

USING ETHNOGRAPHY TO RECONSTRUCT THE CULTURE OF EARLY MODERN HUMANS

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ABSTRACT

Using ethnography to reconstruct the culture of early modern humans

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It is now widely accepted that modern humans evolved in Africa and that they spread out of Africa around 100,000 years ago. Moreover, they displaced hominids who then populated the Old World so effectively that by ca. 30,000 BP these had been eliminated. The balance of opinion is that there was no genetic interchange between modern *Sapiens* populations and the resident *Homo erectus*. It is widely, though less formally, accepted that the reason for this dominance is cultural, that the incomers had the technology, the social organisation and religious belief systems that enabled them to out-think the hominids. It has been proposed, for example, that modern humans had language which enabled them to organise in novel ways. Many of these assumptions are unprovable by standard archaeological methods. In recent years, finds from Southern and Eastern Africa have begun to underpin notions about the elaboration of the culture of modern humans. We have, for example, harpoon points, bone needles, and more strikingly, intentionally incised bone and rock at Blombos cave, striking evidence of 'behavioural modernity'. In other words, our estimates of the complexity of the culture of modern humans is constantly increasing. Nonetheless, there is much about the culture of early modern humans that can never be constructed from the archaeological record. Many materials rarely preserve and particular aspects of social and cultural life cannot be reconstructed with confidence. However, this paper will propose a wholly different method of attributing elements of culture to modern humans, using ethnographic reconstruction based on the world-wide distributions of material and social culture. By re-interpreting the evidence for the distribution of culture traits we can develop hypotheses concerning the non-archaeological culture of early modern humans before and after the dispersal out of Africa. The paper discusses the nature of evidence, the pattern of cultural bottlenecks and also some possible candidates for worldwide cultural traits.

1. Introduction

It is now widely accepted that modern humans evolved in Africa (Horai et. al, 1995; Thomson 2000; Yue Hai Ke et. al. 2001) and that they spread out of Africa prior to 100,000 years ago (Stringer and Gamble 1993). Moreover, they displaced the existing hominids who populated the Old World so effectively that by ca. 30,000 BP these had been eliminated (Trinkaus 1983; Stringer and Gamble 1993). The balance of opinion is that there was no genetic interchange between modern *Sapiens* populations and the resident *Homo erectus*.

The exact dates and routes by which modern humans spread remain controversial, but early dates for Australia indicate that modern humans reached there between 60-50,000 BP (Connell and Allen 1998). Since Quintana-Murci et al. (1999) it is now fairly widely accepted that there were two routes out of Africa, through the Sinai peninsula and across the Bab el Mandeb, from the Horn of Africa to Yemen (Stringer 2000). When this second route opened is debated, but presumably prior to 70,000 BP, to give enough time for coastal migrants to reach Australia, where first settlement is now dated to 55-50,000 BP. The New World remains controversial and for many years it was difficult to get the academic establishment to accept dates earlier than the 'Clovis Horizon' which was little more than 13,000 BP. This is now changing and many scholars accept dates of at least 20,000 BP. Given the dates for modern humans in Siberia, there seems to be no reason in principle why such early dates are not acceptable. It is true, however, that there is a distinct absence of Pleistocene sites in the New World compared with insular SE Asia, in which case the initial colonisers were few and scattered. A similar curious lacuna is the absence of modern humans in Europe for so long after they apparently left the Middle East. Whatever the details, it seems that a general pattern of spread and dominance over hominids emerges.

It is widely, though less formally, accepted that the reason for this dominance is cultural, the social organisation and religious belief systems that enabled them to out-think the hominids. It has been proposed, for example, that modern humans had syntactic language which enabled them to organise in ways that were unavailable to hominids. Anatomical studies of the Neanderthal voice-box show that in principle they could have spoken, though perhaps more slowly than modern humans (Stringer and Gamble 1993). There is evidence, for example, that modern humans ranged much more widely than Neanderthals in search of materials for tools and that they lived in larger groups (Stringer and Gamble 1993). Also, it seems that Neanderthals did not have throwing spears, in contrast to modern humans. Nonetheless, appreciation of the cultural potential of hominids is growing and references for cannibalism, cranial deformation and pigment use are all cited in this paper as possibly cultural behaviour that preceded the expansion of modern humans.

Many of these assumptions are unprovable by standard archaeological methods. In recent years, finds from Southern and Eastern Africa have begun to underpin notions about the elaboration of the culture of modern humans. We have, for example, harpoon points from 75 ka from Semliki (DRC), bone needles and projectile points from the MSA (ca. 70 ka) at Blombos (Henshilwood *et al.* 2001), and more strikingly, intentionally incised bone and rock (d'Errico *et al.* 2001) striking evidence of 'behavioural modernity'. In other words, our estimates of the complexity of the culture of modern humans is constantly increasing.

Nonetheless, there is much about the culture of early modern humans that can never be construed from the archaeological record. Many materials rarely preserve and particular aspects of social and cultural life cannot be reconstructed with confidence. However, this paper¹ will propose a wholly different method of attributing elements of culture to modern humans, using ethnographic reconstruction based on the world-wide distributions of material and social culture. In some ways, this is a reprise of the *Kulturkreislehre* methods of the nineteenth and twentieth century German and Swedish ethnologists, and much of what follows re-interprets their observations, although they would no doubt have been very surprised at the use to which they are now put.

¹ A first version of this paper was presented in Geneva, 31st October 2002. *Département d'Anthropologie et d'Ecologie*, University of Geneva. I am grateful to the Department for the invitation to speak and to the audience for their comments, especially Eric Huysecom.

Ethnologists such as Ankermann, Sachs and Lagercrantz expended much time in categorising cultural traits into layers, which were essentially complexes of traits that were supposedly found together. Thus there was supposedly an 'Indonesian' layer whose influence could be detected in Africa. An Eurasian 'Steppe-hunting' layer that was responsible for much to the culture of North Eurasia and North America. Similarly a supposed Oceanic complex which may or may not have influenced South American culture (e.g. Nordenskiöld 1919-1931; Sachs 1928; Lagercrantz 1950). These debates now seem largely pointless because they were not founded on a significant awareness of either the processes or chronology of human settlement. This is not to say that these issues are fully resolved; but rather that the distributional data these scholars so assiduously compiled can now be placed within a wholly new interpretative framework.

2. Rationale

The underlying assumption of this argument is that if an element of material culture, a social or a religious practice is found worldwide, and there is no reason to believe this is a consequence of recent spread, it may reflect something already present in the culture of the peoples that left Africa some 100,000 years ago. This must be an argument with a great many caveats; for example, Coca-Cola and digital broadcasting are found worldwide but they provide limited insight on the culture of early *sapiens*. There are, however, more perplexing examples, such lost-wax casting techniques, weaving or the blowpipe. Both are clearly old and found in both the Old and New worlds. Nonetheless current evidence for their antiquity would exclude them from this early period. By contrast, the bullroarer, associated with cult practices or initiation ceremonies all over the world, is presumably as old as humanity.

The objection conventionally urged against these examples is that such things are sufficiently simple to be independently invented over and over again. After all, the remarkable parallels between urban cultures in the pre-Hispanic New and Old Worlds suggest that rather complex technologies (weaving etc.) can arise at least twice. However, this argument turns on a rather different observation; for a cultural element to be worldwide in the sense used here it has to occur in hundreds of cultures in strikingly similar forms. Moreover, it has to pass an important test; it has to be something that could reasonably have been carried across the Bering Strait. Weaving, pottery, lost-wax casting and many other striking commonalities between the Americas and the Eurasia clearly do not pass this test, whereas bullroarers, rattles and fish-traps clearly do.

The Bering Strait has certainly acted as a key bottleneck for the spread of early human culture. But it may not have been quite the limitation that is sometimes represented; typically, museum presentations and the implicit argument of many papers is that land-based hunter-gatherers had to wander across when it was 'open', i.e. formed a true land-bridge. But ethnographically, many peoples in this region have various types of water-craft and there is no reason to believe these were not present up to 40,000 years ago. Evidence for the spread of humans in Melanesia suggests that some sort of craft were present of greater sophistication than a randomly chosen log (e.g. Spriggs 1997). The other key development in the peopling of the New World is the gradual recognition that a great diversity of human phenotypes may have crossed to the New World, rather than the 'Palaeo-Indian' usually considered the ancestor of today's Amerindians. The distribution of cultural traits in the New World is evidently important for building the case for early human culture but not essential to the argument. Traits confined to Africa and the Old World may be equally good evidence; however, it is much more difficult to distinguish truly early elements from those that spread later.

Australia, similarly is a striking bottleneck; many cultural traits found across the remainder of the world are absent in Australia. Quite why this should be is unclear; although much of Australia is environmentally quite forbidding, the ecology of its far North resembles that of Papua New Guinea, to which it was once joined, and which supports far richer material culture.

3. Evidence for diffusion versus independent invention

3.1. Mathematical and logical models

Early period comparative ethnography was much exercised on the topic of diffusion versus independent invention. As evidence for similarities in human culture in widely separated regions of the world became more apparent in the early part of the twentieth century, the migrationist fantasies of the nineteenth century gradually seemed more absurd, and ethnographers began to search for unambiguous ways to distinguish genuine evidence of contact from convergent or parallel evolution of cultural traits (e.g. Steward 1929; White 1957; Rands & Riley 1958). Although comparative ethnography continued at a low level in America and Germany it was effectively dropped elsewhere as social anthropology came to the fore. At one level, the debate became bogged down in discussions about pyramids and the improbability of ocean crossings. The issue could never really be resolved, but much of the debate focussed on 'high culture', pyramids, jade, metalworking techniques, calendars (e.g. Marschall 1972). At another, some writers attempted to develop mathematical models that could be mechanically applied to discriminate between independent invention and diffusion.

Such methods are fundamentally misconceived; no result from an algorithm can replace careful historical scholarship. And history underlies all repertoires of social and material culture. If we cannot yet explain the links between apparently similar items this should not exclude further scholarship narrating a convincing sequence of events leading from the past to the present. The underlying contention of this paper is that invention was very sparse and early modern humans very conservative over long periods of time, more like aboriginal Australia than West Coast America. The worldwide presence of various culture traits is thus analysed here as following from their initial possession by early modern humans.

3.2 The use of negative evidence

In understanding the likelihood of independent invention, negative evidence is a key tool. Ethnographers may claim that such a culture trait 'could' be reinvented over and over again; but is this typically the case? Negative evidence suggests strongly that the worldwide distribution of many traits is so skewed that even quite simple technologies are *not* invented over and over again. With a dramatic increase in ethnographic data during the twentieth century it is now possible to make much more effective use of negative evidence.

A good example of this is the duct-flute, based on the principle of the recorder of Western art music. It occurs in many forms all across the world, with the sole exception of Africa and Australia. Despite the fact that almost every one of Africa's two thousand or more ethnic groups plays some sort of flute, an unambiguous example of the duct-flute has yet to be recorded. This strongly suggests that such concepts, no matter how apparently simple, are *not* reinvented over and over again. An inverse example is the *mbira*, *sansa* or thumb-piano, a distinctive African invention known from Senegambia to South Africa but found nowhere outside Africa. Of non-musical examples, the blow-pipe and the spear-thrower occur in both Eurasia and the Americas, but nowhere in Africa.

Diffusion occurs with great regularity and speed in our times, but presumably it took place much more slowly in other eras. Evidence for the conservatism of aboriginal culture in Australia is extremely striking, with descriptions of long-extinct animals preserved for 5000 years and islands that fell below the sea more than 10,000 years ago still remembered (Sharpe & Tunbridge 1997). However, what is being proposed here is not diffusion in the sense of traits that spread from one established culture to another. It is that as early modern humans expanded, they already had a repertoire of culture traits in place and they simply carried these as part of the advancing wave-front. It assumes that the expanding populations were diffuse and had at least some diversity of linguistic and cultural identities, accounting for the skewed distribution of early traits.

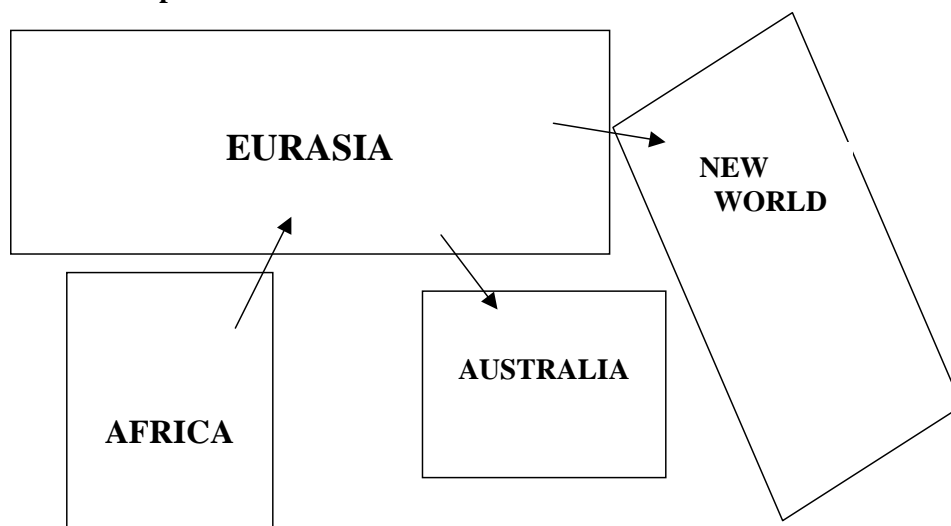
3.2 Bottlenecks, cultural and genetic

Given this low index of reinvention, the culture of the New World has been strongly determined by the bottleneck of its peopling. All the major population movements to the Americas were via the Bering Strait, even admitting the possibility of trans-Pacific mainland and Polynesian contacts. The timing and ecology of the movement via the Bering Straits accounts for the absence in the Americas of the common domestic plants and animals of Eurasia and of technologies such as the wheel or ironworking. Just as importantly, absences in the entire New World are cases where a particular trait was not present in the populations that crossed over, no matter how widespread and early it might be in Eurasia. Thus stringed instruments as an entire class are unknown in the Americas, and although they are found today in some Siberian groups they were invented too late to make the journey. This example underlines the limits of human creativity and the importance of bottlenecks in accounting for distributions; once a trait is lost at a key point, it is not magically reinvented and an entire landmass can be without it. Polynesia represents a similar bottleneck, anything lost as the Polynesians set off from Samoa, such as pottery, was not subsequently reinvented. Bottlenecks, as in genetics, are anything lacking the potential for reverse or further flows of information.

In particular, there was only very limited flow back into Africa at an early stage. Africa is separated from Eurasia by a narrow neck of land, but hardly impassable. It is now thought that crossing the Red Sea represents a second route 'out of Africa'. Once the Mediterranean became a maritime environment, ships contributed to the spread of material culture; the flow of ideas between its Northern, Southern and Eastern shores was then extremely rapid. Before, this, when contraflow was limited to hunter-gatherers walking from the Near East into north Africa, tools and technologies spread slowly along the Maghreb, but the Sahara remains a near-impassable barrier.

Making some bold claims for a moment, if the worldwide distribution of material and social cultural traits is plotted geographically, then certain clear patterns emerge. Broadly, the world can be divided into four zones; Africa, Eurasia, Australia and the New World. Figure 1 illustrates this schematically, with arrows indicating the flow of material culture traits. The Pacific islands are omitted, not because of their importance or otherwise, but because they contain numerous small bottlenecks quite unlike other regions of the world.

Figure 1. Schematic map of worldwide material culture flows.



The following examples will try and illustrate how this has worked out in concrete cultural traits.

4. What elements left Africa?

4.1 General principles

The underlying principle is quite simple; aspects of culture that conceivably formed part of the toolbox of early humans divide fairly neatly into widespread items with an African and worldwide distribution and those found widely but only outside Africa. The blow-gun, shamanism, duct-flutes and the spear-thrower are good examples of this latter category, and also, incidentally, evidence that independent invention, even at the level of these relatively simple technologies, is quite uncommon.

So, to qualify as a candidate, a technology or social pattern has to be found today or in the recent past, in Africa, in a variety of sites, and to be of a character likely to have passed across the Bering Strait. So for example, cotton weaving, despite being found across the world and apparently well-established in all continents, is definitely excluded as a candidate, on these grounds, as well as on straight archaeological grounds. The bow and arrow is another more problematic example; in principle it meets the above conditions, but in practice it should probably be excluded because archaeological evidence for it appears to be rather later than the dates we are considering. The following headings sketch the evidence for at least some traits I believe are good candidates.

4.2 Body alteration

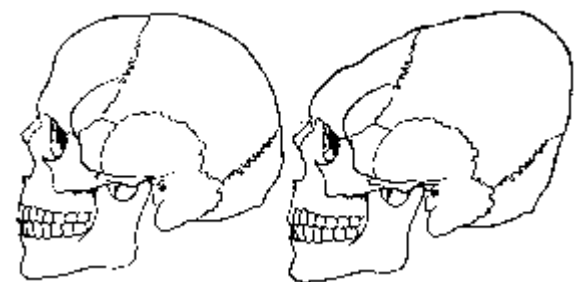
Practices of body alteration are usually seen from a European perspective as ‘deformation’ and mutilation, and generally have rather negative connotations. Some, such as trepanation, do seem rather alarming, but they are clearly extremely widespread.

4.2.1 Cranial deformation

Cranial deformation² is the practice of reshaping the cranium through binding the head with boards when the skull of an infant is still soft. When performed correctly, it results in an elongated skull with no ill-effects to the patient. It seems to be found all over the world, notably in many parts of Africa, and is one of the traits that can be detected in archaeological contexts. Dingwall (1931) remains the most comprehensive worldwide treatment of cranial deformation, despite many more recent discoveries. Lagercrantz (1950: 303-316) discusses its African and extra-African distribution. Was cranial deformation confined to modern humans or were the Neanderthals the originators of the custom? Brothwell (1975) argued that the practice dated to the Late Pleistocene in Australia and China, claiming that Kow Swamp 5, Cohuna and Upper Cave 102 showed signs of artificial deformation. Subsequently, Brown (1981,1989) found that other Aboriginal crania from southeastern Australia (Coobool Creek), also showed signs of artificial deformation. And in 1983 Trinkaus claimed that the Shanidar Neandertal crania 1 and 5, were also artificially deformed.

Cranial deformation has been recorded in most parts of the New World, from southern Chile to the British Columbian Coast. There appears to be an association between artificial cranial alterations and religious iconography throughout the Americas. From the Central American and South American long nose god figure with its distinct tabular erect cranial deformation to North America’s southeastern and southwestern region’s depiction of a winged dancer with tabular oblique cranial

Figure 2. Normal and deformed skull



² This section is largely adapted from material found on various websites

deformation. Tabular erect deformation is the oldest form of cranial deformation in Mesoamerica, first being associated with the early pre-classic period (1400-1000 BC). Tabular oblique appears during the late pre-classic period (500-200 BC). Both males and females exhibit cranial deformation during these periods (Romero, 1970). However, it is predominantly the males who exhibit both cranial deformation and dental mutilation. During Monte Alban I phase (1000-500 BC) in the Oaxaca region Annular oblique is identified in limited numbers.

Neanderthals

Trinkaus has argued that the Neandertal crania 1 and 5 from Shanidar, show signs of artificial deformation (Trinkaus 1983: 146). Dating to between about 55,000 and 45,000 BP (Bar-Yosef 1989) this would make them, by far, the oldest examples of this practice. Trinkaus noted that Shanidar 1 and 5 had unusually flattened frontals and high parietal curvatures (Trinkaus 1983: 61). Recently, however, the reconstruction of Shanidar 5 was revealed to be faulty and it is likely that the high parietal curvature seen in Shanidar 5 is an artefact of the parietal bone being placed incorrectly (Trinkaus pers. comm.).

The cranium Upper Cave 102 is that of an adolescent female (Kaminga and Wright 1988). It was excavated from the Upper Cave at Zhoukoutien, Northern China, in 1933-34 and is considered by some authors to be an example of early *Homo sapiens* (Pei 1935, 1939; Weidenreich 1939; Wu 1960; 1961; Wu and Zhang 1985; Kaminga and Wright 1988). The dates for this site range from $10,175 \pm 360$ BP (ZK-136-0-4) to $33,200 \pm 2000$ BP (OXA-190) (Wu and Wang 1985; Chen et al. 1989; Hedges et al. 1992; Hedges et al. 1988), however, these dates are only from associated faunal remains and their association with the human remains is unclear (Brown 1992). Previously both Brothwell (1975) and Weidenreich (1939: 210) have suggested that the female skull UC102 skull exhibits signs of artificial cranial deformation.

Australian evidence

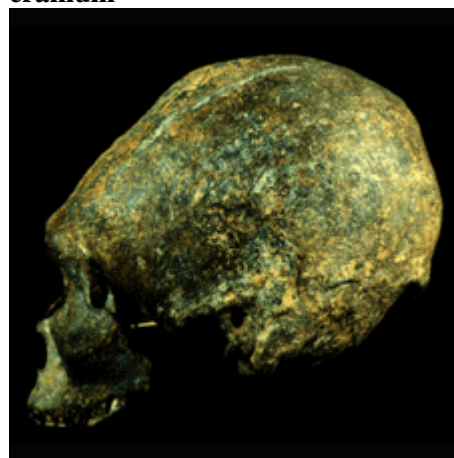
The ethnographic evidence for artificial cranial deformation amongst the original inhabitants of Australia is sparse (Robinson 1841 in Kenyon 1928; Brierly 1848 - 1850; Macgillivray 1852). As a result, when a number of robust crania with low, retreating foreheads, dating from the Late Pleistocene, were found in Australia, the possibility that they might be artificially deformed was overlooked by some researchers. Theories regarding the origin of the frontal flatness centred on a supposed genetic link between the early hominid populations of Indonesia and these robust Pleistocene Australians (Thorne and Macumber 1972: 319; Thorne and Wolpoff 1981). All these crania come from a restricted area of southeastern Australia. They include Kow Swamp 5, Nacurrie 1, Cohuna and a series of crania from Coobool Creek.

The importance of these early examples of artificial cranial deformation is twofold. Firstly, they indicate certain behavioural and cultural traits that may not otherwise be obtainable from archaeological record. Evidence of body modification indicates a sense of personal aesthetic and, perhaps, social stratification. It is not unreasonable to assume such behaviour in the terminal Pleistocene peoples of Asia and Australia, but it would be very interesting in the purported Neanderthal examples, where other anatomical and cultural evidence appears to show a less sophisticated way of life compared their modern successors

Figure 3. Claimed deformed Neanderthal skull



Figure 4. Australian deformed cranium



(Stringer and Gamble 1993). Secondly, it is important in an evolutionary sense. In order to claim a genetic relationship between earlier hominid and recent human populations, based on shared or derived morphological features of the cranium, it must be ensured that cranial variation is essentially genetic in basis, and not the result of some extraordinary environmental influence such as artificial deformation. Of the terminal Pleistocene/early Holocene skulls discussed above, it seems certain that the practice of artificial cranial deformation was once customary in a small area of Australia. There is enough of a comparative sample from this limited region to be certain that the morphology exhibited by these skulls, results from an artificial and not a natural cause. It is quite probable that artificial cranial deformation was also present in Northern China during the Late Pleistocene; it was certainly present during the Neolithic in this region and was still customary well into historical times. The evidence for the Shanidar Neanderthals is not strong. The frontal flatness and increased parietal curvature seen in Shanidar 1 is suggestive of artificial cranial deformation but not conclusive. As for Shanidar 5 any judgment will have to await a reconstruction.

4.2.2 Trepanning

Trepanation or *trepination* is the drilling of a hole in the skull, a dangerous but not fatal procedure. Websites devoted to this practice, and indeed the sale of tools to carry it out, usually carry warnings about not trying this at home. The basis of trepanning is to relieve pressure and swelling in the brain, but also to introduce more oxygen into the skull. The cranial bones are cut with a small cylindrical saw, called a trepan or trephine, equipped with a centre pin. The centre pin extends a short distance beyond the blade of the saw and is inserted first to prevent slippage. In modern surgery a metal plate is generally used to cover the hole once the operation is complete. Trepanning is not considered an advisable course of action by common medical science for anything except the serious cranial damage and brain swelling. There is evidence to suggest that humanity has practised this since a very early period. Skulls have been found in archaeological digs throughout the world with apparently man-made precisely cut holes and with evidence, in many instances, of bone regeneration. This suggests that the individuals involved survived the procedure. The precision of the holes is such that they are clearly not made by sharp weapons. Trepanning is recorded from Neolithic Europe (Pioreschi 1991), from Australia (Webb 1988) and from various regions of the New World (Romero 1970).

The origin of trepanning is without a definitive answer. Without doubt there must have been some curiosity about what lay within the human skull and its function. Emphasis on supernatural forces, like evil spirits, may have stimulated trepanning as a means to relieve illness, pain or insanity caused by these spiritual entities by forcing them out of the hole. Even today swellings and malign anomalies within the brain represent considerable problems for advanced medical science and technology, so the act of trepanning is not an unreasonable response.

4.2.3 Dental evulsion

Dental evulsion, or *ablation*, is the intentional removal of teeth, particularly the upper and lower incisors. This has been recorded for a number of contemporary societies, especially in Africa and Australia. The teeth are usually removed with a pointed stick, often the sharp hard end of a spear, struck with a rock. Pindborg (1969), describing Uganda, cites reports of preventing eruption of permanent teeth by destroying the germs of these teeth with a glowing-hot knife. Another technique was to remove the lower incisors with a fish hook. Dental evulsion was apparently practised in prehistoric China and on Taiwan and is recorded archaeologically for a number of Amerindian societies (e.g. Stewart 1941; Ortner 1966; Alt & Pichler 1998; Hillson 1996; Larsen 1985; Milner and Larsen 1991).

4.2.4 Dental mutilation

Apart from evulsion, chipping and filing the teeth is also worldwide. Filed teeth are stereotypically associated with cannibalism, although it seems the practice was so widespread in former times, that the two probably have no particular connection. See Stewart (1941), Turner and Cadien (1969), Molnar (1972), Schultz (1977) and other references under evulsion.

4.3 Social organisation

Social organisation, long a favourite of the social anthropologist, has a long and intricate history of academic research, much of which focussed on structural features of kinship in that academic way which seems to navigate around the point of the topic under discussion. It is extremely unlikely we could reconstruct a specific kinship system back to the period of early modern humans but on the other hand we can suppose that kinship systems were both important and had social and ritual accretions.

4.3.1 Clans, lineages etc.

If any feature can be attributed to human society worldwide it is certainly the recruitment to social groups via biological and fictive kinship. Indeed, as with language, the supposedly 'simplest' societies often turn out to have the most complex arrangements in respect of kin recruitment. Underlying this are a number of factors, the fear of 'incest' (which is often socially rather than biologically defined), corresponding taboos concerning mothers-in-law and marital restrictions. Marriage itself is virtually universal, although among certain groups, such as the Copper Eskimo, it was historically, at least, a somewhat temporary arrangement. typically, society divides into one or a number of clans or lineages, most commonly recruited through the male line, but occasionally through the female or both. These segments then become defining units for social and economic behaviour and are usually the focus of ritual activity.

4.3.2 Male initiation

Male initiation, usually where the boys are initiated around the age of puberty, is found from Southern Africa to Tierra del Fuego³. Female initiation, although common in Africa, is much less widespread in the world at large and may well be a series of local developments mirroring male initiation structures. Initiation ceremonies typically involve removing the boys from the community, sometimes for years, and instructing them in various skills typical for males in a given society. However, they may also be forced to undergo extreme pain ordeals and often bodily mutilation, such as circumcision. Many features of the initiation cycle have intriguing distributions. For example, male initiation in Melanesia and South America involves mens' houses and paired long flutes and very often bullroarers and slit-gongs. Since such elements did not cross the Pacific via the Bering Strait, we must reluctantly conclude that they are probably convergent evolution. Even more strikingly, is the idea that the boys are 'swallowed' by a mythic monster and vomited up, covered in ashes, at the end of the initiation. This rebirth is accompanied by a 'loss' of speech, which the female relatives are obligated to assist the initiate to relearn. This complex sequence of ideas occurs both in Central Nigeria and in Australia. It is quite difficult to imagine it was carried across such a distance and yet also difficult to imagine it being reinvented in such precise detail. At any rate, the concept of initiation at puberty and its association with bodily mutilation are a feature of worldwide culture that must surely go back to early modern humans.

³ See <http://www.male-initiation.net/library/archive/refs.html> for a variety of references

4.3.3 Menstruation taboo

Ritual prohibitions on women who are menstruating appear to be worldwide. Typically, women who are menstruating may be forbidden to cook, to take part in ritual activities and are symbolically excluded, socially. There have two notable worldwide surveys of menstrual taboos, the edited collection by Buckley & Gottlieb (1988) and Knight's (1991) broader study of the role of menstruation in culture. Neither attack the geographical distribution of menstruation taboos in any detail but the range of reference makes it quite clear that no large areas of the world are devoid of these beliefs.

4.3.4 Cannibalism

Cannibalism shows a strong association with head-hunting, although it is more widespread. Cannibalism seems to have been studied as a worldwide phenomenon by Bergemann (1893) and later in more detail by Volhard (1939), Korn, Radice and Hawes (2001). Hobhouse, Wheeler & Ginsberg (1930: 240 ff.) attempt to correlate cannibalism (which they divide into 'real' and 'ceremonial') with subsistence strategies, but eventually conclude it seems to be spread evenly across world societies. Cannibalism has been the subject of considerable moral panic among liberal intellectuals as well as prurient tabloid-style interest in a certain sort of travel book (see essays in Barker et al. 1998). Nonetheless, defences of cannibalism as if not a rational at least an understandable practice go back to Montaigne's Essay on Cannibals (1588 Cap. XXXI). Although found on every continent, its distribution is extremely patchy, found at high density in some regions and almost absent elsewhere. Cannibalism has been through some odd hoops in the anthropological establishment, as it is seen as offensive to underlying human dignity and there have even been attempts to deny that it really occurred, re-analysing the rather graphic accounts from the sixteenth century onwards as concoctions of overheated travellers (e.g. Arens 1979). Nonetheless, there seems to be rather good archaeological evidence for cannibalism as far back as *Homo erectus*, so this may not be a specific activity of modern humans (see Fernandez-Jalvo 1999 for an account of Gran Dolina, Atapuerca in Spain where cut marks on 800,000 year old skulls may well indicate cannibalism).

4.4 Technology

4.4.1 Throwing Spear

We know that the spear as a technology dates back at least 450,000 years, and given the unusual conditions of preservation that have allowed an all-wooden spear to be preserved, it is clear we can place no earliest date on such spears as yet, since they were clearly known to hominids. However, it is usually argued that the throwing spear was the invention of modern humans. Spears are found throughout the world, although the spear-thrower (§5.4) occurs strictly outside Africa.

4.4.2 Other hunting technologies

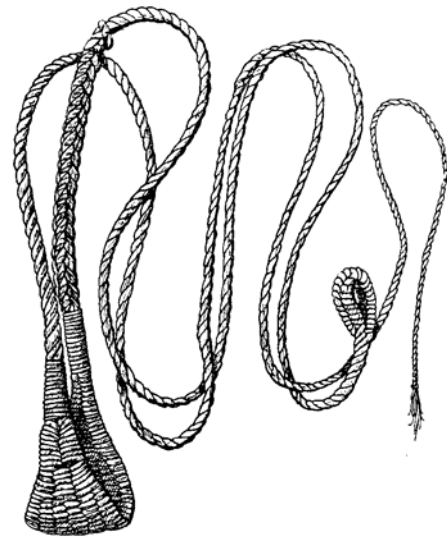
Plunge-basket

The plunge-basket is a simply conical basket open at the narrow end. It is plunged into the water in shallows to capture fish which are then extracted by hand via the hole in the narrow end. The plunge-basket is found over most of Africa (Statens Etnografiska Museum, Smärre Meedlanden 11; Lagercrantz 1950:128-132 & Map 22) and the Old World except Australia (Nordenskiöld 1920; Lindblom xx); its distribution in the New World is limited to the Guiana region and it seems likely that these occurrences are due to borrowing from the former African slaves who are part of the rural population in this region (Anell 1955:12 ff.).

Figure 5. Sling, Kunama, Eritrea

Sling

The sling is found across the entire world in an extremely similar form (Lagercrantz 1950:214-225). It occurs almost everywhere in semi-arid Africa, Eurasia and the New World; only Australia is excluded. It is illustrated in a number of rock-paintings from Southern Africa (Figure 6), suggesting that it was part of the cultural repertoire of the San. A sling fragment found in Lovelock cave, Nevada on the partially mummified body of a 6-year-old male dating from about 272-792 BC was made from *Apocynum cannabinum*, Indian hemp (Heizer and Johnson 1952).



Bird-liming

A search on the web for bird-liming today brings out little historical material, but a great deal of modern concern for the persistence of this practice, especially in Cyprus. The use of the sap of various plants to capture birds by adhering it to branches where they normally perch is worldwide and clearly of considerable antiquity. *Cordia myxa*, used for bird liming, has been found at Ashkelon from the Islamic period. Probably the most comprehensive review of bird-liming is Lagercrantz (1950:92-96) who shows that bird-liming is known from all over Africa, from most parts of Prehistoric Europe and across Eurasia, all the way to Japan. There is no record of bird-liming in the New World.

Figure 6. San rock art: sling in use

4.5 Artistic and aesthetic

Artistic is here used in its widest sense to mean anything showing evidence of cultural or creative activity.

4.5.1 Iconographic

Painting and symbolism

It would be engaging if the worldwide distribution of rock-art proper could be traced back to expansion of early modern humans, but no paintings that survive are yet dated to that period. Nonetheless, recent evidence from Southern Africa (e.g. d'Errico *et al.* 2001), combined with European evidence, suggests that there was symbolic and, if you like, artistic, activity at that period. It seems extremely likely that early humans engaged in body painting. Indeed (Barham 1998) argues for evidence of pigment use in Central Zambia >300,000 BP, in other words, well before the accepted dates for modern humans and this fits with some evidence for haematite and manganese use by Neanderthals. It could be argued that this doesn't really prove anything; bower birds create pigments in order to paint their bowers.

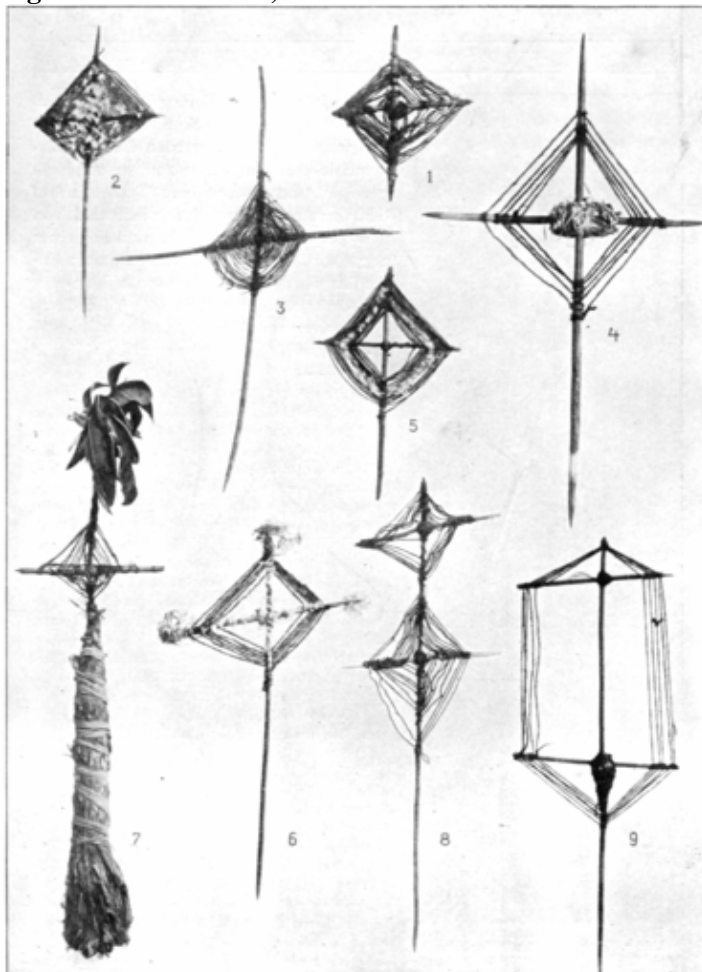
Nonetheless, what may well be distinctively human is colour symbolism, particularly the trilogy red, white and black, which surfaces across the world. Berlin & Kay's (1991) famous study of colour symbolism showed that these three colours are the most commonly named in a sample of all human languages, and indeed the majority of African languages only have basic⁴ words for these colours. Bolton (1978) studied the worldwide salience of these three colours. Red, white and black are the key colours used for body-painting and often underlie complex symbolic systems (e.g. Jacobson-Widding 1979 for the DRC, also additional references compiled by Maffi in Berlin & Kay 1991). It seems quite possible that *Homo erectus* and his kin were making use of pigments; but there is no evidence that they were organised into a complex symbolic system; this may have been the contribution of modern humans.

Figure 7. Fadenkreuz, Kavirondo, Uganda

Fadenkreuz (Wound thread squares)

The Germanic name given to this practice is indicative of its important role in German ethnological studies of a certain period. Typically, a wooden cross is wound with multicoloured threads or fibres to make an elaborate pattern. These *Fadenkreuz* are used both in all types of religious ceremony and for secular decorations. Foy (1913) was probably the first author to draw attention to them, describing their distribution and occurrence in Asia and Australia. Lindblom (1940) shows that they are found widely in both Africa

Figure 8. Fadenkreuz, Australia



(Figure 7) and South America, while Kauffmann (1960, 1968) studied the *Fadenkreuz* of South and East Asia in greater detail. There is every reason to think

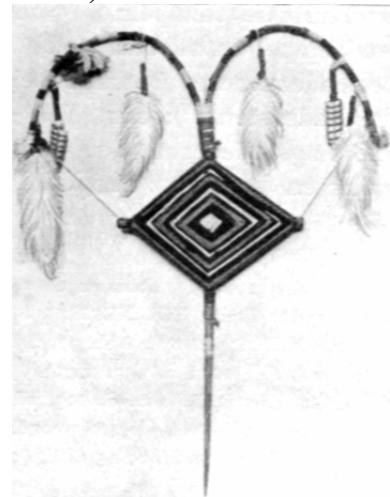
Figure 9. Fadenkreuz, Kachin, Burma



⁴ In modern times, African languages have developed more colour terms under the influence of global culture. However, these are almost always transparent loanwords or recent creations. Red, white and black lexemes almost

the thread cross might be a feature of the culture of early modern humans.

Figure 10. Fadenkreuz, Yuma, USA



Masquerading

A typical feature of African culture, masquerading is found throughout the world. Typically the masquerader is male, though women's masquerades occur in Africa. The mask may be a prominent feature but the figure is usually covered completely by some type of disguise. Quite often it speaks in a distorted voice or in a foreign language which must be interpreted. The figure may represent ancestors or spirits but is usually related to some form of social control.

4.5.2 Personal adornment

The discovery of bone awls or needles at Blombos (Henshilwood *et al.* 2001) suggest that the concept of sewing and presumably the making of clothes or bags was known to modern humans. Bone needles are common in rather later archaeological excavations and they have a worldwide distribution.

4.5.3 Musical instruments and sound-producers

Musical instruments and sound-producers were once a very popular focus of ethnology, given their distinctive nature and cultural accretions. One of the masterpieces of 1920s ethnology, Curt Sachs' *Geist und Werden der Musikinstrumente* (1929), represents a remarkable synthesis of the worldwide distribution of music instrument types and has yet to be superseded. Much of this section is drawn from Sachs' work, with occasional additions based on more recent discoveries.

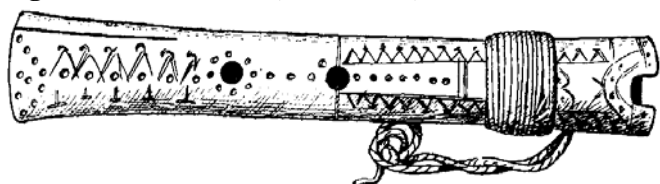
Notch-flute

Flutes are some of the very few musical instruments for which we have direct archaeological evidence; when made of bone they can be preserved for long periods and flutes dated to 40,000 BP have been excavated in Europe. Flutes made from long bones and whistles made from deer foot bones have been found at a number of sites. At Jiahu, in China, flutes with multiple fingerholes, apparently played in sets have been excavated and dated to ca. 9000 BP. Pottery flutes in the New World give us unambiguous evidence for their operating principles. Unfortunately there is no direct evidence for African flutes but ethnographic data is abundant. Interestingly, the bone flute is virtually unknown in Africa, although recorded elsewhere in the world, so perhaps this is an extra-African innovation. Of all the flute-types, only the notch-flute is found in every continent except Australia, which is broadly devoid of any musical instruments. The notch-flute is a simple vertical tube with a V-shaped cut in the embouchure, across which the player blows. The Peruvian *qena*, widely heard across the market-squares of Europe in recent times, but very much an ancient instrument in the Andes, is a well-known example, but notch-flutes are found throughout Africa and scattered across Eurasia.

Figure 11. Notch-flute, Nanai, Siberia



Figure 12. Notch-flute, Yurucare, South America



always have distinctive morphology, which is one indicator of their antiquity.

Struck long pole or plank

This instrument is definitely susceptible to the complaint that it may be subject to reinvention. Nonetheless, it has an appealing likeness in very different regions of the world that makes it a likely candidate. It is no more than a long log, either laid on the ground or hung from a frame, struck by numerous players, each with a pair of sticks. The players are often arranged in patterns, for example, alternately, or men on one side, women on the other. The players can either be seated and strike the log with sticks held horizontally, or they can stand and thump the pole with vertical sticks. Its distribution is given by Sachs (1929:15). It occurs in Africa, notably on the west coast of Central Africa, in Madagascar (Sachs 1938:1), in Sulawesi, Nias and the Philippines, among the Nivkh and Ulche in Siberia (Vertkov et al. 1975:229) and in North America among the Kwakiutl and other NW coast peoples. Possibly also related is the Basque *txalaparte*, although this consists of two planks rather than one.

Figure 13. Bird-bone flutes from Jiahu, China



Stamping tube, *Stosstrommel*, *Stampfrohr*

The stamping tube is a hollow tube, either of wood, or of some natural hollow material such as bamboo, which is struck against the ground, the body or an artificial hard surface such as a beam laid horizontally on the ground, and which produces a deep, pitched, thumping sound. Organologically, it is classified as an aerophone. Usually, they are played in sets with tubes of different lengths produced different pitches and in some cases, adept players can use several at once to create melodies. It is found over most of the world, with an African, Pacific, East Asian and South-Central American distribution (Sachs 1929:74-75; Lindblom 1945). Curiously, it is little used in North Eurasia (Laos and Korea represent its northernmost limits) and is absent from Australia. Izikowitz (1934:151-159) describes its New World distribution where it is confined to the Amazon and indeed to the Tupi-speaking peoples. The stamping tube's African distribution is confined to Madagascar and several coastal tribes in East Africa. It is therefore possible that it originated in China, spread to the Austronesian region and also inland in mainland East Asia. Yuan Bingchang & Mao Jizeng (1986: ill. facing p. 241) show Akha stamping tubes from Yunnan where women strike very large tubes of different lengths against a plank laid on the ground. In this case it would have been carried to Africa by the migrations the peopled Madagascar. The Amazonian occurrences would then have been a case of convergent evolution.

Figure 14. Struck log, Antaimoro, Madagascar



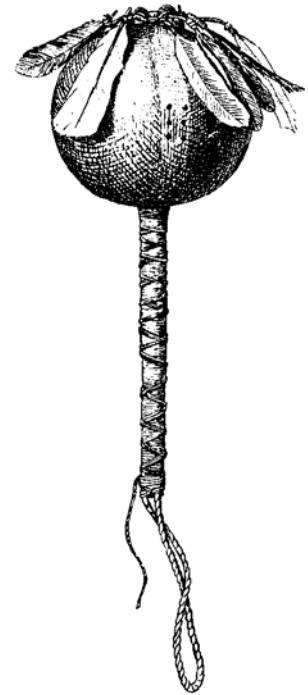
Figure 15. Nivkh struck log



Gourd rattle

The gourd rattle appears in popular music as the maracas and as such features prominently in the Rolling Stones' 'Street fighting Man', for example. Although it is usually made from the cultivated gourd today, there are plenty of wild fruits that when dried form a vessel that can be filled with rattling pellets and attached to a stick. Rattles made from sealed tortoise-shells such as are common in North America are probably only a transformation of this. Gourd rattles are found from Senegal to Tierra del Fuego and are very often associated with curing ceremonies, shamans etc. and may well be very early. Their occurrence in Eurasia is extremely tenuous and they are significantly absent in Europe, although there is evidence for the presence on Mediterranean islands. Sachs (1928:27-30) provides detail on their worldwide occurrence.

Figure 16. Gourd rattle, Tembe, South America



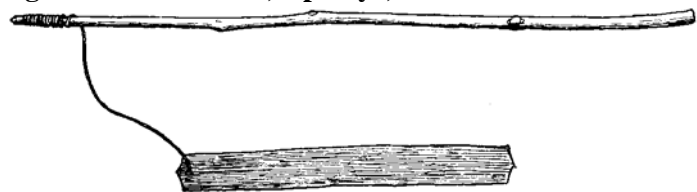
Bullroarer

The bullroarer, a rhomboidal piece of wood whirled around on the end of a cord and making a deep thrumming noise, the tone of which can be altered by changing the speed at which the bullroarer is swung or the length of the string. A bullroarer is often highly polished and decorated. A bullroarer might be up to a foot long and two to three inches wide. It is associated with ceremonies, men's secret societies and initiation ceremonies in every continent. A favourite of the German ethnologists, its worldwide distribution was studied by Sachs (1928:10-13) and Zerries (1942). It is also widespread as a childrens' toy and indeed it often becomes one when it vanishes from adult ceremonies. The bullroarer is one item of material culture for which we have archaeological evidence in a number of places, notably in ancient Europe. It has largely disappeared in Siberia, but one group, the Nenets, still retain it as a ritual instrument (Vertkov et al. 1975:229).

Figure 18. Bullroarer, Dordogne, 12000 BP?



Figure 17. Bullroarer, Apinaye, South America



Childrens' noise-makers

Childrens' toys and noise-makers, unregarded by many ethnographic museums often represent striking reservoirs of extremely ancient practices. Two are given as examples here, but further research would undoubtedly uncover many more.

Whizzing disc, *Schwirrscheibe*, *diable*

The whirling disc is a disc of wood, or gourd or in modern times a bottle-top, pierced by two holes and looped through with a string. When the string is twisted, the player pulls hard on the two ends of the string and the disc whizzes round. The energy generated allows the string to become twisted in the opposing sense and a skilled player can keep the disc whizzing for a few minutes. Some discs are intended to make a noise, others just produce patterns. Usually a children's toy it can also be an adult amusement. Whirling discs are recorded from every continent including Africa (see the Dogon *diable* in Griaule (1938:95) and Australia (Haagen 1994:79). Their distribution is given by Sachs (1928:13-14).

Figure 19. Whizzing-disc, Australia

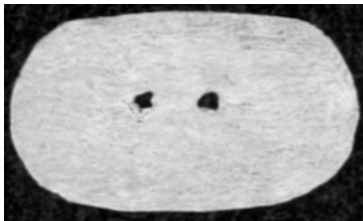


Figure 20. Whizzing disc, Canella, South America

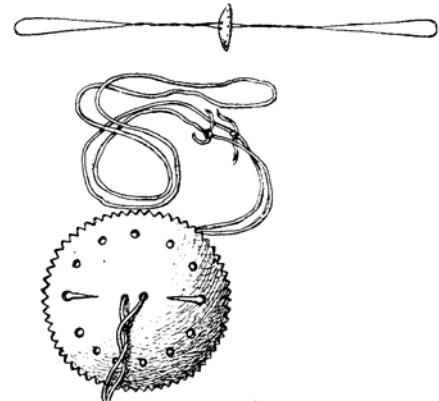
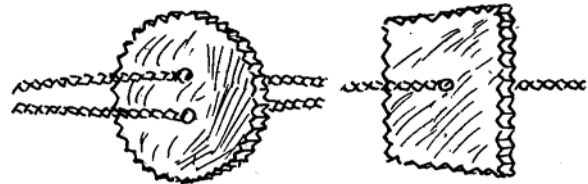


Figure 21. Whizzing discs, Dogon

'aeroplane', 'windmill', *tourniquet*

The 'aeroplane' is a cross of leaf or some similar semi-stiff vegetable material, pinned through the centre of the cross to a stick, and sufficiently loose to spin around. When a child holds the instrument in front of him and runs forward, the cross spins around through the action of the wind. Plastic versions of this instrument are still sold at fairs and in toyshops today, but they have been recorded virtually throughout the world. Griaule (1938:96) shows the Dogon version of the *tourniquet* in West Africa. Haagen (1994:92) describes the construction of the 'windmill' among aboriginal groups in Australia.

Figure 22. Dogon palm-leaf windmill



4.5.4 Games and puzzles

String and slat puzzle

This is a string puzzle involving a slat and a knotted piece of strong which passes through three holes in the slat. The puzzle is to remove the string without undoing the knot. The earliest known reference to string puzzles is in Jerome Cardans' *De Rerum Varietate* published in 1557. Kaudern (1927: 299 ff.) illustrates the form found in Sulawesi, but notes that identical puzzles are found in Africa, Europe and the Caribbean (Figure 23). Slocum & Botermans (1992:89) discuss the many puzzles which "deal with the problem of freeing (or attaching) a part of the puzzle, usually a ring or a handle."

Ring puzzle

A related strong puzzle is the slat and two loops puzzle, still widely sold commercially today. The rings or threaded balls are suspended from the slat and the object is to move them from one loop to another. Kaudern (1927:301 ff.) records the Sulawesi version of this but compares a similar puzzle from Kalimantan, from Yap, from the Itomana people in South America and from the Hehe in East Africa

Figure 24. Ring and loop puzzles

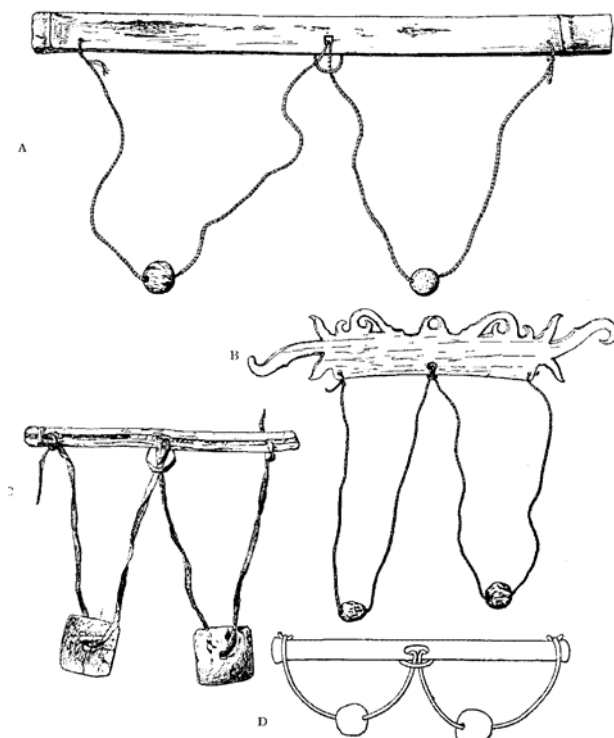
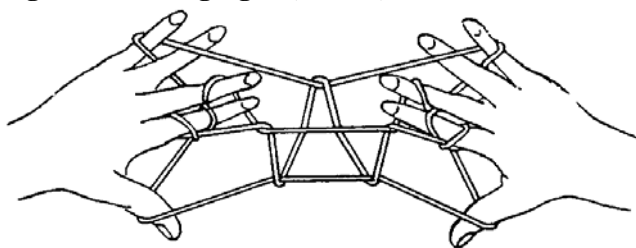


Fig. 81. Puzzles. A from Yap, Oceania; B from the Pniding Tribe, C. Borneo; C from the Itomana, S. America; D from the Hehe, E. Africa. (A Gothenburg Mus. No. 25.25.121, C id. No. 15.1.1265, B Oslo Mus. No. 31603 [957 coll. L.], D after DEMPWOLFF.)

Figure 25. String figure, Akim, Africa



world makes it difficult to attribute these to independent invention.

Figure 23. String and slat puzzles

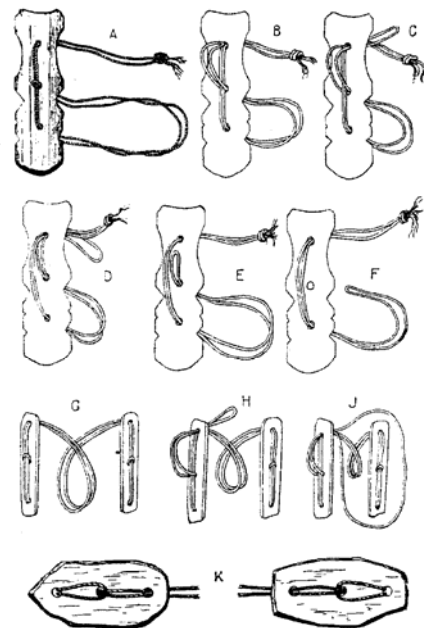


Fig. 79. Puzzles. A from Macassar, S. Celebes; G—J from Guiana, S. America; K from Warundi, Tanganyika, Africa. (A Dresden Mus. No. 5132, G after W. ROTH, K after WEULE.)

(Figure 24) (Dempwolff 19xx).

String figures

String figures ('cat's cradle') are the looping of a continuous strong between the two hands and the forming of patterns by unfolding the hands in different ways. Typically, there are numerous patterns with highly localised names. Lagercrantz (1950:269-274) reviews their distribution in Africa, where they are found almost throughout the continent but appear to be absent in the Kalahari and the Horn of Africa. They are found across Eurasia, into Australia and throughout the

New World. Haddon (1930) still represents the most comprehensive worldwide survey of string figures. Johnston Abraham (1988) is a recent worldwide overview and a valuable bibliography. He notes a cat's cradle, known as 'the mouse' or 'the yam thieves' which has been reported from every continent as well as the widespread 'Leashing of Lochiel's dogs' (op cit. p. 23). The complete formal similarities of strong figures in widely separated parts of the

4.6 Linguistic capabilities

4.6.1 General

It has never been and never could be proven that early humans had language, nor that any language-like activity they engaged in would be similar to any spoken in the world today. Nonetheless, to suppose the opposite, that language only evolved subsequent to the movement out of Africa and spread back in some following era involves many rather unlikely assumptions. It has been suggested by a number of writers (e.g. Allsworth-Jones 1993) that it was language that gave early modern *Homo sapiens* the advantage over the resident African hominids and ultimately drove the expansion ‘out of Africa’. More recently, finds of MSA engraved bone and ochre fragments c. 70,000 years old in Southern Africa (d’Errico et al. 2001) lead the authors to posit a ‘symbolic explosion’ and ‘behavioural ‘modernity’ in Africa ‘at a time far earlier than previously accepted’ (Henshilwood et al. 2001:631). More prosaically, modern humans developed a sophisticated language of interpersonal communication which gave them striking advantages in relation to the hominids for whose niches they competed.

In a way, this is much less a surprise to linguists than it appears to be to archaeologists. Linguists have long noted that the languages of the world share many ‘universal’ features, suggesting they evolved and developed from a single event rather than developing piecemeal in different regions of the world. There are no convincing proofs of ‘primitive’ languages, despite the frequency with which the phrase is used. Indeed, the languages of hunter-gatherers are often distinguished by their complexity compared with more developed societies, suggesting that language evolved once and spread from a nucleus. As Tylor (1871:216) observed;

The language by which a nation with highly developed art and knowledge and sentiment must express its thoughts on these subjects, is no apt machine devised for such special work, but an old barbaric engine added to and altered, patched and tinkered into some sort of capability.

More controversial, but attractive to many linguists who engage in long-range comparison are the possibilities of world-wide roots, words that seem to be found in different language phyla across the world. Phonaesthetic lexemes such as *baba* for ‘father’ and *mama* for ‘mother’ are well-known, but more surprising are widespread roots such as *ka* for ‘crab’, *kur* for tortoise/turtle or *koro* for ‘round’ (e.g. Blench 1997). Some writers have considered it is possible to reconstruct a ‘proto-World’⁵ (Ruhlen 1994), but most linguists think that this unlikely, that languages diversify at such a rate as to make the evidence unusable. However, the possibility that world-wide roots exist, combined with some linguistic universals may at least allow us to reconstruct some features of this lost language.

There is another way of approaching early human speech, through language isolates in Africa. If early modern humans indeed originated in Eastern and Southern Africa, then there may be some connection between the Khoisan language still spoken there and this early speech. Regrettably, the grim history of European impacts in the region has caused the untimely disappearance of many Khoisan languages, and many others are threatened. Most Khoisan languages are too closely related to be reliable witnesses (Güldemann & Voßen 2000), but the isolates, so remote from any other language for the relationship to now be invisible, may indeed reflect these early speech-forms. Key languages in this respect are Kwadi (formerly in Southern Angola) and ǀHõã in Botswana (Güldemann & Voßen 2000), Hadza and Sandawe (Sands 1998) both in Tanzania. It is possible that the features of these languages actually do reflect some aspects of the speech of early modern humans.

⁵ Ruhlen (1994:101 ff.) proposes *aq’wa* ‘water’, *tik* ‘finger, one’, *pal* ‘two’.

4.6.2 Structural features

Apart from these generic aspects, language has some rather more specific features that point to a common origin.

Sound-symbolism

Sound-symbolism is the development of an iconic relationship between certain sounds and the meaning of lexical items (cf. Hinton et al. 1994). At its simplest, this is onomatopoeia; basing the name of something on the noise it makes, such as the cuckoo. It is striking that this was recognised as a language universal ('emotive and imitative language') as far back as Tylor (1871: 145 ff.). However, sound-symbolic words or segments (phonaesthemes) are found widely across the world, particularly in wholly oral speech-communities and moreover appear to have certain regularities. Tylor (1871: 200) pointed out a marked cross-language tendency to associate vowel-raising or lowering with distance from the speaker. Berlin (1992) reports a tendency to associate sequences of consonants with particular meanings. Ciccotosto (1991) explored a worldwide link between specific syllable sequences and meanings, especially in relation to basic body parts. Berlin (1994) noted an association between specific syllable structures and words for 'frog' in Amerindian languages.

Gender-marking

Whether languages mark gender seems to be highly variable; most Indo-European languages do mark gender and the system of concord reflects this. Despite this, gender-marking has almost disappeared in English. Languages in the world's largest phylum, Niger-Congo, do not usually mark gender; nonetheless, for most language phyla in the world it plays a significant part in the morphology of the language. In particular, it is omnipresent in the 'click' languages of Africa and it is likely that it was a feature of the language of early modern humans.

4.6.3 Tabooing names of dead and of those in certain relationships to the speaker

The existence of 'mother-in-law' and other tabooing languages in Australia has been well-documented. Typically, speakers must avoid normal speech-forms in speaking to their mother-in-law and must use a range of substitute forms. In other cases, speakers must avoid the use of words that resemble the sound of a dead person's name either borrowing from neighbouring languages or using complex periphrases. This is common in Australia, and known throughout much of island SE Asia. It is practised in the Andamans and among the Nagas in Assam. It has been less reported from Africa, but it is found in some remote areas of Nigeria (Kleinwillinghöfer 1995) in a form identical to that reported for Australia. The specificity of this practice is such that it seems difficult to imagine its independent evolution.

5. What is worldwide except Africa?

5.1 General

As suggested in §3.2, analysis of worldwide cultural distributions indicate a relatively small number of major bottlenecks; one of the most notable of these is the apparent barrier between Africa and the remainder of the world. Although, notably since the era of the international marine trade and the evolution of cross-desert caravans, there has been a significant flow into Africa, in the early period considered in this paper few external inventions made their way back. It is notable, for example, that the wheel and the plough, although long-known north of the Sahara, never diffused across the desert and only spread in Africa in the post-colonial era. By way of illustration, therefore this paper considers a number of cultural

traits of near worldwide distribution (Australia appears also to be an exception here) that are unknown in Africa.

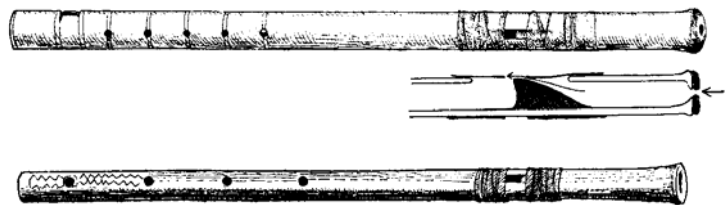
5.2 Shamanism

Shamanism is a much abused concept in our times, as New Age ideas have adopted it for a variety of purposes. Nonetheless, the traditional concept of shamanism is composed of a number of very distinctive elements; the use of a frame-drum or gourd-rattle to induce trances, the use of hallucinogenic drugs, the vision-quest of the shaman, the emphasis on curing. Shamanism has been described in a number of popular and scholarly texts such as Eliade (19xx) and Vitebsky (199x). It is omnipresent in the Americas, found all across northern Eurasia and spreads down into the islands of SE Asia. It does not seem to occur in Papua, which is perhaps why it is wholly absent from Australia. Shamanism is wholly absent from Africa, although ecstatic dance-performances such as the Hausa *boorii*, which probably derive from North Africa, contain some elements of the performance.

5.3 Duct-flutes

The duct-flute is a flute operating on the principle of a recorder, the air is directed across a fipple by a fixed mouthpiece. Such flutes are known across Eurasia from England to Siberia, and are widespread in the New World (Izickowitz 1934:331-356), but failed to cross to Australia and are unknown in Africa (Sachs 1929: 118).

Figure 26. Duct-flutes, South America



5.4 Spear-thrower, *atlatl*

The spear-thrower is a relatively simple device used to increase the power of a spear-thrust. It is found almost world-wide except for Africa. The specialised bibliography attached to this paper illustrates the major concentrations of scholarship on spear-throwers. They were widespread in Paleolithic Europe, in Australia and the New World. They seem to have been unknown in southern Eurasia in historic times, and remarkably seem to be lost in the Pacific, despite their importance in Australia.

5.5 Bow-string puzzle

Kaudern (1927: 298 ff.) illustrates a puzzle (Figure 27) that involves a small bow, a string and two slats from central Sulawesi and notes that a similar device occurs in Kalimantan. A puzzle of identical design is illustrated from Guiana, collected by Roth. These are probably interconnected, but too few authors have illustrated this type of puzzle to be sure.

6. Summary and conclusions

6.1 Summary table

Table 1 synthesises the worldwide distribution of culture traits as discussed in this paper. A dash indicates that the literature has been reviewed and there is some evidence for the absence of a particular trait. A blank in the column indicates that the information presently available is inadequate to make a definitive judgment.

Figure 27. Bow-string puzzles from Sulawesi and Guiana

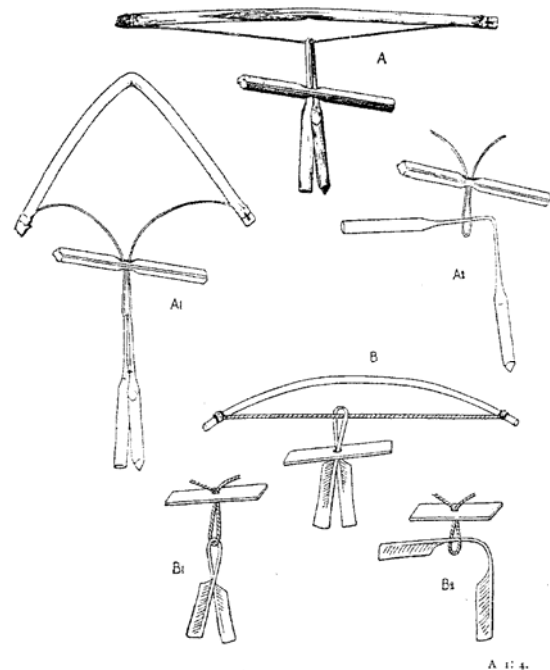


Fig. 77. *Bow-string Puzzles*. A from Tamoengkoelowi, NW. Central Celebes; B from Guiana, S. America. (A KAUDERN coll. No. 2334. B after W. ROTH.)

Table 1. Worldwide distribution of culture traits

Items	Africa	Eurasia	Australia	New World
Body alteration				
Cranial deformation	+	+	+	+
Trepanning	?	+	+	+
Dental evulsion	+	+	?	+
Dental mutilation	+	+	+	+
Social organisation				
Clans, patrilineages etc.	+	+	+	+
Initiation ceremonies for males	+	+	+	+
Menstruation taboo	+	+	+	+
Cannibalism	+	+	+	+
Technology				
Throwing Spear	+	+	+	+
Plunge-basket	+	+	—	+
Sling	+	+	—	+
Bird-liming	+	+	—	—
Artistic				
Iconographic				
Red white and black, painting and symbolism	+	+	+	+
<i>Fadenkreuz</i> (Wound thread squares)	+	+	+	+
Masquerading	+	+	+	+
Personal adornment				
Clothes and needles	+	+	+	+
Musical instruments and sound-producers				
Notch-flute	+	+	—	+
Struck long pole	+	+	—	+
Stamping tube	+	+	—	+

Items	Africa	Eurasia	Australia	New World
Gourd rattle	+	+	—	+
Bullroarer	+	+	+	+
Childrens' noisemakers				
whirling disc, <i>Schwirrscheibe</i>	+	+	+	+
'aeroplane'	+	+	+	+
Games				
String and slat puzzle	+	+		+
Ring puzzle	+	+		+
String figures	+	+		+
Linguistic				
Language	+	+	+	+
World-wide roots	+	+	+	+
Sound-symbolism	+	+	+	+
Gender-marking	+	+	+	+
Taboo speech in relation to the dead	+	+	+	—
Extra-African				
Shamanism	-	+	—	+
Duct-flutes	-	+	—	+
Spear-thrower, <i>atlatl</i>	-	+	+	+
Fish-hooks	-	+	+	+
Bow-string puzzle	-	+		+

6.2 Conclusions

The present paper summarises the evidence for the distribution of cultural traits that may be associated with the first wave of expansion of modern humans out of Africa. It argues that the distribution of these elements is consistent with their being carried by initial demographic movement rather than by subsequent diffusion and suggests that explanations with recourse to independent invention have a low index of probability. This involves attributing much higher levels of cultural development to early modern humans than can be supported from archaeological data alone, although recent finds have made the possession of a complex culture more credible.

One of the unanswerable questions is the extent to which some of the elements under discussion here may have been already in the possession of the hominids which the expanding *sapiens* populations encountered. This is highly controversial, partly because of the ambiguous nature of much of the evidence. For example, if it is indeed the case that Neanderthals were already practising cranial deformation, then modern humans may have adopted this attractive practice from them. Cannibalism may well precede modern humans, but whether this was a ritual activity as opposed merely to subsistence is unlikely to be established. Hominids clearly had spears, but their variety and throwing techniques are hard to guess. If Barham (1998) is correct, body-painting and symbolic use of colour may have been under way long before the advent of modern humans; how much did they learn from the encounter?

6.3 Next steps

Evidently, this is a highly preliminary survey and needs to be enriched by more survey data, more detailed distributional maps and a more elaborate analysis of the interaction between the possible cultural activities of pre-modern hominids and modern humans. It will clearly give offence to the anthropological establishment, as resurrecting a ghost that was apparently slain long ago; but comparative anthropology probably has more lives than a Hollywood slasher movie, it is too tempting to leave alone. To the strict archaeologist too, it will be difficult to encompass, going far beyond the types of evidence that are usually admissible. Nonetheless, the ethnologists raised many questions that deserve to be answered, even if their

own answers betray the preconceptions of their period rather clearly. In the absence of any real evidence for the antiquity and dispersal of human culture they were confined to guesswork and the results were finally not all that useful. Recent research has created the potential to marry two very different stories in an enriched account of the evolution of human culture.

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