayana Namsaraeva, who had both participated in the ceremony as children in other parts of Russia, provided valuable comments on the video recording and background information on the ceremony itself. Joachim Görlich, Brian Donahoe, Kirill Istomin (another former participant), Nathan Light, Bettina Mann, and Viorel Anastasoiaie read the paper and commented on the argument. None of those mentioned are responsible for the ideas expressed in this paper, but with all this help it should be even plainer than it usually is that any errors are the author's alone.

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Introduction

The trouble with many forms of choice, rational or not, is that they require cooperation with other people. While Adam Smith may sometimes have thought that the rational pursuit of self-interest would be enough to ensure mutually beneficial outcomes, in recent decades game-theoretic explorations of cooperative behaviour have demonstrated that the achievement of such outcomes is by no means automatic. There are two fundamental difficulties. The first – which might be called the pay-off problem – is that there are many situations in which cooperation may be individually costly, and therefore avoided, even though the overall outcome would be best if all cooperated. The second difficulty – which is often referred to as the co-ordination problem – is the sheer difficulty of arriving at a shared plan of action. Coordination problems can arise even when all concerned would be willing to play their allocated parts – if only they knew what they were! Coordination is even more difficult when people are unaware of the potential benefits of mutually consistent behaviour.

Recent research into these problems has led to a common realisation that rational self-interest is not enough in itself to ensure successful cooperation – and that a deeper theoretical understanding of human relationships is required. The titles of two recent books *Foundations of Human Sociality* (Henrich et al 2004), and *Roots of Human Sociality* (Enfield and Levinson 2006) are eloquent testimonies to this shared realisation. In fact, the conclusion would probably not have surprised Smith since, as Gudeman has pointed out,³ his invocation of self-interest in *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) should be read in the context of his earlier work on *The Theory of Moral Sentiments* (1759). Nor would it have surprised his contemporary David Hume, who argued that the institutions of economic life depended on a sense of generalised sympathy (Hume 1978 [1739/1740]). Nevertheless, within this general consensus, the authors of *Foundations* and *Roots* are making rather distinct points. Henrich et al (2004) focus on the pay-off problem and provide evidence that people are guided not only by rational self-interest but also by a sense of fairness and by social expectations, which – though they may vary between cultures – always provide some pressure in the direction of cooperation.

The authors of *Roots* focus on the coordination problem – and in particular on the processes by which people establish common understandings and negotiate shared intentions. They argue that people show a whole range of behaviours, of which speech is just one, which enable us to communicate understandings and intentions. The success of these behaviours is itself based on some common innate drives and understandings which Levinson (2006) jointly labels the “human interaction engine”. These include our desire to engage with each other socially, and our ability to attribute understandings and intentions – including communicative intentions – to one another. The interaction engine – and the communication it makes possible – enables people to establish the “common ground” which is needed for effective cooperation (Enfield 2006)

In this paper, I will also concentrate on the coordination problem and particularly on an apparent gap in the arguments of Levinson and his colleagues. I will claim that some well-established anthropological findings enable us to close this gap and so to provide a fuller description of the human interaction engine.

The gap is as follows. The empirical accounts in *Roots* focus on interactions in small groups – most often dyads – even when the context of this interaction, for instance navigating a ship

³ Stephen Gudeman in discussions at MPI Halle.

(Hutchins 2006), clearly involves much larger collectivities. This reflects the fact that intensely communicative relationships are typically limited to small groups, rarely more than half a dozen people, and thus cannot in themselves span the wider collectivities (often containing dozens or hundreds of individuals), which are involved, directly or indirectly, in much practical activity (Dunbar 2003). We need to identify some processes that go beyond small-scale communication if we are to explain the patterns of interaction within these wider encompassing groups. The obvious place to start is by asking whether the establishment of “common ground” is equally important for the functioning of these extended groups and, if so, how it is achieved.

The social construction of shared intentions and expectations is one of the classic themes of social anthropology, and most anthropologists would agree that ritual plays a central role (Durkheim 1979 [1893]; Rappaport 1999; Turner 1969). One context in which this is particularly evident is in the way rituals are invoked to affirm and adjust social statuses at various points in calendrical and life-cycle time (Gell 1996; Leach 1961; Van Gennep 1981 [1909]). The aim of this paper is to look again at just what these rituals accomplish and the ways in which they achieve their effects. But before commencing the analysis it will be useful to describe a particular instance of such a ritual: the ceremony of “ringing the first bell”, which inaugurates the Russian school year.

Ringling the First Bell

In the late summer of 2002, I was doing fieldwork in the village of Kalikino, in southern European Russia. The family I was staying with suggested that it would be interesting for me to see the *lineika* or parade that always takes place at the beginning of the first day of the new school year. So on the morning of September 1st, I set out with my video-camera and positioned myself at the edge of a green space in front of Number 1 School Kalikino, waiting for the ceremony to begin. The description given here is based on the resulting video recording.

The student body of the school consists of girls and boys in eleven grades, the youngest of whom in first grade were aged six at the start of the school year, and the oldest, in the eleventh grade, were aged sixteen. Although all the age-grades formed part of a single school, they were grouped into three broader age-categories: juniors (grades 1 to 4) middle school (grades 5 to 9) and seniors (grades 10 and 11).

As the start of the school day approached, students started appearing in ones and twos and gradually formed a crowd, including some parents and onlookers, in front of the school. A table and some chairs were made ready, along with loudspeakers from which came loud and stirring music. The participants, consisting at this point of all the school pupils except the incoming first graders, along with some teachers and local dignitaries, formed up round the sides of a square that was marked on the ground, looking inwards. The teachers and dignitaries were by the table. To their left was a gap which would later be filled by the first graders. To the left of the gap were the second graders. To *their* left were the third graders. And so on round until the eleventh graders, who stood directly to the right of the table and thus closed the square. The ceremony was led by a woman in her thirties who may, though I am not sure, have been one of the teachers – I will refer to her as the ‘main speaker’.

The start of the ceremony was announced by the tune of the national anthem, coming over the loudspeakers. This was followed by announcements made in turn by four students, each of them referring in rather heightened poetic language to the onset of autumn and the beginning of the new

school year. The main speaker then took up the theme, emphasising that the ceremony they were about to take part in took place every year, because every year a new set of children reached the age of six at which school began.⁴

This was the cue for the entry of the future first graders. Up to this point, the six-year-olds, each accompanied by a parent or other adult, had been waiting a little way behind the main desk. They now came forward, each holding their parent's hand, and walked round the inside of the square – to the accompaniment of loudspeaker music and applause from the other members of the school. After making the circuit they took up their place at the side of the square between the desk and the second graders.

Once this was complete, a small choir sang two songs to the backing of music from the loudspeakers. The first song was about setting out on a journey to the marvellous new land of knowledge, while the second described the proud feeling of a boy accompanying his younger sister on her first day at school, knowing that the whole street would know about this big event.

After this, the main speaker introduced the director of the school, who began by introducing each of the first graders to the rest of the school by name. She then spoke of the importance of the new voyage of knowledge on which they were setting out, saying that there would of course be difficulties but that the school was there to help them. After that she mentioned the successful results of the previous school year, naming students who had achieved particularly good marks, and distributing certificates which the star students ran up to the table to collect. This was done age-grade by age-grade, with the director naming the class in which the recipients had earned the reward and sometimes also the next class to which they now belonged. Then the main speaker called on various local dignitaries, each of whom said a few encouraging words of greeting to the assembled students and teachers – also mentioning how important education was to the future of Russia itself.

The main speaker now called on members of the eleventh grade to give advice to the first graders – which they did in the form of rhyming couplets, each spoken by a different student. They started by reminding the first graders that they were now members of the school; that if they wanted exciting jobs when they grew up they would have to study; and went on to announce ten school 'rules', which basically amounted to getting to school on time, behaving well, and respecting the teachers. Having done this, they presented each of the first graders with a balloon.

Next, the main speaker called on the first graders to introduce themselves and (to my amazement) each first grader clearly pronounced an individual rhyming couplet expressing his or her enthusiasm at starting school. The choir then sang another stirring song saying how they no longer played with toys but instead sat at home studying, because the only thing they really wanted to do was go to school.

When this was finished, the main speaker pointed out that the students in the fifth grade were beginning not just a new class, but also moving on from the junior to the middle school. She announced that the ninth graders (who had now reached the top of the middle school) had some advice for them. There then followed yet more rhyming couplets – giving the same basic messages about good behaviour and loyalty to the school, but expressed in a more joking and rougher way than by the eleventh graders. For instance, one couplet said that the school was the students' shared home, and that they (the ninth graders) would be enemies of anyone who thought otherwise. Another advised the fifth graders not to make excuses to go to the toilet.

⁴ That is to say the main school. They would already have attended the *detskii sad* – nursery school.

The main speaker now announced that the moment had arrived for the most moving part of the ceremony: the ringing of the first bell of the new school year. This would be done jointly by a girl from the eleventh grade (an outstanding student) and a boy from the first grade. They were given the hand-held bell, and walked together round the inside of the square, with the little boy ringing the bell to general applause. Once this couple had returned to their starting point, the main speaker told the first graders that, just as they had held the hands of their parents at the beginning of the ceremony, they would now walk round the inside of the square once more, this time accompanied by the eleventh graders. This they then did, each holding the hands of two eleventh graders, to more applause. Having completed the circle they went on into the school building itself, followed by the students of all the other classes.

Analysis (1): extending the common ground

The reason for highlighting this ceremony – which is often referred to as the ritual of the “*pervii zvonok*” or “first bell” – is not that it is in any way unique. Quite the contrary: it embodies in a particularly clear and simple form several features that are found in temporal rituals around the world. At the same time, it is clearly intended to help with the problem raised in the first section: that of defining mutual expectations in a large group of people – in this case the mutual expectations of school students of different ages and of their teachers. It offers the chance to compare this larger-scale process with communications in smaller and more intimate groups, and to relate anthropological findings to the cognitive and linguistic perspectives presented in *Roots of Human Sociality*.

As we have seen, the focus in *Roots* is on the establishment of common ground amongst members of small groups – and there are several ways in which the first bell ceremony sets up a similar process in the extended group formed by the whole school. The first is simply by providing a good deal of information on the aims, ethos, and structure of the school. This is done both verbally and visually – in a way that ensures both the words and the visual impressions are equally available to all members of the school.

A number of things are done to enhance the impact of the messages. A point that was made by Durkheim (1979 [1893]) is that the simple presence of a large number of people at a shared event generates a level of excitement (‘collective effervescence’) that increases the receptivity of the participants. So too does the use of special forms of speech, music, and visual imagery, which are less easy to query or contradict than everyday speech (Bloch 1974). All these things help to make the experience more imposing. But the impact is also enhanced in another way which is less top-down, namely by giving the pupils themselves – first graders, ninth graders, and eleventh graders – the opportunity to pronounce norm-supporting (and in the case of the latter two groups probably self-composed) statements in front of the whole school. This can be expected, following Festinger’s (2000 [1957]) theory of cognitive dissonance, to lead the speakers themselves to feel more positively about the school norms.

A key point in all this is that the participants do not merely receive the verbal and visual messages and make their own statements of commitment, they are able to see that all other members of the school are receiving the messages too – providing an awareness of common experience that is a potential resource in future small group interactions. Consciousness of this shared experience should help any particular individual to imagine how the others may imagine any

specific situation, knowing that the others are similarly able to imagine her own possible experiences and intentions. This much is implicit in the participation in any large ceremony, but in this case it is also interesting that the theme of mutual awareness is made explicit in the ritual discourse and is extended and developed in various ways. The children are told in one song that the whole community (“all our street”) knows about this ceremony – and the point is reinforced by the presence and brief interventions of various local dignitaries.

They are also made aware that the teachers and senior pupils can anticipate some of their reactions. Thus, although an ideal of enthusiasm, successful learning and good behaviour is stressed in the songs and speeches, it is also made very clear to the children that the teachers and older students know that they will fall short of this ideal and that they, the school establishment, know how to deal with this. The school director tells the little ones that she knows that they will feel lost and make mistakes, but reassures them that the teachers are there to help them. It is left to the older students to list in various rhyming couplets many of the possibilities of misbehaviour, and to make clear that these will be met by disapproval – after the head-teacher has demonstrated her capacity to reward successful performance by handing out certificates to the star pupils. There is even a suggestion, implicit in the satirically exaggerated enthusiasm portrayed in the third song, that the school establishment knows that official ideals are unrealistic and may even sympathise to some extent with some back-sliding.

Not all the participants will have picked up all the nuances, and there are enough subtleties to keep the older pupils at least mildly interested in the ceremony, but the important point is that a huge amount of information is provided about mutual expectations and likely responses to different actions, which will greatly help the students, particularly the younger ones, in mentally rehearsing the likely consequences of future interactions with more powerful members of the school.

Analysis (2): structure and time

Although this does establish a good deal of common ground between members of the school, it differs from the kind of common ground established in dyadic and small group communication. The examples of dyadic communication given in *Roots* are typically about substantive matters – whether to go on a trip (Goodwin 2006), steering a ship (Hutchins 2006), sharing betel nut (Enfield 2006) – or else about the negotiation of social affiliation or distance between the individuals concerned (ibid.). The first bell ceremony is doing something else: representing the school as an overall structure, within which more specific interactions can take place – and what is more as a structure that is continuing in time. A useful way of looking at the first bell ceremony is to consider it as an example that combines two kinds of temporal ritual: rites of transition and rites of renewal.

Van Gennep (1909) identified a general ritual format for rites of passage between different social statuses. This format, which appears to apply to many different kinds of transition, and to be found in virtually all cultures, consists of three phases. First, there is a rite of separation, in which the individuals whose status is about to change are separated from everyday life and located in a special “marginal” (a.k.a. “liminal”) space. The second phase consists of a series of actions within the marginal space, which announce and enact the change of status. Finally, in the third phase there is a rite of “aggregation” in which the individuals rejoin the everyday world in their new status. Van Gennep mentions that the schema is enacted in full for major changes of status, and in truncated form for lesser changes.

Judged by these criteria, the ceremony of the first bell is a classic rite of passage. The marginal space is formed by the human square that assembles on the grass in front of the school – literally marking the physical border between the school and the community at large. The three phases are perhaps most clearly marked in the case of the first graders, whose separation from their previous status is marked by the procession round the inside of the circle each accompanied by a parent. Within the liminal space they then hear a great deal about their new status, and each individually recites a rhyming couplet expressing enthusiasm for the experiences that await them. Finally, the procession round the circle, and on into the school, accompanied by members of the senior class, expresses their re-entry to everyday life in their new status as school children.

During the ceremony frequent reference is made to the different age-grades within the school and to the fact that at the start of the new school year all the children are moving up a grade. So one would expect the physical choreography of separation, transformation, and re-aggregation to apply to the children in the second to eleventh grades as well – with the difference that the passage is between two statuses within the school, not between the outside world and the school itself. From this perspective, the first phase of the process – that of separation from the previous class – has already been achieved by the summer holidays. The ritual completes the second and third phases. The second phase is enacted by the children in each age-group taking a different position round the square than they did when they were a year younger, by the references made to their new status, and by the enactment of that status by the ninth and eleventh graders. The act of re-aggregation is achieved when the children in all the different age grades follow the bell-ringing couple into the school building.

But the first bell ceremony is not only a rite of passage for the school children taking part, it is also a rite of renewal for the school as an institution. Here again it is following a classic pattern. If rites of transition take place in liminal spaces outside the usual social world, rites of renewal take place at liminal times – marked out as distinct from the everyday working world. They typically include both solemn and comic behaviour (Leach 1966); and also enact a process of return to the situation at the end of the previous renewal ceremony, either by the reversal of intervening changes or by the completion of a cyclical process (Gell 1996).

The first bell ceremony follows this schema very closely. It takes place at a special time, at the end of the holidays that followed the previous school year, but before entering the school building to start the new school year. It is marked both by solemn and by joking speeches. There is a heavy stress on the return to the *status quo ante*. The opening statements make it clear that though the years go by and new cohorts of children enter the school, the school itself does not change. The rhetoric is reflected in the ceremonial choreography. The ritual square is formed anew at the start of each school year. With each successive year, each cohort of children moves round the square, taking the place of the cohort immediately senior to them, until they finally reach the eleventh grade. Having reached that point, the eleventh graders, who will leave the school for good at the end of the year, are ritually responsible for leading the first graders into the school for the first time.

However, if the first bell ceremony is a typical time ritual in formal terms, its context is rather untypical in that it involves a single institutional system – the school. Time rituals recorded in the ethnographic literature often refer simultaneously to several institutional spheres – e.g. state, economy, gender and kinship – and their references extend both outwards to place the institutional relationships within a cosmological scheme and inwards to the souls of the individual participants. The first bell ceremony hints at some of this, but its main focus is clearly institution-bound and

practical. While this restricted focus may present some problems when it comes to generalising our conclusions, it also has its advantages – since it enables us to concentrate on the problem we have set ourselves: namely the way in which rituals of time can contribute to the coordination of expectations and practical activities.

Let us start by looking more closely at the assumptions that underlie the ceremony. It involves a structure that can be seen as either a set of positions, criteria, or groups of people, or as a system of activities and roles. Thus the notion of the fifth grade refers simultaneously to a position in the age-hierarchy above the fourth grade but below the sixth, to the age criterion of being between ten and eleven years old on the first of September, to the particular set of individuals who meet this criterion in the year concerned, and to the syllabus that fifth graders will be expected to learn and the activities which the learning process will involve. The division into grades is itself encompassed by a higher-order division between pupils and teachers – which again can be thought of in terms of positions, individuals, or kinds of activity (teaching versus learning). The specifics enable the ritual to refer to the particular situation of a Russian school, but it is the abstract schema – of positions, criteria, persons, and associated activities – that enables rituals of this type to handle many different kinds of institutional set-up, and explains the ritual form.

The way the schema operates in practice depends on the relationship between three levels of structure: the level of positions, the people who occupy them, and the activities associated with each position. The connections between the levels are close, but with crucial margins for adjustment. As we have seen already, the first bell ceremony contents itself with a broad-brush depiction of the students' role. Nothing detailed is said about how the process of learning is organised, or how the contents of lessons and other activities change as the pupils move up the age hierarchy. The details will be explained by the teachers in the class-rooms, probably with some implicit feedback from the pupils themselves. They may also learn something from older pupils about what to expect later in the year, and when they themselves move on to higher classes. Thus the ceremony makes clear that the structure of differentiated positions matters – but their content is left for later definition, with the implicit possibility of adaptation to changing circumstances.

The relationship between positions and their occupants is less flexible. It is true that it changes, and that this change is a central feature of the ceremony – but the fact that this change is brought about at a special liminal time in a special liminal place implies an unspoken corollary: that in between these occasional changes the individual's position in the structure is fixed. Once you move into the fifth grade you remain a fifth grader until the time a year later when you are ceremonially transformed into a sixth grader. In fact, the principle of positional fixity is probably the fundamental factor here: it is because individuals cannot normally be separated from their assigned positions that the act of assignment has to happen in a liminal place and time distinct from the ongoing activities of ordinary life.

The ceremony involves another idea of fixity as well: namely the persistence over time of the school itself. Interestingly enough this is not simply assumed, but is announced: somewhat indirectly in the poetic declamations that open the proceedings, and then explicitly by the main speaker herself.

Thus the ceremony depends on a conceptual framework, which combines several features: a structure with positions, roles and occupants; the postponement of role definitions to a later stage; the principle of positional fixity subject to liminal transformation; and the implication of the indefinite renewability of the system as a whole. This overall framework is something which the

first bell ceremony shares with comparable rituals in many parts of the world. It is, to say the least, not a simple set-up. This makes it all the more striking that, although the set-up provides the background for many parts of the ceremony, it is not fully explained. Instead it is exemplified, in a series of specific statements and movements which enact the transformations in personal status and the annual renewal of the school itself. Perhaps I have exaggerated the complexity, and the underlying assumptions are in fact obvious enough to need no specific explanation – but if so, why is it necessary to put on such an elaborate performance? The combination of implicit complexity, exemplification instead of explanation, and a choreography of spatial location and movement suggests that the underlying conceptual set-up is innately given as a cognitive system which can, indeed must, be activated by shared actions as well as by verbal statements.

Choice and Responsibility: function and evolution of the structure-and-time system

So far I have invoked this cognitive system to elucidate the first bell ceremony, and to explain how the ritual drama connects with the practical organisation of school activities over the coming year. However, the first bell ceremony is merely one instance of the many ceremonies of time, which dramatise individual status changes and social renewal all over the world. If the cognitive system specified in the last section helps to organise the practical life of Russian schools, it must also be intrinsic to the organisation of large scale cooperation in all human communities. So in this section I will widen the discussion – framing the issues in a broader, and perhaps more abstract way.

The assumptions of this cognitive system – particularly the principle of positional fixity – clearly restrict any individual's ability to exercise choice, thus limiting the ability to plan one's activities in accordance with rational calculation of individual advantage. This does not necessarily mean that it is to either the individual's or the group's disadvantage. Gigerenzer (2000) has argued that "bounded rationality" – mental procedures that lead to quick and generally sensible decisions – may actually lead to better outcomes at lower cost than going through the complex mental procedures necessary for fully rational choice. If so, they would be favoured by natural selection. Might this cognitive system for handling structural relations over time be a case in point?

It seems to be true that the coordination of group activities in the absence of formal positions or roles would make heavy cognitive demands. All participants would need to think not just of their own aims and abilities, but also to take account of the aims and abilities of each of the other group members – and of the fact that the other members of the group are similarly evaluating his, and each others', intentions and capacities and adjusting their behaviour accordingly. For this reason, Enfield, Levinson and their colleagues stress the importance for effective coordination of the human ability to 'parse' other people's actions for evidence of their awareness and intentions while simultaneously taking account of the others' ability to parse one's own actions. Dunbar (1998), however, argues that there are tight cognitive limits on our ability to do this – and that we are unable to perform the operations concerned for groups of more than four to six individuals. So some way of simplifying the process of mutual inference is needed for larger groups, and the principle of positional fixity would help to meet this need. Indeed it would be valuable even for groups of four or fewer, since it clearly saves a great deal of mental effort if roles within the group are regarded as relatively stable, rather than having to be renegotiated afresh every day. Large-scale cooperation and the growing ability to imagine ever more complex patterns of activity have both been important for human evolutionary success, but they have inevitably increased the complexity

of the mental tasks involved in coordination and collective choice. If it helped to keep the cognitive complexity in check, while still allowing for effective coordination, the principle of positional fixity would have contributed to the success of cooperative activity, and therefore have been favoured by evolutionary selection.

Another way of expressing the same idea is to say that effective cooperation depends on the allocation of responsibilities. If each part of the cooperative activity is the responsibility of a definite person (or possibly several definite persons), then it is clear that the whole process can be successfully carried through. This division of labour allows each person or sub-group to concentrate their cognitive effort on mastering their own particular tasks, achieving high levels of overall efficiency with less individual mental effort.⁵ Equally important, the knowledge that many tasks are the responsibility of other people enables each individual to limit their commitment to the common activity, thereby reserving time and mental resources for their own individual purposes.

The remaining features of the structure-and-time system can be seen either as ways of making the division of physical and cognitive labour work in an efficient way, or of avoiding potential side effects. The fact that positions are attached to tasks in a general way, while leaving enough flexibility for those directly involved to define the details of the work itself, builds some flexibility into the system – making it possible to allow for contingencies and changes in circumstances.

In the longer term, however, changes occur which require more than detailed adjustments of the work associated with specific positions. People may enter or leave the community, and over time their physical and mental capabilities will first grow and later change or diminish. This means that after a time individuals must be separated from their existing positions and be allocated to new ones. If it was possible for this to happen at any time at the instigation of the person concerned it would undermine the principle of positional fixity (a.k.a. responsibility) itself, and so special procedures are required that limit the times and ways in which these changes can be made. The principle of liminal transformation – which ensures that the reassignment of people to new positions takes place outside of ordinary time and space – makes it possible to accomplish these changes while still maintaining the principle of fixed responsibilities at all other times. It also makes it possible for the changes concerned to receive the concentrated attention and implicit endorsement of the group as a whole.

Finally, the emergence of a cognitive system which ensured that any human group had an authoritative but adaptable structure of social positions and roles would create a need to check that the structure in question was actually sustainable. In order to impose, and periodically adjust, the system of fixed responsibilities, members of the group need a sense of common understanding and shared purpose, and must have confidence in their shared ability to sustain this understanding and purpose into the future. Hence the importance of showing that, so far at least, the system has been capable of reproducing itself through time – and of clearly signalling when this is no longer the case. Regular rituals of renewal perform both functions, and so build in an implicit opportunity for something resembling rational choice – since if the community is unable to demonstrate its capacity to renew itself, the failed ritual provides a signal to its members either to leave the community or to attempt some form of transformation. Indeed, the implicit acknowledgment that things could be otherwise is built into many such rituals – from the mild references to potential

⁵ Hutchins (2006) calls this the principle of “distributed cognition”, but the idea of course goes back to Adam Smith (1989 [1776]).

misbehaviour in the first bell ceremony, to the full-scale enactments of ritualised rebellion reported in some ethnographic studies (Gluckman 1954).

We have now seen that the different elements of the system of structure-and-time cognition outlined at the end of the previous section fit together in functional terms to promote cooperation: the principle of fixed responsibilities makes large-scale cooperation mentally conceivable, and small-scale cooperation a good deal easier; and the principles of practical autonomy, liminal adjustment, and the requirement to demonstrate annual renewal enable the above principle of fixed responsibilities to operate more smoothly – by fine-tuning the particular tasks, allowing for the human life-cycle, and providing a regular check on the sustainability of the system as a whole. This functional consistency, and the fact that broadly speaking the resultant cooperation would be beneficial both to the group as a whole and to individual cooperators, means that the system as a whole could have evolved by natural selection as a set of innate assumptions and inclinations. But it is also possible that some or all of it could have evolved by social selection as a set of learnt practices (Boyd and Richerson 2005).

If I tend to favour the hypothesis of innateness and natural selection, it is partly because several features of the cognitive system are also present in other primates – particularly among our closest relatives the chimpanzees. Thus a sense of shared intentionality at group-level is manifested in the common defence of the group territory as well as in the acceptance of a limited degree of leadership by the most dominant male (Boyd and Silk 2006: 154; Tomasello and Call 1997: 193–194). There is also a degree of cooperation in foraging and hunting, though whether this too involves shared intentionality is open to question, and a rudimentary division of labour between males and females (Boyd and Silk 2006: 301–302; Tomasello 2008: 15–20, 173–185). The existence of a hierarchy of ranked positions, which are stable until they are adjusted in performances that are observable by the group as a whole, is also characteristic of chimpanzee society (Tomasello and Call 1997: 193–210).

Of course the differences are just as great. Amongst chimpanzees, the set of fixed but adjustable positions is defined purely in rank terms, which take a similar form in all chimpanzee groups, and not as positions in a cooperative division of labour that can take different forms in different societies. Furthermore, the adjustment of ranks amongst chimpanzees takes place at the instigation of the subordinate individual and tends to be settled by a physical confrontation and not by a consensual procedure backed by the authority of the group as a whole. Nevertheless, support from other group members plays an important role in chimpanzee conflicts, and members of the group sometimes attempt to reconcile those involved. It is likely that the gradual growth of the abilities and inclinations required for cooperation among early humans would have favoured adaptations to an earlier chimpanzee-like system of group coordination – increasing the role of group consensus and allowing for cognitively more complex frameworks to define social positions. This could have happened by a process of culture and gene co-evolution (Boyd and Richerson 2005) in which each change would have started as a social invention, been perpetuated if successful as an item of learned culture, and finally been genetically encoded in cognitive mechanisms that enhanced individual fitness by making it easier for the individuals concerned to learn and operate the adapted system.

An advantage of this evolutionary hypothesis is that it would also help to explain the role of spatial position and movement in temporal rituals. In discussing the development of small-group communication, Tomasello (2008) argues that the emergence of an innate capacity for shared

intentionality initially led to the development of gestures – both pointing and miming – which could be interpreted because of the mutual awareness of being in a communicative relationship. Even with the development of language – in evolutionary history and over the individual life-time – the importance of pointing and other gestures has never been entirely lost. We can imagine something similar happening with the evolution of a shared capacity to imagine social structure. Given the awareness of a communicative intention and the need to assign responsibilities, such gestures as sorting people into groups would be readily interpretable as messages about structural relationships – and the creation of special liminal spaces could be understood as providing a context for transformations that were not possible in daily life. Even after the full development of language, the communicative use of spatial position and movement would retain a key function since, although different speakers can assert contradictory statements about relative social positions, an individual person can only be in one place at any given time. The messages conveyed by position and movement in physical space are thus more authoritative than is possible with merely verbal assertions.

Conclusion:

the integration of ritual and other mechanisms in contemporary social organisation

Runciman (2009) remarks that all evolutionary explanations are “just-so” stories, but also points out that this does not mean that all such explanations are as fanciful as Kipling’s explanation of how the elephant got its trunk. Good explanations are consistent with the evidence and also tend to fit in with similar just-so explanations for related phenomena. Sometimes, however, explanations can be a little too good. If readers have accepted my elucidation of the first bell ceremony, they may now be wondering why some schools seem to manage without any particular ritual to mark the start of the school year. Indeed, my own education is a case in point. I do not remember any such ceremony from my own school days in north London, England.

The reason is, I think, that the account offered here does not include all the factors that enable the Kalikino school to organise and perpetuate itself. Its right to recruit the children, and its duty to teach them the appropriate syllabus, have the full backing of state law. Within the school an interlocking system of class timetables has been worked out, which enables both teachers and children to know who should be where at what time. Indeed, the very name of the first bell ceremony refers to the ringing of the electric bells, which, from then on, will signal the beginning of lessons and of breaks. The children are fed and clothed by their parents, while a state budget ensures that – except in some crisis years – the school teachers receive the money they need to live on, and that the school buildings receive at least some maintenance and repairs. The same points apply just as strongly in England. Given all these factors, the messages conveyed in the first bell ceremony may well be a help, but they do not make the difference between the school being able to function or simply dissolving into chaos. The school managements (or the state authorities that direct them) have some choice about whether, or in what form, to draw on ritual to help them run their schools.

Runciman (2009) argues that social practices are subject to evolutionary selection at three distinct levels: natural selection, which leads to the development of innate motives and cognitive capacities; cultural selection, which selects particular ideas and practices that are available for individual choice; and institutional selection, which selects different systems of administrative organisation

and enforcement. I have argued that the structure-and-time cognitive system would have provided a more effective basis for organisation than a hypothetical system based entirely on interpersonal negotiation of tasks, and also that it could have emerged as part of a process of gene-culture co-evolution that permitted the development of cooperative institutions. But since that hypothetical stage, there have been further institutional developments – most notably the state, markets, and money – which have revolutionised the processes of large-scale organisation. It would not be surprising if the particular system of structure-and-time cognition analysed here had receded somewhat in importance.

And yet, from another point of view, the remarkable thing is just how pervasive it still is. All organisations that I know of operate some version of fixed but transferable responsibilities. The transfer is often marked by a retirement or leaving party for the outgoing occupant of the post concerned. Organisations have regular formal reviews of the organisation's effectiveness, as well as the justly infamous annual parties or outings. In private life, birthday celebrations enable family and friends to jointly take stock of the changing capabilities and role of the person concerned, while the calendrical feasts that punctuate the year offer similar occasions of informal reassessment for family and friendship groups – as well as for patron-client or community ties.

Schools too use a variety of rituals to express structure, shared purpose, and the passage of time. Though no particular ceremony was held to open the school year at my north London secondary school, we did have a special ritual – called speech day – to close the academic year. During term time, every school day began with an assembly at which we were drawn up facing each other in four groups, each visibly subdivided according to age – while the teachers, and pupils with special responsibilities, stood round the side of the hall. We sang a hymn, prayed, and the headmaster made some remarks before we dispersed to our lessons. So, though we might not have begun the school year with a special ceremony, I think that a careful analysis of the regular rituals, which we did perform, would probably be able to relate them to the same underlying principles of structure-and-time cognition.

Returning to the questions with which this article began, I hope it has shown that it is indeed possible – by drawing on classic anthropological findings – to identify cognitive mechanisms and associated ritual behaviour, which enable the human interaction engine to manage cooperation in groups that are too large to be coordinated solely on the basis of close personal communication and the awareness of individual intentions.

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