Evolutionary Perspectives on the Origins of Human Social Institutions

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> Social institution — 'a fairly permanent cluster of social usages. It is a reasonably enduring, complex integrated pattern of behaviour by which social control is exerted and through which basic social desires or needs can be met.'
>
> Winick, *Dictionary of Anthropology,* 1960

INTRODUCTION

IF IT CAN BE BROADLY ACCEPTED that human social institutions have an evolutionary origin, then there are two possible models of how they may have evolved. One such model would see the origin of any institutions as resting in the nature of the human mind and cultural capacity, and therefore having a history that would run parallel to the evolution of the human mind in general. This would imply, on the whole, a relatively long evolutionary history, certainly as long as that of the human species. The other potential model would place the emphasis not on the innate capacities of the human species, but on the specific context in which humans find themselves. Social institutions would arise and disappear in response to specific conditions. This model is much more flexible and context-specific, and would posit a rather shorter and more variable history for human social institutions.

Clearly, which of these two extreme models is adopted will depend to a large extent on the nature and definition of the social institutions concerned. However, they also broadly represent two views of the nature of human social evolution: one such view, associated with the emerging field of evolutionary psychology, tends to emphasize the underlying and presumably genetic basis of social behaviour, and lays stress on its universality and deep evolutionary origins (e.g. Barkow *et al*. 1992). The other is far more aligned with a view that sees human behaviour as highly variable, shaped by socioecological context, and liable to produce more transient social institutions (e.g. Borgerhoff Mulder 1996; Hinde 1987).

In the end, of course, both views must be incorporated into any synthesis of the evolution of human social institutions. There must be both a set of human

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behavioural propensities, shaped by selection, and a pattern of historically specific developments, shaped by demographic and ecological circumstances. Both elements are an essential part of any evolutionary reconstruction.

The aim of this chapter will be to examine some particular social institutions in this light. In particular, I shall develop a model in which the community, with a probable set of internal social relationships, is the fundamental unit of human social organization, and which states that it is the potential for communities to vary in relation to demography and ecology that sets the parameters for the evolution of other social institutions. The chronological context is the long-term evolution of the human lineage, and it will be argued that different social institutions have very different histories — some stretching back to the first members of the genus *Homo*, some to more recent evolutionary changes, and some to the demographic expansion of human populations in the past 10,000 years.

HUMAN SOCIAL INSTITUTIONS

Perhaps the first question that should be addressed is: what are human social institutions? As the quotation at the start of this chapter shows, this is not one to which there can be a concrete answer. Because evolutionary analyses require a relatively simple and broad-brush approach, largely because of the crude nature of the information available (for example, archaeological), a simple definition will be provided here. Humans, along with the anthropoid primates, are innately and compulsively social. They live in groups in which individuals develop stable relationships and have the behavioural, cognitive, and emotional capacity to tolerate the close proximity of other individuals. Social institutions may be considered to be those relatively persistent structures which emerge from the way this capacity is put into practice in particular social contexts. They thus 'reside' in both the mental structures of individuals and their actual interactions with others, and have the effect of co-ordinating behaviour, maintaining order, and enhancing the well-being of either the whole or parts of any group. Any investigation of the origins of social institutions must therefore take into account both the potential inherent in the species and the shifting context.

Table 1 outlines what I consider to be some primary human social institutions. The list is to some extent arbitrary, and no doubt others could be included. These have been selected to demonstrate the principle that social institutions are hierarchically organized in relation to, on the one hand, substructure within communities, and, on the other, relationships between communities. Thus in terms of the community itself, institutions would include those that might promote egalitarianism, such as councils, and those that

Table 1. Human social institutions.

Family level	Community level	Inter-community level
Marriage patterns Kinship systems Descent groups Resource distribution (sharing)	Social mechanisms for promoting egalitarianism and consensus Hierarchies and 'chiefs' Lineages and descent groups Social norms (taboos, etc.) Law, coercion, and punishment Resource distribution Marriage rules (incest avoidance) Religion/cosmology	Political organization Warfare Trade/exchange Religion?

Note: In the text it is proposed that social institutions are primarily located in the community, and these are extended both to sub-groups within the community (e.g. families) and to relationships between groups. The list here is not exhaustive, but highlights the primary social institutions discussed in this chapter.

enhance leadership, such as hierarchies and chieftainships; they would also comprise the lineages and descent groups around which they will normally be organized. In a slightly different form they would also include the mechanisms by which the norms of social behaviour are established and maintained, such as taboos, rules of marriage, laws, methods of coercion and punishment, and mechanisms for resource distribution (see Table 2). Underpinning all of these will be systems of cosmology, religious belief, and moral order.

These community-level institutions will be replicated in the sub-structures that exist within the community, for example among families and descent groups, and variations will emerge at that level — for example, different families may operate different rules of behaviour for the distribution of resources or operate different systems of coercion and punishment from those found more broadly across the community.

Social institutions can also be said to exist beyond the community. Except in exceptional circumstance of complete isolation, all communities must exist in a relationship with those around them. These relationships will involve both competition and co-operation, and will be reflected in systems of political organization, patterns of trade and exchange, and the potential for or reality of warfare. In effect, the aim of this chapter is to provide some level of explanation for the emergence and diversity of these institutions. Before doing so I shall briefly discuss the nature of the human community, and the proposition that from an evolutionary perspective this constitutes the basic unit and starting point for considering other elements of social behaviour.

Table 2. Main social parameters that vary within a community and give rise to differences in social institutions.

Community size	Group structure	Family organization	Kinship	Marriage	Mobility
Variation in size from small isolated bands and autonomous families to cities $10–10^6$	Hierarchical Egalitarian Sub-structured	Nuclear families Extended families Patterns of co-residence Matrilocal, patrilocal, etc.	Patrilineal Matrilineal Bilateral Depth of descent groups	Monogamous Polygynous Polyandrous Unstable/ promiscuous	Nomadic Fission-fusion Tethered transhumance Permanent settlements

THE CONTEXT FOR THE EVOLUTION OF HUMAN SOCIAL INSTITUTIONS

The human social community

Comparative primatology shows that all anthropoid primates live in social groups, and thus these groups and their inherent sociality constitute the ancestral state for any considerations of humans. The structure of primate groups is diverse, but the comparative method would suggest focusing on the closest living relatives of humans, the chimpanzee and bonobo. Both these species have been described as living in multi-male, multi-female groups that persist over time; these have been referred to as *communities* (Goodall 1986). Using the finite social space model, Foley and Lee (1989) placed humans in the same multi-male, multi-female community structure, and Rodspeth *et al.* (1991) extended this model to show that the diversity of human social organization can be subsumed within this community-based approach. Alternatives such as bands, tribes, etc. are either too specific, or else have specific implications about structure, which are unwarranted when applied to the totality of human social organization.

I would suggest that the community, defined in this way, is the fundamental unit of human social organization. Community structure reflects the ties of kinship, the prolonged nature of social interactions between adult males and adult females, the units within which offspring are born and raised, and also the units in which nuclear families must be embedded. In some cases this will be synonymous with the band, where there may be no significant larger grouping; in other cases the band may be a sub-unit within a larger grouping, such as the tribe, which may constitute a community itself. For hunter-gatherers and pastoralists these may be residentially flexible, but with the establishment of sedentary ways of life, particularly with agriculture, then the community may be a village or even a town. However, among large urban aggregations the communities would be sub-units within them.

Socioecology of human communities

If communities are the fundamental unit of human social organization, and the locus for social institutions, then it follows that these social institutions will arise from the particular characteristics of the community, the way it operates and functions in particular contexts. The basic thesis developed in the second half of this chapter is that the major human social institutions have emerged as adaptive solutions to the particular contexts in which human communities found themselves. In order to understand how particular institutions arose, it is necessary to develop a theoretical framework which will allow us to explore how community structure will vary, and thus how social institutions are a response to this variation.

The framework used here is essentially drawn from evolutionary theory and, in particular, behavioural ecology (also known as socioecology). This branch of evolution and ecology sets out to explain how patterns of behaviour, including social behaviour, relate to resources and resource distribution, and has been used extensively in zoology to account for variation in behaviour, within and between species (Krebs & Davies 1997; Lee 1999; Standen & Foley 1989), and has also been used in anthropology and sociology to account for patterns of behaviour and culture (Betzig *et al.* 1988; Layton *et al.* 1991; Runciman 1998; Smith & Winterhalder 1992). Only a few key points will be made here. The central point of socioecology is that the way resources are distributed and the costs of exploiting them are the key determinants. The resources themselves are not inherently valuable or costly, except in relation to the strategies involved and the competitive context. For example, a rabbit may be an extremely costly resource for a human to chase and catch with bare hands, but with a trap it can become a highly valued resource. Equally, as the density of resources declines through either environmental change or over-exploitation, as has happened many times in prehistory, the resource may go from being worth exploiting to irrelevant. This is the principle underlying optimality theory, which is the basis for much socioecology. The reason for stressing this point here is that it emphasizes the dynamic nature of behavioural ecology, and hence its value in studying patterns of evolutionary change in behaviour.

Turning to the more substantive question of the socioecology of human communities, the starting point should be the small-scale communities of hunter-gatherer bands and their analogues in pre-modern populations, from which more complex communities emerge. If we look at variation in this (see Hayden 1981 and Kelly 1995 for reviews, and Foley & Lahr in press for a discussion of ecological variation in relation to demography and genetics), a number of patterns emerge. For hunter-gatherers at least, but other communities as well, the major dimensions of variation are the size of the community and the area over which it is distributed. Communities can be very small, a few tens of people, or much larger, more than one thousand. They can also vary in the extent to which they are densely packed in small areas, such as is the case for Andaman Islanders, or range over thousands of square kilometres, as is the case for most Inuit populations. Table 3 summarizes the pattern of variation. There is a strong resource and environmental basis to this pattern. Where resources are localized, patchy, predictable, and of high quality, then communities have the potential to become larger and/or to be densely packed in small areas. The ethnographic and archaeological evidence suggests that this occurs when communities are dependent upon aquatic resources, exploiting large herds of game with predictable distributions, and with the onset of food

Table 3. Socioecological variation in human community size and structure, indicating range of variation and ecological factors that will increase or decrease the size and distributions of communities (from Foley & Lahr in press).

Variation and ecological pattern	Community size	Community range area	Population density	Mobility
Ultimate effect of increase	Permanent community fission Formation of cultural, linguistic and genetic boundaries	High levels of community fissioning	Overcrowding Fission of communities Dispersals and geographical expansion Inter-group conflict	Low reproductive rates?
Conditions leading to upper limits	Larger communities Dependence upon aquatic resources Increased sedentism Richer resources Territoriality and inter-group conflict Population growth Agriculture	Larger ranges Dependence upon hunted animals Scarce and sparse resources High latitudes	High population density Agriculture Aquatic resource dependence Rich resource base Mid-latitudes	High mobility Scarce and dispersed resources High levels of hunting Seasonal environments
Upper limits	500–1000 (per km^2)	10,000–25,000 (per km^2)	>50 per km^2	>50
Modal value	150–250 individuals (per km^2)	1,000–2,000 (per km^2)	1 per km^2	10–20
Lower limits	30 (per km^2)	100 (per km^2)	0.1 per km^2	0
Conditions leading to lower limits	Smaller communities Sparse, scarce resources High levels of mobility Large range area Population decline Community fissioning	Smaller range areas Islands Aquatic resource dependence Equatorial latitudes Plant dependence High population density Rich resources Agriculture	Low population density Deserts, arctic, and resource-poor areas Large game hunting Resource depletion	Low mobility Agriculture Aquatic resource dependence High population density and packing
Ultimate effect of decrease	Community extinction Fusion with other communities			Formation of settled communities in villages and towns Resource depletion

production, and this is consistent with patterns found more widely in the animal kingdom. The social consequences of what happens to communities that grow beyond the hunter-gatherer median of between 150 and 250 will be discussed later, as will the implications of smaller range areas and higher population densities.

Integrally related to group size and range area is the matter of mobility. Some hunter-gatherer communities are highly mobile (see Table 3), moving in some cases almost weekly. There is a pattern of variation from this level to completely sedentary groups, such as those in the north-west Pacific region of North America. Again this pattern reflects resource distribution, with sedentism becoming more pronounced with densely packed resources, renewable resource (such as cereals), and aquatic resources. Fission and fusion of groups is an important part of the social behaviour of many communities, and the absence of this pattern of behaviour is one of the major factors leading to changes in social behaviour among humans

The two aspects discussed above relate to how the population as a whole is distributed in time and space, and how this reflects resource factors. Resources will also affect the way the community itself is structured. There is an extensive literature on this, showing the many complexities (e.g. Betzig *et al.* 1988), but only one element will be discussed here — that of residence patterns.

Communities are not random associations of individuals, but strongly structured. The fundamental basis for these communities is kinship; while this refers primarily to genetically based relationships, it has been well established by anthropologists that kinship systems are not simple reflections of genetic relatedness, and nor are they necessarily confined to such relationships. However, perhaps the key element in kinship systems that is relevant here is the lineage or the descent group. What is striking is that, among hunter-gatherers at least, patrilocality is the most prevalent system (Kelly 1995); that is, upon marriage or at maturity, females are more likely to disperse to other communities, and males to remain resident. This is also a pattern found in chimpanzees, and it has been argued by several authors that this is the ancestral human condition and predominates through our evolution (Foley 1987, 1989; Foley & Lee 1989; Wrangham 1987). This structure has a number of important implications for such aspects as inter-group relationships that will be discussed below. In particular, there is a level of hostility between many groups (Wrangham & Peterson 1997), although this paradoxically will occur in the context of other more pacific relationships and the exchange of marriage partners.

The socioecological basis for patrilocality and male kin-bonding is related to reproductive strategies. Wrangham (1980) argued that females, with their high reproductive costs, are constrained by resource distribution, and will spread themselves across a landscape to optimize their access to resources. Males, on the other hand, are constrained in their reproductive success not by access to resources, but by access to females; they will thus distribute themselves in relation to the females. This pattern will thus result in any form of social organization from monogamy — dispersed females, with males able to access only one female — and polygyny — where the females are in larger groups, and males can defend them — to multi-male, multi-female systems. Male residence, it has been argued for the chimpanzee (Wrangham 1986), occurs where the females are in groups, but these groups are wide ranging, and so males on their own are unable to control access to females; under those circumstances, they can form coalitions with other males (relatives), and thus defend a community of females as a group. This pattern seems to be related to relatively large-bodied, long-lived species, where there are considerable benefits to the males accruing from long-term maintenance of reproductive activity. This pattern is likely to hold strongly for humans as well (Foley 1989; Foley & Lee 1995).

Finally, it should be noted that underlying all patterns of community structure are mating and parenting: the community persists through time because individuals are able to reproduce successfully and to bring up offspring. Table 4 shows the basic reproductive parameters for hunter-gatherer populations. Once again, variation in these parameters is sensitive to resource availability, and it has been extensively argued that the demographic changes associated with aquatic exploitation, sedentism, and food production lead to higher reproductive rates. However, these are probably extremes of a pattern of variation that can be found in all human communities.

To summarize, human communities vary in size and structure in relation to resource distribution and the means used to exploit resources. These shape social structure, but the form these structures take (fissioning communities, inter-group hostility, marriage patterns, etc.) will in turn have an effect on the access of particular groups of individuals or other communities to those resources, thus setting in train a dynamic process. It is this dynamic aspect that will be explored in the next section.

A MODEL FOR THE EVOLUTION OF SOCIAL INSTITUTIONS IN THE CONTEXT OF RECENT HUMAN EVOLUTION

The discussion of human social community structure and variation presented above suggests three conclusions. The first is that, regardless of its size, the community is the context in which more complex social institutions must have their origin and their rationale; social institutions evolved to mediate stable relationships and functions within and between communities. We must look, therefore, at how the community itself has evolved over time to understand the conditions under which particular institutions may have developed. The

Table 4. Variation in reproduction and mortality among hunter-gatherers, and ecological factors influencing variation.

Parameter	Range	Approximate modal value	Factors affecting variation
Age of first reproduction (female)	14–18 years	17	Primarily social factors, although high levels of nutrition will lower the age of sexual maturity.
Age of first reproduction (male)	18–30 years	26	Primarily social factors; young males will be excluded from reproduction where resource acquisition is an important prerequisite.
Fertility rates	3.7–9.7 live births		Nutrition and disease; agriculture may marginally increase birth rates, but sedentism may also lead to higher sterility rates; high mobility.
Infant mortality	?	20%	Infant mortality will increase where disease levels are high, and this may increase with population density and agriculture.
Pre-adult mortality	?	40%	Childhood mortality is probably largely affected by risk — accidents and violence — which may be higher among hunter-gatherers.
Female reproductive variance	3–7	?	Primarily affected by the availability of resources to females, and will increase with social stratification.
Male reproductive variance	9–12	?	Primarily affected by the social factors relating to male — male competition; variance will increase in societies with greater levels of social stratification. Male reproductive success is strongly influenced by longevity, and will increase where there are high differentials in male mortality.

Source: Foley & Lahr in press.

second is that the male kin-bonded lineage must be central to any reconstruction of the pattern of human social evolution; this was the probable ancestral condition, is the most frequent in contemporary and ethnographically observed societies, and its presence has major implications for relationships between groups. As it is the growth of such interactions that is central to the discussion here, it follows that many institutions will have their origins in the outcomes of male kin-bonded lineage systems, including their transformation into other systems. The third conclusion is that as ecological conditions change, whether they are brought about by natural environmental change or shifts in human subsistence strategies, the size and structure of human communities will also change, and it is these changes that will lead to the development of new social institutions.

The ancestral hominin condition and its evolution

The implication of phylogeny is that early hominins lived in multi-male, multi-female communities, in which males remained resident and females dispersed at maturity (Foley 1987, 1989; Ghiglierhi 1987; Wrangham 1987). How would this basic condition change over the course of long-term, Pleistocene, human evolution? I have argued elsewhere (Foley 1987, 1989, 1995; Foley & Lee 1989, 1991, 1995) that the development of meat eating among early representatives of the genus *Homo* would have been a critical shift, leading to a number of social changes. The first of these changes would have been greater spatial ranging, and this is likely to have expanded the level of fissioning and fusioning compared with that seen in chimpanzees; rather than this occurring on an hourly and daily basis, greater foraging distances would have led to the formation of sub-groups that may have been independent for longer periods. This would have been the first step towards the maintenance of 'communities at a distance' — a characteristic of human groups, where membership of a social community depends not simply upon day-to-day contact, but on stored memory and previous experience. In a sense, this represents one of the first social institutions — the persistence of the communities through time regardless of spatial proximity — and it is likely to be one of considerable antiquity.

A second change relates to the nature of meat as a high-quality resource. Meat would have provided more energy for the mother, and hence reduced the costs of encephalization (Aiello & Wheeler 1995; Foley & Lee 1991); greater encephalization would have led to a more prolonged life history strategy, with a greater level of maternal effort. In social terms one of the most probable effects would have been greater affiliation between males and females. This statement is dependent upon the hypothesis that it was primarily the males who were hunting. The basis for this hypothesis is that among both chimpanzees and modern hunter-gatherers males are by and large the exclusive hunters (Lee

& DeVore 1968; Stanford 1999). Although we cannot rule out the possibility that this was not the case in the past, it is the most likely. If males are hunting and if females are gaining access to the meat, then this could be a factor in the closer, less promiscuous (or less openly promiscuous) relationships between males and females in the hominin lineage. This suggestion would gain some support both from primatological observations that there is an 'exchange' of food for sex among hunting chimpanzees (Stanford 1999), and from observations that among some contemporary hunter-gatherers there is a relationship between hunting prowess and access to females (Kaplan *et al.* 2000). In terms of social institutions, what is occurring here is the development of more exclusive relationships between particular males and particular females. While this would, in its formative stages, be a long way from what may be considered to be 'marriage', and still further from exclusive pair-bonding (for there is every reason to see these relationships as polygynous), none the less it would have been an important initial element in the development of institutions governing the relationships between males and females (Lovejoy 1981).

The third shift in relation to meat eating that can be postulated is related to life history theory. Early *Homo* is associated with the development of slower growth rates (but still accelerated relative to modern humans), and presumably associated changes in other life history parameters (Hammer & Foley 1996; Smith 1989, 1992). In particular, maximum longevity may well have been increased. If this were the case, then the opportunity for communities to include several generations at one time would be greater. The presence of multiple generations would have prompted the existence of descent-based lineages, which, it was argued above, form a key element of the social structure of many contemporary human societies (see O'Connell *et al.* 1999 and Foley 1994 for different interpretations of the implications of this development).

One can argue that the ancestral condition on which later social evolution was based contained elements that go back to the common ancestor with *Pan*, namely the basic community, male kin-bonding, and presumably a high level of territoriality, but also a number of novel elements — the ability to maintain communities over a distance, stronger affiliation between males and females, and rudimentary descent groups. These three traits were important to the later emergence of other social institutions.

After the appearance of *H. ergaster*, and its behavioural contrasts with the australopithecines, there is a major problem. Between around 1.5 and 0.4 Myr there is very little observable change, other than an expansion of habitats occupied, perhaps the development of fire, and an increase in brain size (see Klein 1999 for a review of this evidence). While this might be interpreted as social stasis, and may well have been, it may also simply reflect the fact that the archaeological and fossil record for this period is very fragmentary and patchy. It could therefore be that the social institutions inferred to be in place among *H. ergaster* did not give rise to much further change, or that we have not yet been able to identify these changes.

Whichever is the case, there is evidence for more of a change after approximately 250,000 years ago. There is considerable controversy as to the nature and timing of this shift, but the descendent forms of hominin concerned are the Neanderthals and modern humans. In both these species there is evidence for similarly larger brains (within the range of modern humans), modern growth parameters or ones close to those of modern humans (Dean *et al*. 1986), possibly language (McLarnon 1996), similar and complex technology (Mode 3 or prepared core technology) (Foley & Lahr 1997), and a more efficient projectile-based form of hunting and gathering (Stiner *et al.* 1999). A further change, which is probably associated only with modern humans, and may be of considerable importance, is the greater use of aquatic resources. The evidence from Klasies River Mouth, for example, which has some of the earliest representatives of modern humans, suggests that at this stage midden formation was occurring, and this would be evidence for major dependence upon this resource (Deacon 1989; Deacon & Shuurman 1992; Klein & Cruz-Uribe 1996).

It is very hard to put together a coherent story for human social institutions at this stage. At one level, the last common ancestor of Neanderthals and *H. sapiens* (*H. helmei* according to one model, *H. heidelbergensis* according to another) may well have differed in several ways from modern humans, but across this time (i.e. between 250,000 years ago and 100,000 years ago), fully modern cognitive and behavioural abilities must have come into place. When and how this occurred is far from clear. However, early modern human sites in southern Africa 100,000 years ago suggest that there was a greater population density among at least some communities (Deacon & Shuurman 1992). This may be associated with these populations being more sedentary through use of aquatic resources. If the model of male kin-bonded groups is correct at this stage, then one implication is that there may have been a trend towards greater territorial conflict, high rates of community fissioning, and perhaps a tendency towards dispersal of communities and territories. This would certainly fit the current evidence for the dynamic process by which modern humans emerged and colonized the world during the later part of the Pleistocene. The evidence for territoriality and conflict is extremely patchy, but it is suggestive that several of the later Pleistocene hominins (Klasies River Mouth) do show traumas which are consistent with violent deaths or at least injuries (White 1987). However, the causes of these are unknown.

Perhaps the key point to emphasize at this stage is the following. All the evidence from genetics and the fossils indicates that the modern human species evolved at some time between 200,000 and 100,000 years ago. There is, however, very little archaeological evidence which would point to the emergence of any new social institutions at this time (but see Brooks *et al.* 1995 for some evidence relating to bone points). It is only considerably later, after fully modern biological features and abilities were in place, that such evidence begins to appear (Klein 1992, 1995, 2000; Mellars 1989, 1996). How can this best be interpreted? Perhaps the most parsimonious explanation is that while the evolution of modern humans, or indeed perhaps of their common ancestors with the Neanderthals, put into place behavioural and cognitive modernity, this did not lead to any major social change because there was a missing component. That component was not the innate biological characteristics of the human species, but the ecological context which would transform humans from a sparsely dispersed, low-density population to one where larger and larger communities, with considerable complexity of social form, would become increasingly common. The factors underlying this will be considered in the next section.

Phase 1: the early social history of *Homo sapiens*

I have outlined how some elements of human social institutions may have either evolved or existed in some form during the course of the evolution of *Homo* over a period of up to two million years. However, the absence of concrete evidence for any complexity suggests that most social institutions do not occur until much later in human evolution. It will be outlined here and in the next section how many of the institutions that we associate with modern human life developed in two stages, one linked to the dispersal of modern humans from around 50,000 years ago, and one associated with the demographic expansion that occurred after the last glacial maximum (LGM) (<15,000 years ago).

After 50,000 years ago, humans, who had previously been confined to Africa and its adjacent western Asian landmass, spread very rapidly around the world. There is some evidence that along the Indian Ocean rim and into Australia this may have occurred earlier, prior to 60,000 years ago, but for more northerly parts of Eurasia a timeframe of between 50,000 and 30,000 is more appropriate (Lahr & Foley 1994). These multiple dispersals are associated with a number of new characteristics, which may be evidence for the emergence of novel social institutions. These include more regionally differentiated archaeological traditions, shorter timespans for the longevity of such traditions, greater evidence for the symbolic expression of individual and more probably ethnic identity, and special treatment of the dead in the form of burials (these last also occur among Neanderthals) (Klein 1992).

It may be suggested that these novel traits indicate certain types of social institution which did not exist before. As a whole they focus on one particular element, that of ethnic marking. No doubt some form of ethnicity would have been present in most hominin groups, for lineage-based patterns of residence and dispersal make the differentiation of communities a key element of all hominin populations. However, ethnic marking becomes very prominent in these populations. Cave art, personal ornamentation, and local differences in tool production are all interpretable in this way, and there is ample ethnographic evidence showing analogous situations. The social institution that seems to have developed is that of mechanisms to promote group cohesion through symbolic form. Two further institutional possibilities should be mentioned: the first is that this group cohesion may have been mediated through religious or quasi-religious practices, such as may be the case for ethnographically documented rock art in southern Africa (Lewis Williams 1981); the second is that the symbolic activity represents some form of ritually based activity which is differentiating members of the community, perhaps on the basis of age or sex — in other words, some form of initiation activity is occurring in which most probably men or just older men are given particular status. Whichever is the case, it can be argued that we see here evidence for the emergence of one or both of two social institutions — within-group roles representing power and/or status, or a mechanism for socially differentiating groups more markedly.

An important question to ask is: under what conditions does this emerge? These traits are not found universally. In many parts of the world, and at different times in the same parts of the world (for example, during the course of the European Upper Palaeolithic), these markers of social institutions either appear with greater or lesser intensity, or else they are completely absent. Such institutions, therefore, are not universal developmental stages in evolution (a somewhat tarnished evolutionary notion anyway), but are specific responses to local ecological conditions. It is certainly the case that the persistence of parietal art in France is associated with evidence for very dense human occupation in environments rich in both mammalian and aquatic resources. It can therefore be argued that what is happening in these particular regions is not part of a general evolutionary trend, but evidence for something we see consistently in later prehistory — complexity of social institutions arising as a response to high population densities. Other social institutions which it could be suggested may well be in place at this time are lineage-based descent communities, and the social mechanisms to establish stable social relationships, which may be either hierarchical or egalitarian; Woodburn (1982) has argued cogently that among hunter-gatherers both tendencies can be found, dependent upon local conditions.

Phase 2: the evolution of complex social institutions

What the Later Pleistocene (at most 100,000–20,000 years ago) shows is that the cognitive basis for emergent social institutions must have been present, but where such institutions do occur, they are patchily distributed, do not persist, and lack long-term trends. Collapse of such systems appears to have been an important element, and there is a lack of evidence for intensification. This contrasts markedly with the pattern found during the period after the last glacial maximum ($<$15,000 years ago). It is this contrast that will be addressed here.

During the period from 25,000 years ago to 15,000 years ago the climate deteriorated very markedly. The last glacial maximum was among the most intense periods of cold in recent earth history, and its effect on human populations was severe. There is extensive evidence to suggest that in many parts of the world, from Australia to Africa to Europe, there was a demographic contraction, and that in some places populations became extinct (Soffer & Gamble 1990). It can be suggested that it is this climatic event that underlies the lack of persistence in any trajectory towards permanent social complexity, and prevents the establishment of the emergent human social institutions discussed above prior to 15,000 years ago. In effect, it was perhaps the case that during the glacial maximum human social organization was more similar to that of the earlier populations of *H. sapiens* than it was to that of the period between 50,000 and 20,000 years ago, or at least that the event accounts for the very patchy distribution of any form of complexity. The hiatus in the development of human complexity over the later stages of the Pleistocene is strong evidence that ecologically sensitive factors are involved, not simply strictly biological or genetic ones, in the development of social institutions.

After 15,000 years ago, there was very rapid climatic warming, with a number of major effects (see Bar-Yosef, this volume). One of the most important of these was the spread of forests into areas of Europe previously dominated by mammal-rich steppes; another was the rise in sea level, destroying land bridges and greatly reducing important continental shelf zones such as those at the eastern end of the Mediterranean, in south-east Asia, and southern Africa; yet another was the climatic amelioration felt in parts of Europe. The response, seen in the archaeological record, is the growth of human populations across the world, and a return to a period of major human dispersals. While these can be seen in a number of areas, perhaps the most important spread zone was from the Middle East into northern Africa, southern Asia, and Europe (Renfrew 1987). This was a spread of agriculturalists. Similar but later dispersals occurred in eastern Asia and Africa. While these dispersals are associated with agriculture, in the Middle East at least this is not always the case. Bar-Yosef (this volume) has shown that they are integrally related to the expansion of the Natufian hunter-gatherer complex, so that it is difficult to disentangle the effects of a general post-Pleistocene growth in population from the spread of food-producing populations. It should also be noted that these hunter-gatherer dispersals also occurred in central Europe (Housley *et al.* 1997) and in Australia, where it is seen in the spread of Pama Nyungan languages (McGonvill 2001).

It is in this context that we see the first evidence for a number of emergent social institutions. These include areas associated with the performance of ritual (Bar-Yosef, this volume), evidence for organized religion at places such as Çatalhöyük (Mellaart 1964), evidence for fortifications and therefore inter-community violence, and possible organized warfare (Keeley 1995). The distribution of material culture across regions can also be said to indicate trading networks, and presumably a level of inter-community political organization. From this emerge, by the seventh millennium BC, the first signs of urban life, city-states, and the beginnings of larger state levels of organization, leading to the development of more clearly differentiated hierarchies and roles. More broadly across the world, there is evidence for interactions between very different types of societies — trade between boreal hunter-gatherers and sedentary agricultural societies in Europe, the spread of specialist nomadic pastoralists among others — as well as between major states.

The details of these developments are beyond the scope of this chapter. The key point, however, is that societies with evidence for far more permanent and diverse social institutions become increasing the norm during the Holocene, a process that can be said to continue with the rise and fall of many empires, and ultimately the establishment of an industrial process of production that has led to more and more incorporation of human populations and communities into a single system. The contrast with the Later Pleistocene is striking.

One interpretation might be that this is simply a lag effect — it took 40,000 years for the momentum of population growth to have the consequences that we see in the Holocene. However, as Richerson and Boyd (this volume) have shown, population growth or lack of it cannot account for such trends over such long-term timescales. A more probable explanation is that the hiatus between the appearance of modern humans and the full expression of social institutions is the result of climatic and ecological effects. As Eurasian populations grew during the Upper Palaeolithic, they developed levels of complexity and intensification that did produce novel social institutions. However, these occurred in areas in which hunter-gatherers dependent upon large mammals were prospering, during a time of partial glacial conditions. The last glacial maximum brought these to an abrupt end. The elaborate art of the Magdalenian, which is distributed across the LGM, shows that this system did persist in some areas. However, the post-glacial changes meant that the areas in which populations had the potential to grow and intensify were now located around the Mediterranean. Complexity emerged independently in these regions, but this time under very different ecological conditions, those of cereal-based agriculture. It was this system that had the potential for more permanent growth and expansion, and therefore it was the one in which the key element of social institutions — permanence within and between communities — could thrive.

In summary, the model presented here is one in which social institutions derive from the interaction of two components — biological capacity or propensity on the one hand, and ecological circumstances on the other. Each of these has varied over time, and has produced both a pattern which shows some level of progressive change — the trend across the Pleistocene at one time-scale, the development of civilizations in the Holocene at another — and a pattern which shows diversity, patchiness, and instability. In this sense the shape of the emergence of human social institutions is very similar to the shape of evolutionary developments more broadly — short-term diversity and local patterns, over which we can see a longer-term trend. More substantively, from the point of view of the central concern of this chapter, while some social institutions can be traced back over hundreds of thousands of years, the full expression of them did not occur with the origins of our species, but only when it became established in sufficiently dense and competitive communities.

THE EVOLUTION OF SOCIAL INSTITUTIONS

This attempt to construct a chronologically and ecologically sensitive model for the evolution of human social institutions can be brought together by considering some of the social institutions listed in Table 1.

Social communities

The tendency of humans to live in large groups can be considered to be the most basic building block of human social institutions, and to have an evolutionary history stretching back beyond the origins of the hominin lineage. This institution implies mechanisms by which individuals differentiate between those who belong to the community and those who do not, and behave accordingly.

Lineages and descent groups

It has been argued that the organization of many human communities into descent groups and lineages on the basis of kinship is one of the most fundamental elements of human social structure (Fortes & Evans-Pritchard 1940). The model developed here would strongly support this view. As human life history strategies became more extended, the potential for primate kin relationships to become inter-generational would have been realized. The development of descent groups and the central importance of the lineage as a social institution was almost certainly a gradual process over a long period of human evolution. The presence of this form of social structure would have led to other institutional developments, such as segmentary systems, kin-based fissioning of groups, and ultimately the development of such social phenomena as descent-based clans, tribes, and larger-scale political systems. These would have developed in relation to the increasing population density of the past 10,000 years or so, although they may also have occurred in some circumstances during the Later Palaeolithic.

Patrilocality and patrilineality

It has been argued that the ancestral condition for hominin communities was male residence and female dispersal, and as such hominin communities would have been male rather than female kin-bonded. If this was the case, then patrilocality would have been the norm for most of hominin evolution, and matrilocality or more flexible systems of community residence would be derived forms occurring under specific ecological conditions. The extension of patrilocality to patrilineality (and to other descent systems) would have derived from two phenomena. One of these would be the development of the cognitive capacity to transform residentially based relationships into more abstract kinship systems, and this cognitive state is likely to have been a phenomenon only of later human evolution, strongly linked to the evolution of language. The other would be the development of a more extended pattern of fission and fusion, so that, as discussed earlier, individuals in communities would retain notions of relationship and membership despite spatial location. It is the exploded pattern of fission–fusion that may have been one of the factors promoting the development of the cognitive systems underlying lineage systems.

Marriage

Although there is considerable variation from society to society, some form of marriage pattern is common to all. It was argued here that the transition to the *Homo ergaster* grade of evolution, associated with increased parental investment, more meat eating, and food sharing, may have promoted more exclusive patterns of mating than are found in chimpanzees or bonobos, and which may be inferred for the ancestral condition. As such, although marriage systems are most probably a later development, this pattern of exclusivity may have a more ancient origin. However, four points should be made in relation to this statement. First, the general process involved is more likely to have been the attachment of females to males, partly on account of the residential patterns, and partly because of the general principles of socioecology and comparative studies. Second, this exclusivity is unlikely to be specifically either monogamous or polygamous; ethnographic studies using socioecological principles have tended to see these systems as resource-sensitive, and so both are likely to have occurred, with variation within and between communities in actual behavioural patterns. Third, it is likely that the development of this institution would have occurred in conjunction with other mating and parenting strategies. There are reasons for seeing this phenomenon as related to parental investment, and mate choice (i.e. sexual activity) for both males and females may well have exhibited greater variation. Finally, marriage patterns and affiliative relationships are usually subsumed under the heading of kinship, but the model proposed here ascribes very different origins and antiquities to these two aspects of kinship. Male kin-bonding is the more ancient trait, and more exclusive mating the more derived one. Families are probably a more recent social institution than same-sex kin-bonded groups and larger social communities.

Institutions promoting social cohesion

A key element in the model developed here is that communities are fundamental. One probable consequence is that all such communities will have had social mechanisms for maintaining such groups, and excluding individuals that do not conform. These mechanisms, however, would have changed markedly over the course of hominin evolution, and perhaps one of the most striking phenomena of the period from 50,000 years ago is the increasing evidence for features which mark off one set of communities from others, or one community from another. The details are very obscure, but this would seem to be a key feature associated with the evolution of modern humans. It is likely that the archaeological record provides only a small glimpse into this behaviour, and language, social custom, dress, systems of cosmology, and coercive practices will be social institutions that would have developed in parallel. Once again, it is likely that ecological conditions would have shaped the intensity and the nature of these mechanisms, producing the wide variety in systems observed. It can be argued that religion, in two forms, would have been part of this process. The first of these is as a symbolic means of accounting for the relationships between members of the community and the wider human world — in other words, a cosmological function. The second, which probably developed more fully as societies became larger in scale, more differentiated, and more complex, would be as a system for maintaining social stability and a moral order.

Institutions relating to the internal social structure of communities

All social groups, human and non-human, have mechanisms for the maintenance of social relationships, from grooming to physical coercion. The main development that should be highlighted here is that, as populations grow and communities become larger and more sedentary, there is clearly a shift in balance from institutions that maintain egalitarianism, or at least reduce the growth of hierarchies, to those that codify such hierarchies. These probably arise with the greater potential for the control of resources that comes with small spatial scale, an absence of fission potential, and the development of economic systems in which storage is characteristic.

Institutions beyond the community

No community would have existed in isolation; comparative primate evidence shows that ‘exogamy’ pre-dates the origin of the hominin clade, and thus some form of relationship would always have existed between communities. An important component of these is likely to have been territorial exclusivity, certainly for males, and inter-group aggression and violence. The widespread distribution of warfare ethnographically is likely to have been a long-standing phenomenon (Keeley 1995), arising in general from the male kin-bonded nature of hominin communities. The growth of densely packed communities at the end of the Pleistocene, and perhaps in certain areas at other times, is likely to have greatly intensified this phenomenon, and led in many circumstances to situations where communities were predatory upon each other. However, it would also be the case that the same ecological circumstances would promote larger political structures that would bind together communities as well. These would be based upon social institutions derived from relationships between descent groups and patterns of marriage or female exchange. There would also be a growth of more economically oriented systems of integration.

CONCLUSION

Models of human evolution currently emphasize the importance of the origins of anatomically modern humans or *H. sapiens*. However, this chapter has shown that social institutions are no respecters of this boundary. Some social institutions, such as communities, male kin-bonding, exclusive mating patterns, and possibly descent groups were probably in existence long before the origins of our species; others may well have developed many thousands of years after the first *H. sapiens*. The origins of social institutions are therefore not located at a single point in time, but are scattered across our evolutionary history. It will be an enormous challenge to human evolutionary biology to unravel these many events and processes. Furthermore, such social institutions show evidence for ephemerality, in that they appear and disappear, or perhaps more precisely, vary in their expression and intensity in ways that are not simply directional. Directionality, that is the cumulative build-up of more and more complex institutions, does not appear to occur until the end of the Pleistocene, and is probably related to greater population densities and packing of communities, greater sedentism, and the development of food production. These three components are themselves interrelated.

If we are to be more specific about the origins of social institutions in time, then a number of key events might be provisionally identified.

1. The establishment of multi-male, multi-female communities operating a small-scale fission–fusion system, and held together by male residence and kinship. This probably occurred in the common ancestor of chimpanzees and hominins around 5 million years ago.

2. The development of a more expanded fission–fusion system, and hence spatially segregated communities held together by social relationships at a distance, and possibly involving more exclusive male–female bonds. This may have occurred shortly after 2 million years ago with *H. ergaster*.

3. The development of a greater capacity for language and symbolic thought, which would have transformed the way in which social institutions were maintained and changed, probably introducing greater variation in such systems. Prior to this, social institutions would have been maintained largely by direct physical mechanisms. This may well have occurred in the population that was ancestral to both Neanderthals and modern humans, which we would place at around 300,000 years ago (*H. helmei*), but others would either locate earlier or else apply specifically to the ancestors of modern humans alone.

4. The development of a greater need for communities to be ethnically identified, and perhaps for these both to be larger and to exist in a wider socially recognized network. This key event is particularly speculative, but may have occurred sporadically at least among early modern human populations to some extent, but developed extensively among later Pleistocene hunter-gatherer populations between 100,000 and 20,000 years ago.

5. The development of institutions related to complex inter-group relationships (both aggressive and co-operative), and to the maintenance of social and moral order in ways more likely to promote hierarchies. This development would have occurred sporadically among later Pleistocene hunter-gatherers in response to local ecological conditions, but is primarily associated with the changes occurring at the end of the Pleistocene. It was this development, rather than the evolution of modern humans, which set in train the massive rise in social complexity that has occurred in the past few millennia.

Although much of the model with the inferences developed here must be treated with great caution, since the nature of the evidence available is sparse indeed, none the less the general principle underlying this reconstruction should be emphasized. Social institutions neither arise from the innate propensities of the human species, of which there are many, nor come solely from cultural responses to the socioecological circumstances in which populations find themselves. They arise from the interaction between the two. Both elements have changed over the course of history and prehistory, and the latter at least continues to change into the present day. This interaction has given rise both to strong directional change — clear trajectories that in another and more innocent age might have been called progressive — and also to smaller fluctuations that add complexity to the pattern.

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