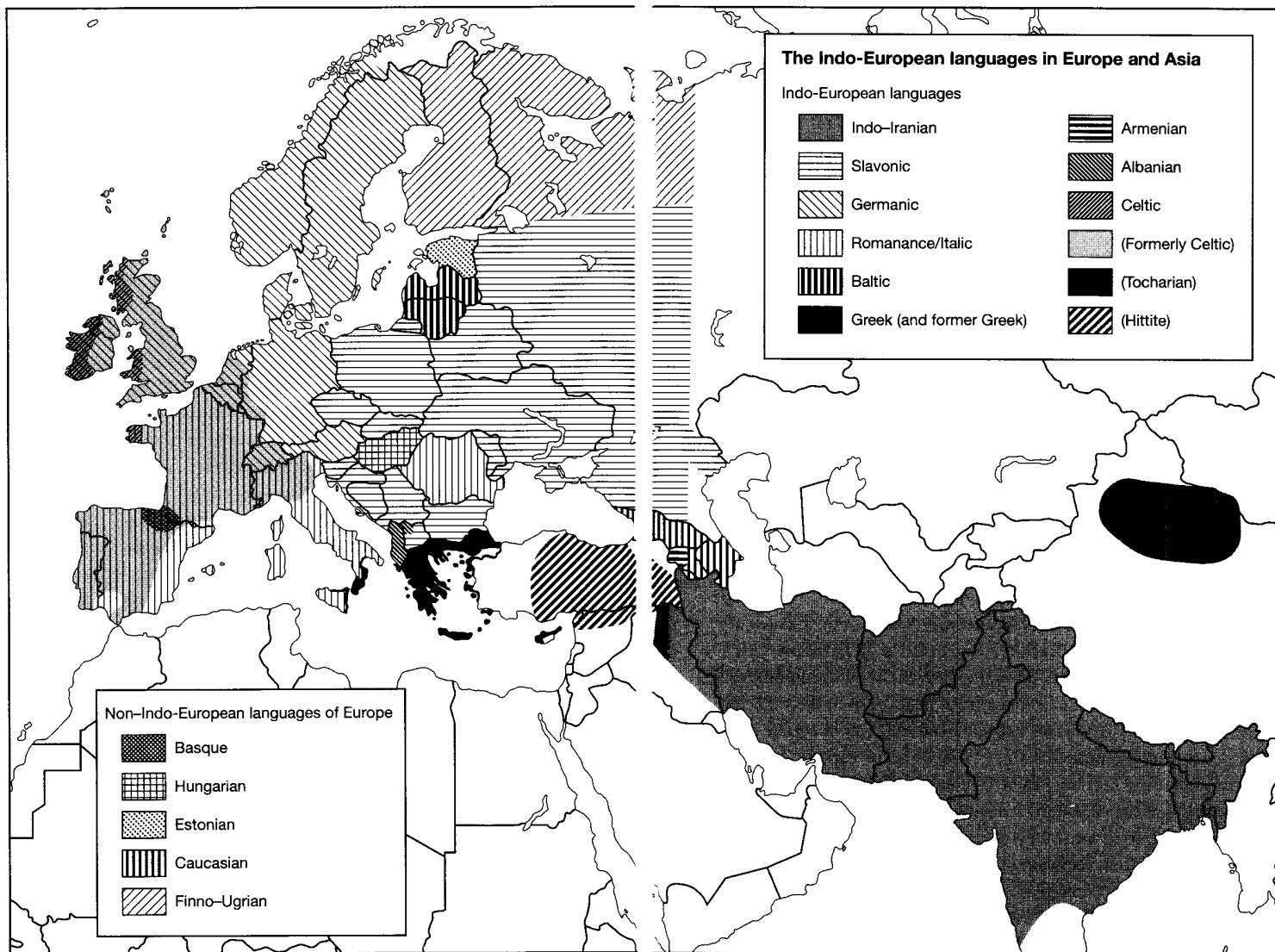


The evidence for the history of languages becomes relevant here, primarily through the work of Colin Renfrew. In 1796, Sir William Jones, chief justice of India and founder of the Royal Asiatic Society, presented a famous discourse on Indian culture in which he pointed out the similarities between the ancient language of India, Sanskrit, and numerous other languages, such as Persian, Greek, Latin, the Germanic, and Celtic languages, found across Europe and Asia.

The word for fire, for instance, is *agnis* in Sanskrit and *ignis* in Latin, from which English takes the word 'ignite'. All the languages of Europe (with a few exceptions, such as Basque, Hungarian, Estonian, and Finnish), some Asian languages, such as Armenian, Persian, and a large number of Indian languages, have been grouped together and termed 'Indo-European' languages. Jones sought an origin for these languages in the diaspora thought to have happened after Noah's ark had landed, which is not an origin many would accept today. However, a great deal of effort has gone into reconstructing an Indo-European proto-language on the basis of similarities in the forms of words known today and systematic changes in their word form over time. The surprising, but undeniable, basis of historical linguistics is the fact that there are systematic sound changes between one language and another, for instance *ph* in Greek regularly becomes *b* in Germanic languages – thus the Greek *phrater*, 'clan member', becomes English *brother*. Systematic changes allow connections to be made and histories to be reconstructed.

In the 1980s, almost 200 years after William Jones, Renfrew became interested in whether the origins of the Indo-Europeans could be linked to changes in the archaeological evidence. Indeed, Renfrew looked forward to a 'grand synthesis' of archaeology, historical linguistics, and genetics. In considering the distribution of Indo-European languages he felt that there was only one episode or process over the last few thousand years that could be



12. The distribution of Indo-European languages

responsible for such a widespread distribution of related languages and that was the spread of farming and farmers. He and others subsequently broadened the farming-origins hypothesis to account for the origins and spread of other broadly distributed language groups, chief amongst which were the Niger–Congo group of western, central and southern Africa thought to have been carried from west Africa by the migration of Bantu agriculturalists and the Austronesian languages found throughout south-east Asia (with an outlier in Madagascar), the coastal languages of Papua New Guinea and the Solomons and out into the Pacific as far as Hawai'i, Easter Island, and New Zealand, thought to be spread by farmers originally from Taiwan.

The theory that language spread through farming was only one among several competing hypotheses. It was formulated in advance of much evidence from modern molecular genetics and led to the prediction that early farmers expanding across the various continents would leave a clear genetic signal. The genetic results have not provided much evidence of Neolithic migration and Renfrew himself has been one of the first to acknowledge this fact. The overwhelming continuity of populations from the Palaeolithic in Europe necessitates new models of linguistic origin and spread, unconnected with farming. The populations of Europe may long pre-date the advent of farming, as shown by the lack of genetic input in the last 10,000 years, but also do not show continuity all the way back to the first advent of modern humans at around 40,000 bc. The expansion of people out of their glacial refuges around 15,000 years ago gives the majority of people in Europe a similar length of history to those in the Americas who colonized for the first time then. The same expansions may have happened in Asia, although our evidence is not yet good enough. And there are arguments for Australia that people were driven into refuges by the expansion of the deserts, to re-emerge from 15,000 years ago, although again present evidence is sparse. Contractions and then expansions of populations of people with the last glacial cycle might also have occurred in Africa. If such

expansions occurred (and it is still a big if), on all continents, the populations trace their ancestry back to the end of the last Ice Age. Although there have been more recent population movements, these have been surprisingly local and minor, prior to the last 500 years.

Is it possible that the distribution of Indo-European languages first occurred in the late Palaeolithic when there are widespread similarities in material culture across wide areas of Eurasia, to be reinforced and to some extent reordered by later contacts? This is a proposal that would make sense of the genetics, not conflict with archaeological evidence, but find little support amongst linguists (partly because anything occurring so long ago is beyond the range of historical reconstruction). But it must be said that no proposal so far has pleased a majority in all three disciplines. Similarly, in the Austronesian area, indications from genetics don't show evidence of a homeland in Taiwan, the proximate origin of farming groups, but in eastern Indonesia, where there is no particular evidence of origins of farming. The links between language, genetics, and archaeology look anything but clear-cut and the hypothesis of farming spreads is not bearing up well, even in Africa where the Bantu migrations are not accepted by some archaeologists and the genetic evidence is not well understood, but obviously very complicated. The Australian languages are not related to any outside the continent (the only possible exception being those of the Highlands of New Guinea), indicating some ancient divergence between them and all other language families. The languages of the Americas are still surprisingly controversial. Na-Dene languages of North America form a tight group, presumably due to recent origins, but many of the languages of the rest of the continent are lumped, rather than grouped in any typological sense, and their unity is very dubious.

Prehistory has no words to offer us directly, but language is not totally beyond the scope of historical reconstruction based on the distribution of similarities and differences between recent

languages. The same process of inference, moving from the distribution of modern traits to deeper histories, is found in genetics, where the recovery and analysis of DNA from ancient skeletons is still fraught with all sorts of difficulties. The analysis of modern genetic traits is producing a picture from all the continents of stable and ancient populations with marked continuities through to the present. The major proviso here is the massive replacement of indigenous populations by Europeans in places like North America, Australia, and New Zealand. Populations were well established in all continents by the late Pleistocene and have remained mainly stable since then, with relatively few incomers prior to the last 500 years. Genes best demonstrate long-term continuities, supported by archaeological evidence. The historical situation for languages is still debated. However, the general evidence for continuity over the last 15,000 years provides the basis for positing differences in the prehistory for each of the continents.

Throughout the world the expansion of people due to the start of farming has not received strong support from genetics or archaeology, making us turn to longer term histories. It has also contributed to an on-going re-think about the nature and start of farming itself.

Commensualism

Commensualism denotes a process of living together in mutual support and dependency. Modern human life involves close relations with particular plants, animals and material things. We depend in Europe on cereals, cows and sheep for food, but in their domesticated forms they depend on us for propagation, nurture and survival. Such mutual links often developed gradually, rather than being invented suddenly. The use of particular animals or plants as foods encourages special forms of material culture for cooking and consumption, so that long relations with other species may encourage special sets of tools for conviviality in the form of pots, stone tools, ovens or houses. Living together with plants or

animals involves the creation of new landscapes each with their own patterns of fields and woods, or deserts and wadis, or rainforests with clearings. Commensualism is a process whereby people create worlds for themselves with special structures of community, landscapes and artefacts, as well as their own forms of histories. Local landscapes can be created through local developments, but much has also moved and diffused between populations over the last 10,000 years.

In various continents people share linked histories of mutual dependency with plant and animal species. Cattle and sheep herds were vulnerable to predation and disease without human skill and care; domesticated cereals find it hard to penetrate the ground surface and cannot seed without human help; apples, beans, or carrots only propagate with difficulty on their own. Dense human populations needed these species to maintain themselves. Less obvious but equally important were the close commensuals, such as rats, birds, insects, and intestinal worms which lived in houses, fields, and the human body and whose histories became completely entangled with humans. Commensualism also exists as forms of power between women and men, adults and children, the spirit and the human worlds, and those central to the group and those on its edge. Last, but most important, commensualism is about aesthetics and emotions, the sensual operations of the body which attach values to things and to people forming the bedrock of shared belief. It goes without saying that life was not identical in all areas of all continents, but each continent had its own special range of variations of commensualism, its own band-width of responses.

As Jared Diamond has pointed out, it is easier to form links across the same latitude due to similarities in vegetation, temperature, day-length, and seasonality than it is north-south across the grain of a landmass. The steppe regions from the Ukraine to northern China have more similarities with each other in a physical sense than they do with the forested regions to the north or the deserts to their south and this may have promoted travel, contact, and the



























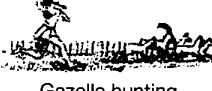
movement of plants, animals, and trade products along the grain of the continent – the Silk Route through the deserts, with its Bronze Age origins, is the most famous example of such a set of connections. Eurasia has seen complex transfers of technology and resources over the last millennia, making it impossible to divide Europe from Asia. On all continents introductions from elsewhere are important, but new crops or items of material culture were only accepted if they found a place within older schemes of life.

An important element holding people together is food. There was an important shift in emphasis during the 20th century in thoughts about food, a movement from an emphasis on production to that on consumption. Gordon Childe thought that there were three big revolutions in human history – the Neolithic, the Urban, and the Industrial – and both life in towns, first occurring 3500 BC, and recent industrialization were eventual outcomes of the adoption of farming, which was thus the crucial moment. The Neolithic was revolutionary for Childe because the adoption of domesticated plants and animals provided a greater security in food supplies, allowing for control over the environment, rather than life as a hunter-gatherer at its mercy. The production of a secure food supply allowed people to settle down and a sedentary life provided the need and the leisure to produce more varied and sophisticated material culture, such as pottery, textiles, ground stone, and houses, with later experiments in metal technology. ‘The escape from the impasse of savagery was an economic and scientific revolution that made the participants active partners with nature instead of parasites upon nature’ (Childe 1942: 48). Farmers not only altered nature through domestication of plants and animals, but also ‘created new substances which do not occur ready-made in nature’ (Childe 1942: 49). Pottery, wool, and flax were concrete manifestations of a more rational appreciation of nature and its properties. A further innovation of Childe’s thought was to bring in a gendered aspect. ‘All the foregoing inventions [various agricultural techniques, brewing, etc.] were, judged by ethnographic evidence, the work of women. To that sex, too,

may by the same token be credited the chemistry of pot-making, the physics of spinning, the mechanics of the loom and the botany of flax and cotton' (Childe 1942: 59). The Neolithic revolution could not have been more profound, altering people's relationships with nature and with each other. All the innovations Childe highlighted concerned production, containing the assumption that the advantages of his various inventions were so self-evident that they would be immediately adopted.

We can now see that moves towards farming were often not sudden, nor did they represent a complete break with prior ways of life. Let us take an extended look at one site from the Near East, the area which for Childe was the cradle of much of Eurasian farming. The earliest plant and animal domestication took place in western Asia, the area from eastern Turkey to the Levant. In northern Syria on the middle Euphrates is a large lake behind a dam. Beneath the waters of the lake lies a site known as Abu Hureyra, excavated in the 1970s prior to the construction of the dam. The inhabitants of the site would have had access to a great range of foodstuff and raw materials, including plants and animals from the wet valley of the Euphrates and a nearby wadi, those of the forest steppe, and slightly further away from the open-park woodland of the hills. There are two superimposed settlements at Abu Hureyra; one in which people supplemented hunting and gathering with growing crops and a second where crops and domesticated animals became more important. The site was first occupied 11,500 years ago by people who hunted gazelle.

Each spring herds of Persian gazelle moved north from their wintering grounds in southern Syria, through the El Kum pass, and on to the Euphrates. Abu Hureyra was sited just where they turned west to fan out across the steppe and the coming of the gazelle would have been the vital point in the inhabitants' lives for almost 3,000 years.

Years BP	Period	The Village	Economy		
7,000	2C	 7 ha mudbrick houses	 Cereal and pulse agriculture	 Sheep, goat, cattle and pig husbandry	 Sheep, goat, cattle and pig husbandry
8,000	2B	 16 ha mudbrick houses	 Cereal and pulse agriculture	 Sheep, goat, cattle and pig husbandry	 Sheep, goat, cattle and pig husbandry
9,000	2A	 8 ha mudbrick houses	 Cereal and pulse agriculture	 Sheep and goat husbandry	 Gazelle hunting
Intermediate period		 Timber and reed huts	 Cereal and pulse agriculture	 Reduced plant gathering	 Gazelle hunting
10,000	1C	 Timber and reed huts	 Cultivation	 Plant gathering	 Gazelle hunting
	1B	 Timber and reed huts	 Cultivation	 Plant gathering	 Gazelle hunting
11,000	1A	 Pit dwellings		 Plant gathering	 Gazelle hunting
11,500					

13. The chronology and activities at Abu Hureyra

The inhabitants of the site lived in timber and reed huts, and made flint and bone tools and grinding stones and pestles for wild plant processing. From around 11,000 years ago, a period when the warm conditions of the late glacial gave way to a colder, wetter climate, people started to grow domestic rye and possibly other cereals; the increase in weed seeds associated with cultivation are a good indirect indicator of field cultivation. Between 11,500 and 9,000 years ago people's lives probably had a strong seasonal round. In April the coming of the gazelle herds would have meant an intensive period of slaughter, butchery, and possible salting or storage of some of the meat. This was also a time when many wild grasses needed to be gathered and by June the domestic rye needed harvesting. The onset of high summer between July and November meant there were millet and club-rush seeds to be gathered in the valley bottom and grasses, roots and tubers on the steppe, along with more casual hunting of deer and pigs. There is some evidence that more women than men processed plant foods, as wear on the bones of the back and the feet indicated heavy grinding in a kneeling position; some men also took part in this work. Between December and April roots and tubers were gathered and some hunting took place.

The gradual introduction of domesticated plants and animals added to this cycle rather than supplanted it. The soil would have been prepared and the crop planted during the summer; weeding and general care of the crop took place through the winter, with harvest and processing in the spring. By 10,000 years ago there were perhaps 300 people living on the site, making this a settlement of a new type. There are continuities through this early period in the flint and bone tools used, showing some stability in the daily round. Hearth placement within huts also stayed the same, so that generation after generation orientated themselves around their fire in a similar manner. It is clear that large-scale sedentism preceded agriculture and that agriculture did not come as a sudden invention, but as a series of additions that fitted into and extended a prior pattern of life. The structure of the year provided the pattern

for growing and harvesting crops, like rye. Those crops produced seeds which could be made into the same sorts of porridges and breads that wild seeds were used for, so that continuity of tasks and of consumption eased the passage of novelty into existing ways of life. People, animals, and plants grew together over many generations, the habits and needs of each becoming apparent to the others.

Nevertheless, Abu Hureyra is a site of revolutionary type, due to its size and permanency, one of a very small number of large village sites found in the late glacial in south-west Asia (or anywhere in the world). Living together in large numbers would have confronted people with new social problems. Mobile hunter-gatherers living at low densities can cope with conflict and difficulty through dispersal: they can walk away from an argument. Several hundred people living in close dependency cannot do this. Ian Hodder sees the main thing that was domesticated in the Neolithic as not plants and animals, but society itself. Hodder feels that if there was a revolution associated with the Neolithic it was a revolution in symbolism, with house forms, stone carving, burial, pottery (when this arises) all carrying complex forms of decoration and meaning that were quite new and were aimed at helping cope with tensions between men and women. Settling down gave gender relations a new form and birth and death new values as entry into and exit from the community (we have little evidence of the former, but considerable evidence from burial). We thus suspect that the inhabitants had a complex ritual cycle, part annual and part dictated by unpredictable events like death, which we can see in the symbolism given to objects, the position of hearths, and burial.

Abu Hureyra I provided a centre of life in the form of a large village, made up of houses with their own individual centres on the hearth. From these new concentrations of people relationships spread out first to the surrounding landscape and then further afield, as indicated by the movement of seashells, obsidian, and other exotic materials. Amazing though this was, the settlement constructed

after 9400 BP was quite different again. Houses were now constructed in mudbrick, with little space between them and on a layout, alignment, and form of construction that lasted for around 2,000 years. If a house was replaced every fifty years, this allows for some 400 replacements of houses in the life of the settlement. The settlement was now huge, covering some 16 hectares between 8300 and 7300 BP, housing between 5,000 and 6,000 people and requiring between 1,000 and 2,500 hectares of fields. There were now five domesticated cereals (rye, emmer, einkorn and bread wheat, two- and six-hulled barley) and lentils, peas, and vetches, with field beans and chickpeas coming in after 7300 BP. Beneath the floors of the houses were human burials, with women more numerous in burials than men. As in many sites of this age, emphasis was placed on the skull, which was often removed from the body and sometimes wrapped. Indeed, there is considerable evidence that burial was a final phase in an elaborate treatment of the body after death. Grave goods were often provided, including animal bones, bone beads, and obsidian, and such goods show no clear differences in gender. Around 7000 BP pottery was introduced, which probably caused profound changes in the way in which food was prepared and served, as well as providing a very plastic medium for symbolism, through vessel shape and painting. House walls and floors were also painted, an activity which may have occurred regularly. Figurines of clay and stone were found in the shape of animals, as are common throughout south-west Asia.

The huge mudbrick village at Abu Hureyra is one of a large number of such primary Neolithic communities found eventually from south-eastern Europe across to central Asia. Each of these shares general common elements of architecture, pots, crops, and stone tools, but each region too has its own special ways of putting together the elements. I have excavated a small early Neolithic village in present-day Turkmenistan, at the base of the Iranian plateau and on the edge of the Kara Kum desert which stretches 1,000 km to the north. Here was a small settlement of 20 to 30 houses in contemporary occupation, with beautiful painted pottery,

an emphasis on einkorn as a crop, plus sheep and goat, but without any evidence of human burials. It is possible that, although the architecture of the site was permanent, the people on it were not, moving backwards and forwards between the lowland and the mountains, building and rebuilding their houses on a regular basis, so that the site built up rapidly with dates from the lowest and the highest houses indistinguishable at around 7,000 years ago. The large Turkish site of Çatal Höyük, excavated currently by Ian Hodder and his team, is enormous in size, shows many of the elements of continuity found at Abu Hureyra, but has even more marked forms of symbolism in house decorations, artefacts, and burials. People established common cultures across Europe and Asia, but used commonalities in locally specific ways, responding to the needs and aspirations that they developed through new links between people, animals, plants, and the material world.

The old view of farming stressed invention. Now issues of adoption are crucial. Any novelty has to accord with cultural norms before it will be accepted and in many cases adoption will mean that artefacts and species are changed in form or use to accord with existing practices. People, plants, and animals grew up together in various ways; not invention so much as cohabitation in a situation of changing need. Jared Diamond has estimated that there are some 148 species of herbivores and omnivores worldwide that weigh 45 kg or more. Only 14 of these species have been domesticated, leading us to wonder about the other 134 species. Even more surprising is that of the 200,000 higher plant species throughout the world; only some 100 have been domesticated and used to any extent. Despite recent massive research programmes spurred by modern agro-business, almost no extra species have been added to early rosters of food animals and plants. The vast majority of what we eat was domesticated in prehistory.

Diamond takes a functionalist view of domestication, which emphasizes food production. Zebras are nasty creatures, grizzly

Area	Domesticated		Earliest Attested Date of Domestication
	Plants	Animals	
Independent Origins of Domestication			
1. Southwest Asia	wheat, pea, olive	sheep, goat	8500 BC
2. China	rice, millet	pig, silkworm	by 7500 BC
3. Mesoamerica	corn, beans, squash	turkey	by 3500 BC
4. Andes and Amazonia	potato, manioc	llama, guinea pig	by 3500 BC
5. Eastern United States	sunflower, goosefoot	none	2500 BC
?6. Sahel	sorghum, African rice	guinea fowl	by 5000 BC
?7. Tropical West Africa	African yams, oil palm	none	by 3000 BC
?8. Ethiopia	coffee, teff	none	?
?9. New Guinea	sugar cane, banana	none	7000 BC?
Local Domestication Following Arrival of Founder Crops from Elsewhere			
10. Western Europe	poppy, oat	none	6000–3500 BC
11. Indus Valley	sesame, eggplant	humped cattle	7000 BC
12. Egypt	sycamore fig, chufa	donkey, cat	6000 BC

14. Some of the major domesticated species in each area of the world

bears too big and violent, and elephants breed too slowly, so that none of these are tractable or productive sources of food. These factors do play some part, as does the abundance of herd animals in Africa, which reduced the need to domesticate. However, relationships between people and plants and animals are partnerships and should be looked at in the round, not just on the basis of the characteristics of the non-human elements. Human marriages occasionally fail through the fault of one party, but this is pretty rare, and more generally both partners have a hand in either success or failure. Growing together over millennia has been the story of plants, animals, and humans in each continent.

Domestication is a useful term as it can catch the mutuality of this process. Domestication usually refers to the physical and behavioural alterations brought about by people in plant and animal species to make them more productive sources of food and more tractable to keep or easy to grow and process.

We have looked in detail at the Middle East; let us consider other areas more briefly. One of the debates on Africa, partly motivated by colonialist attitudes, is how far anything has been invented in Africa, or whether all elements of life have been introduced from outside. These questions partly expose a European preoccupation with origins, when it is much more important to show what use was made of things. However, recent genetic analyses of cattle and sheep indicate that in both cases there may have been domestication in eastern Africa, although in the case of cattle at least there were probably two centres of domestication, the second being somewhere in India, the source of the humped zebu cattle. The cattle complexes of eastern Africa are excellent evidence of the distinctive uses that people make of things, as cattle are not purely economic resources, although important for their milk and blood, but crucial supports to social standing and key focuses of symbolism for the Nuer, Dinka, and Masai today and for a long time in the past. Sheep have never attained the same social prominence in Africa, despite being a major herd animal in the southern parts of the continent. The horse, donkey, and camel were all domesticated in west Asia in the third millennium BC and subsequently introduced into Africa, with the water buffalo arriving as an Arab introduction a thousand years ago. Millet (both pearl and finger millet) was domesticated in eastern Africa and subsequently spread out to Asia. My favourite fruit, the banana, a staple in some areas of Africa today, has a complex history, having been domesticated in dual centres in Papua New Guinea and south-east Asia, and moved from the south-east Asian centre across the Indian Ocean to India and Africa maybe as long ago as 1500 BC.

I could continue with this roster of domestications and movements,

but won't. Think of a Masai group in East Africa sitting under a tree, locally domesticated cattle in the background, eating a meal of millet and cooking bananas, washed down with a cup of tea well sweetened with sugar (a plant originating in Papua New Guinea) and consider the complexity of histories lying behind each element of the meal, only the last two of which were introduced under colonial influence. The same complexity is to be found in any part of the world, although the histories differ in time and materials. Many of the innovations associated with farming were not made for utilitarian reasons, but following the dictates of taste. The earliest forms of domestication in South America took place on the coast prior to 8000 BC and involved crops like gourds, potato, and manioc, but also tasty foods like avocados, chilli peppers, and beans. These were introduced into inland Andean sites from 4200 BC onwards, with the tasty foods moving as early as the staples and each valley choosing its own roster of crops. Food is vital for defining identity in the present and so too in the past, with each valley group making small but significant variations in their diet which marked them out as different. As Andrew Sherratt has pointed out, the earliest use of what were later staples, such as wheats, bananas, and potatoes, may have started off as luxury additions to the diet, creating variety and social differences. We cannot live by bread alone and in the early days bread may have been a special delicious addition to people's cuisine, with grains traded with some social ceremony and effect.

New elements of life were put together as they were developed locally or introduced. This was not a random process, but one which accorded with local logics of life as we can see from more recent introductions. Maori groups took readily to the *solanum* potato (first domesticated in South America some 8000 BC, as we have just seen), when it was introduced into New Zealand in the early 19th century and this was because of the existing popularity of the sweet potato (also domesticated first in South America, but moved across the Pacific at least a thousand years ago). This contrasts to the introduction of the potato into Britain by Sir Walter Raleigh (along

with tobacco) which was grown for some time as an ornamental plant, as the traditions for growing, cooking, and eating such root crops were much less developed than those for dealing with cereals. Now of course no one in Britain would think of the potato as a foreign crop. New things needed to strike some chord in local ways of doing things to be accepted, even though they might later extend people's lives in unexpected ways. It is not just foodstuffs that have been accepted as innovations. The acceptance of pottery, a particularly plastic medium, created new possibilities in the creation of shape, painted effects, and other forms of surface decoration, as well as the ability of the form to echo the nature of the contents, as did the poppy-shaped pots from Europe which may have contained opium. Life combines some continuity of old ways and explorations of new possibilities.

I have saved the most contentious area for last: the possibility that each continent has its own set of myths. Myth is a controversial area in any case amongst professional archaeologists, as it taps directly into New Age and spiritual interests that easily cross the boundary between the academically respectable and the fringe. Nineteenth-century thinkers saw history as progressing through an evolutionary sequence of myth, religion, and science, with only modern Europe developing a verifiable, objective, and effective science. This attitude stills lingers in some quarters around the feeling that for archaeologists to show too much interest in myth might imply that they harbour some non-rational belief. Discussion of ritual is rife in archaeology, but this looks more at patterns of action that might be thought to have some ritual aspect and the content of beliefs is generally avoided. In the Western tradition of thought myths are seen in two ways: first, myth is opposed to reality and is fiction not fact; second, myth is opposed to rationality in a contrast going back to the ancient Greeks where *mythos* was seen as inferior to *logos* (rational thought) as a means of apprehending the world. It would seem to be waste of time to study thoughts and feelings which are both irrational and untrue, and we expect our children to grow out of a belief in the tooth-fairy or Father

Christmas. But as ever we need to be aware that the terms we use prejudice the way we approach the study of the world and the fact that for many in the world myth is a powerful force should alone make us take it a little more seriously. I will link myth and magic in the following way. Myth concerns our relationship with the world; the ubiquity of myths reflects the fact that humans are beings for whom existence is an issue. Myths outline the origins of people, animals, plants, and the world at large; they may equally speak of the end of the world, as well as what may come thereafter. Myths speak of how people ought to relate to each other and to the other powers of the cosmos, together with the perils of transgressing these relationships. Myths often use highly charged language and imagery; they are not just told, but also enacted, using artefacts to help convey vital elements, as well as dance, trance, and drugs to enhance the effect on those present.

Prehistory

Magic is allied to myth, but seeks to intervene in the world and change it, rather than interpret and describe it. In many places human deaths all have human causes, so that divining responsibility and bringing those responsible to justice require divination and magic. Equally, major transformations, such as smelting or casting metal, need the right sets of conditions, which include the ritual purity of the smiths and the correct spells and incantations, as well as appropriate control of fire and appropriate equipment. For those carrying it out, magic is an objective force, tapping into the productive powers of the world and not a subjective condition, just like science is for its own practitioners. To compare science and magic is not to demean science or to take an anti-science stance, but rather to set science within longer traditions of affecting the world. The big difference between science and magic is that the former pays little attention to the spiritual or moral condition of the human participants, which for the magician are vital. Stripping science of a confusing moral and cosmological dimension has improved its practical efficacy, which is unparalleled. The cost is an obvious one, excluding any questions from within the scientific process itself of whether something

should be done, removing issues of morality from the scientific process.

The various continents have their own stores of myth and forms of magic. Both often concerned objects. In North America, Algonquian, Iroquian, and Siouan-speakers shared a set of religious beliefs attached to colours and the objects which manifest these colours, the most important of which were red, white/sky blue-green, and black. Red denoted contexts of anti-social action, like violence and warfare; white and sky blue-green connoted purposiveness of mind, knowledge, and the most expansive forms of being; black indicated absence of cognition and animacy.

Substances with particular colours – white marine shells, porcupine quills for beadwork, rock crystals, native copper, silver or coloured stones – were linked with beings beneath the earth or water (such as the horned serpent, the panther, or the dragon) who were the guardian spirits of different medicine societies. The acquisition and use of mythically charged objects was vital to human well-being and the fertility of the natural world. Wealth was more like medicine than the European category of riches, ensuring health and well-being, and must be used wisely. By a process of ‘transubstantiation’, the values adhering in local objects were extended to European trade items. Europeans, in this proto-historic period, were assimilated into the network of local relationships through the significance of the trade items they brought with them: materiality was the basis for particular forms of sociality. Material coming into these northern areas originated from as far away as Mexico, indicating a shared belief system over large parts of the continent, and also parts of Siberia from which Native American populations emanate. These shared beliefs, which must have deep historical roots, include the differentiation of the realms of earth, water, and sky with some central axis joining them along which prayers travel to the spirits of each zone. Concepts of power are crucial, including that of ‘medicine’, which is a set of means of affecting the world in ways that are beneficial to the people concerned. The importance of visionary experience and shamans are widespread, as well as the

importance of feasts and gift-giving as validations of blessings received from the spirit world. Everywhere ideas of power and of efficacy were embodied in material things, as we have seen, so that there was not the same antithesis between spirituality and materialism, as is common in Western thought.

Australian Aboriginal people also shared continent-wide forms of belief known to Europeans as the Dreaming. At the time of the creation of the world ancestral spirits moved across the surface of the earth shaping the features of each region, including the physical aspects of the landscape, such as rock formations, rivers, stands of trees, or water holes, the plants and animals (many of the ancestors were in the form of sharks, dingos, or snakes, which then became the totem or sacred animal of the group concerned) and people. Stories of the Dreaming concern not just the physics and chemistry of creating the landscape, but the creation stories contain within them indications of the correct forms of behaviour towards other species and people. Dreaming tracks run right across Australia, linking people at great removes and the tracks can be summoned up in song, painting, and dance (Bruce Chatwin's book *Songlines* provides an excellent evocation of this ritual landscape). What might appear to Europeans as purely pragmatic activity, such as hunting or gathering, requires respect for and connection to the spiritual powers of the land. The ideology of the Dreaming is of a connection to a timeless, but ever-present past and there are indications in archaeological evidence of long connections with some rock art motifs still in use today which may be 30,000 years old. Stone tools, the major source of evidence from Australia, were probably imbued with aesthetic and spiritual qualities due to colour, brilliance and the potency of their source, all challenges to the prehistorian more at home with understanding the flaking and cutting properties of stone than their cosmological significance.

Europe, Asia, and Africa have less widespread and universally shared mythologies, which is partly to do with the complexity of interconnections that existed throughout these continents and

partly because of overlays of the various religions of the book, such as Buddhism, Hinduism, Islam, and Christianity. In Europe there has been considerable discussion of whether speakers of Indo-European languages shared a pantheon of gods and common religious and mythological belief. There is much room for controversy here, but let me raise the possibility that the *Iliad* and the *Odyssey*, committed to paper by someone we know as Homer, may have been the first writing of tales that were not just Greek, but of far wider Eurasian currency. If this is true then the end of prehistory with the advent of writing may provide a window into the belief systems of Iron and Bronze Age Eurasia more generally.

On each continent people have grown intimate with local plants and animals. The llama, the sweet potato, and the chilli formed the nutritional basis and the zest for people's lives in South America in a manner analogous to, but nevertheless different from, the cow, millet, and beer in Africa. The continents saw different explorations of human capacities through local involvements with the world. This is only partly because the material resources of each continent varied, but also due to the logic of magic, myth, and transformation in each region. Every continent has gone off in its own directions, with Australia and the Americas taking especially divergent paths compared to Eurasia and Africa. Separation has not precluded the movement of people, ideas, and things, but has meant that acceptance of novelty has always been predicated upon local cultural logics.

Commensualism is often a slow and continuous process, rather than a rapid and revolutionary one, which is not to say that rapid change never happens. This continuity is rooted in long-term stabilities in human populations dating back to the Pleistocene. In terms of the material world, I have focused in this chapter on plants and animals, only glancing more briefly at artefacts. In the next chapter, I shall look at material culture and start with their links to human intelligence, a term we use as a short-hand for a whole bundle of human skills and apprehensions.

Chapter 5

The nature of human social life

A person standing on the side of a river shouts to someone on the opposite bank: 'How do you get to the other side?' The second person replies: 'You are on the other side.'

Identity depends on perspective. Definitions of identity may involve the division into two (or more) sides, or more subtle and fluid distinctions may be used. Identity is also composed of the commensural relations we have grown into with other species and with things, so that discovering the social glue in any formation is vital to social analysis. Few things are more important to us than our identity, but few are more difficult to define. Perhaps because of this importance and these difficulties, issues of identity have always been crucial to writing prehistories. Charting the coming into being of people like Us or measuring the distance to those who are foreign have always been major preoccupations. Quite who we are, or they are for that matter, is a compound of different elements of how we act towards others and towards the material world, which in turn derives from the whole nature of our social life. Identity and sociability are intimately connected with each other and with concepts of intelligence or sensibility. I shall take issues of identity as the thread to follow through the complexities of human social life, using identity in a particular sense as knowledgeable action. Let us start with a central and defining concept, that of intelligence.

The prehistory of human intelligence

Darwin was shocked. On 18 December 1832 he was rowed ashore in Good Success Bay, near the southern tip of Tierra del Fuego, to confront the 'wild men' of the area for the first time in the early stages of his life-changing voyage on the *Beagle*. His first impression was of human figures, naked despite the cold, howling and gesticulating wildly at the ship and its occupants. 'A wild man is a miserable creature', he sympathized.

We have no reason to believe that they perform any sort of religious worship, . . . their different tribes have no government or chief, . . . the language of these people, according to our notions, scarcely deserves to be called articulate, . . . their skill in some respects may be compared to the instinct of animals, for it is not improved by experience.

The main trait of the wild man from which all these lacks stemmed was his wildness. Lacking any control over his own emotions, it was hard to exercise reason; lacking control over himself he had no ability to control the rest of the world. The fact that the inhabitants of Tierra del Fuego might have had difficult relations with passing ships before and that this might lie at the root of their reactions did not seem to have occurred to Darwin, who saw their behaviour as purely irrational. The growth of rational control over the wildness of the emotions was central to a Victorian view of the contemporary world and of human progress. The Victorian evolutionary typology, which we encountered in the last chapter, of magic, religion, and science, saw the realm of magic as animated by irrational and indeed emotional hopes for intervening in the workings of the world, misplaced hopes as compared with the procedures of science.

Intelligence is hard to define; there are as many definitions as there are people creating them. However, many definitions have core

features, following a spectrum from retention of information to problem-solving to creative and innovative thought and action not carried out previously. Most definitions concern the activities of the mind and much less attention is given to the skills and capabilities of the body. You may not be surprised by now to learn that I shall emphasize the skills of the body and those so-called irrational elements of human life, such as the emotions, in attempting to chart the history of human intelligence.

I have been lucky enough to excavate at one of the most remarkable prehistoric sites in Britain – White Horse Hill at Uffington in southern Oxfordshire. The White Horse is a constructed chalk figure just below the brow of the hill at Uffington and is partly distinguished by the beauty of its form and line.

As a monument the White Horse is quite unlike most others. Ancient monuments generally survive because they are large, monumental, and resist the erosive effects of time and weather. But as a chalk figure the White Horse needs to be cared for and unless it is scoured regularly by removing the old chalk and grass and placing new white chalk on the top, the Horse will disappear into the



15. The White Horse at Uffington

background of greenery in this well-watered part of southern England. Dating the last time the sediments at the base of the Horse were exposed to sunlight has revealed the amazing fact that the Horse could be 3,000 years old. As it needs scouring every decade at least 300 such events have taken place since its construction in the late Bronze Age. Today the site is owned by the National Trust which runs outdoor courses for those suffering from the strains of urban life and it is possible to pay to go on a stress-relief course, which may involve scouring the Horse. Up until the mid-19th century scouring was carried out by the village of Uffington, when scouring was part of the May festivities which also involved rolling cheeses down the hill, horse racing, and the dangerous game of 'backswording', the object of which was to draw blood from the opponent's head with a wooden weapon. Thomas Hughes's novel *Tom Brown's School Days* carries a vivid account of one such event, and even greater detail is given in his book *The Scouring of the White Horse*. Such 19th-century events attracted many thousands of people brought in by the new railway system. Historical accounts go back to the 16th century and we can only conjecture about the nature of earlier scourings which continued despite the coming of the Romans, the Anglo-Saxons, and the Normans.

How is the White Horse in any way relevant to discussions of human intelligence? Creating the White Horse in the first place, or scouring it every decade for three millennia, does not fit in with any notion of problem-solving intelligence, but it does accord with a more general notion of care for the maintenance of social relations through the manipulation of the material world. Scouring the Horse was not a mechanical act and the significance of the Horse must have shifted as the decades and centuries rolled by: using one symbol to create and manipulate relations between people is as difficult in its own way as the creation of new symbols. Whatever the motivations of the people in the Bronze Age who constructed the Horse we can be pretty sure that stress-relief courses were not amongst them.

Aesthetic considerations, involving the impact of the material world on the senses, would have been crucial. The whiteness of the exposed chalk of the Horse against the green sward of the Downland may have been part of a broader set of symbolism. When a hillfort came to be constructed next to the Horse in the early Iron Age, the ramparts of the fort may have been faced with chalk. Visible over long distances, the fort and the Horse together would have made a powerful statement, reinforced by a linear ditch dug into the chalk for some kilometres to the south of the fort, a line of white across a green background. The manipulation of what we think of as aesthetic qualities of the world is vital to creating human relations which have particular values attached, using 'value' in its broadest sense. In the case of the Horse, hillfort, and linear ditch we cannot be sure what these values were, but some mix of possession of both the landscape and the powers emanating from the land would have been crucial to the appreciation of the figure of the Horse. How the colours and qualities of the landscape were reflected in clothing, houses, and artefacts we can only speculate, but people of later prehistory in this part of Britain would have lived in a rich aesthetic world encompassing pottery, metalwork, woodwork, and textiles, as well as song, story, and dance – the making and exchange of which would have helped attach values to their human relationships at a local domestic level and further afield. Indeed, by later prehistory, materials entered Britain in the form of amber from the Baltic, coral from the Mediterranean or Red Sea, and metals from many parts of Western and Central Europe. People's horizons were broad and the standing of an individual or a group depended on their ability to cultivate and manipulate relationships with others throughout Britain and Europe and having the right sense of style to deploy the bronzes, gold, and amber in the most telling sorts of social theatre. The manipulation of pottery, metal or textiles to form social relations drew on ways of shaping the world going back to the Neolithic and beyond. The Victorian gatherings on White Horse Hill stood at the end of a long tradition of large public social events in that place, with

ever-changing meanings to be sure, but with a complex set of motives of pleasing the powers of the universe and raising the profile of the group.

Human intelligence as a creative combination of the human and the material goes back to a key argument of mine advanced in Chapter 3: we are the only animal species which makes its social life through shaping the material world. The scouring of the Horse is an act that requires little technical knowledge (even I have done it!), but needs a deep appreciation of its continuing social consequences. Human intelligence exists across a spectrum ranging from technically sophisticated acts to socially creative ones and may mix the social and the material in different combinations. The anthropologist Alfred Gell coined the term 'the technology of enchantment' to highlight processes of making or artefacts resulting from these processes which moved people to wonder and to awe. The power of the object to elicit emotions like wonder reinforced the power of the maker, as one who had the technical knowledge and right cosmological standing to distil something of the wonder of the world into things. The Horse is an enchanting object, leading us to wonder and to speculation in the present, as in the past, and in this sense the power of the original makers endures, even if their original intentions do not.

So here I will disagree with Darwin – people of the past were not wild in the sense that they were governed by uncontrolled emotions due to the lack of a developed faculty of reason. Emotions can be powerful, occasionally overwhelming us; but so too can thought. Just as thought is not predictable, linear, or controlled, nor are emotions random, unpredictable, or uncontrolled. We can be suddenly struck by a thought or we can cultivate an emotion. But for many Victorians human history was the story of the growing control of reason over the emotions, a view surviving in less well articulated form today. What if we cannot clearly separate thought and feeling? A state of inspiration is a powerful intellectual and emotional experience deriving from a new feel for the world

and novel possibilities of shaping the world in words and objects. For the most part we have a highly structured and predictable emotional life; powerful emotions arise either through unforeseen events or being deliberately stirred up through ritual action. Indeed, ritual and the unforeseen are linked, as many rituals are designed to cope with the irruption of death into the world of the living, to transmit the joy of birth, or mark rites of passage.

Transformations are central to a notion of intelligence which focuses on the joint manipulation of the material and social worlds. And transformations are dangerous processes hemmed around with magic and ritual. Western views of cause and effect have come to separate sets of physical processes known through biology, physics, and chemistry from the social relations making up the human world. The production of metalwork requires an understanding of pyrotechnology, the chemistry of ores and compounds, and the right sequence of actions and combination of materials needed to produce bronze or steel. Westerners see the people involved in production as technicians, more or less skilled and experienced in understanding physical processes, able to do the right thing at the correct time. Their religious beliefs or degree of sexual abstinence could have no effect on the outcome of their production. For many African smiths metal production is part of larger processes of production and transformation, linked as much to the conception and birth of children as it is to other forms of material production, such as the firing of pots. Many African conceptions of the world link human fertility, the growing and processing of food, and craft production in cycles of transformation in which the human and spirit worlds collaborate to ensure human well-being. Westerners tend to make a distinction between technology, derived from an empirical understanding of physical cause and effect, and magic, which is essentially meaningless hocus-pocus, whose only possible importance could be a psychological one to convince the smiths that things are going well. For many African smiths, smelting is a process similar to a woman giving birth and

many furnaces are embellished with female symbols, the male smiths acting as the fathers, with actual women rigorously excluded from the process and sex between the male smiths and women prohibited while iron working is taking place. It is often thought that sexual intercourse generates heat, so that the woman's blood and male semen are heated to produce the child. The application of heat during cooking is also vital to human life. The heat generated by iron working is extreme and threatening. Iron can be made into weapons and used violently, making it a dangerous substance, so that any hint of discord amongst the smiths will cause their work to fail, as will a drop of blood shed in the foundry, even if this occurred through harmless accident. No distinction is made between technical expertise and ritual knowledge, between science and magic; smiths must have a mastery of all aspects of their craft, however Westerners might categorize these, making them either powerful and influential people in other areas of their lives or dangerous outcasts.

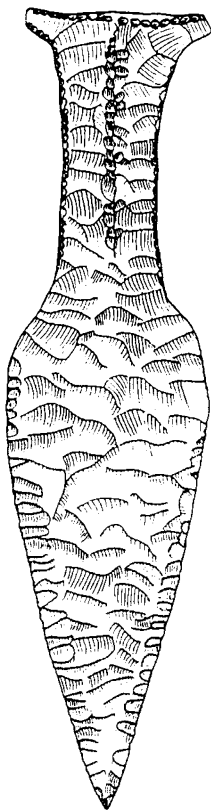
We know from ethnographies of the 19th and 20th centuries something of the skills and knowledge of recent smiths and the symbolism with which their workshops and tools were imbued and we can follow some of the same symbolism back into the prehistoric past where words fail us and, indeed, the widespread nature of the beliefs surrounding iron production in sub-Saharan Africa indicate their antiquity. Furnaces are known from prehistoric periods in western and southern Africa which have breasts and female genitalia and in some areas similar decorations are found on cooking pots, which also bear the application of heat in the process of transformation. What modern Western thought has characterized as technological or economic developments ushering in the start of the Iron Age would have been conceived differently by those involved in developing iron working in Africa at least 1,500 years ago and would have represented new sets of possibility in creating novel sets of human relationships and extending ideas concerning the transformations of which the world was capable. It is not a question of judging whether the Western or African

conceptions of the making of metal are more correct and so judging between science and magic; both have their efficacies. However, I would argue that, in one area, African conceptions are more realistic. If human beings are the only species to create their social relations through manipulating the material world, then emphasizing the joint making of people and of things does justice to the linked nature of physical processes and human social life, so that the making of children and the making of metal may have subtle links. Intelligence is deployed in thinking about how physical and social relations are transformed together, which involves an understanding of physical processes and social ones. Western science shines a laser beam on physical processes, but has lost a sense of magic concerning how the world and people work together. Understanding prehistory may help us recapture some of that magic.

Prehistory

Transformations are manifest in connections, not only between people and things, but also between various sorts of artefacts which are aesthetic in nature. In Europe prehistoric bronzes were probably given shiny surfaces to evoke images of silver and gold, effects hard to recreate and appreciate after up to 4,000 years of burial. Bronze to gold formed a spectrum of precious metal objects, a spectrum which was extended when bronze vessel shapes were echoed in pottery. In China green was encouraged as a surface colour for bronze, due to the importance of jade, the use of which went back to the Neolithic and beyond. Painted Samarran-period pots made in Mesopotamia around 6500 BC had decorations that imitated the weave of baskets, which predated the pottery; the caulking of baskets with clay may have helped give rise to pottery making. In the late Neolithic of Scandinavia, delicately flaked flint daggers imitated the copper daggers that had come into vogue further south on the north German plain and in Central Europe.

In the western Pacific, from Papua New Guinea to Samoa, Lapita pottery found from 1500 BC carried complex toothed decorations



16. A Scandinavian late Neolithic flint dagger

that may have echoed tattoos made by toothed implements on human skin. A tattooed person carrying a pot formed part of a complex field of decoration, part clay, part skin. In many parts of the world people and animals have been buried together and treated in a similar fashion, indicating that being animal and being human may have had significant overlaps. Objects, people, and animals may have borne sets of associations that extended across more than one class of artefact as we would define it, opening up a

wide range of metaphorical associations testing human aesthetic senses and skills. Again we have varied aesthetics, with their own continental histories.

Human beings learn to make infinite numbers of discriminations about the world – just close your eyes and feel your clothing to register how many textures of fabric you can distinguish. The same is true of any other sense. How many meals do you know by smell? Can you distinguish all the members of your household from the sound of their feet on the stairs? How many shades of blue can you see? These discriminations I would call aesthetics, albeit aesthetics of an everyday kind. They are values we attach to the world so that we can live in a particular manner within it. Values need learning through an education of the senses. The reciprocal of these aesthetic qualities of the world is the range of human responses they evoke. There are emotions attached to our perceptions – a particular set of feet on the stairs may fill us with relief or dread, blue may have connotations of wonder or holiness, a smell may set off a wave of disgust. The English word ‘feeling’ usefully captures some of the link between our sensory appreciations of the world and emotions – what something feels like physically may be linked to what we feel about a state of affairs. Feelings can be hurt or dampened to the point where we don’t feel anything. And feelings can be indefinite, exploratory, intuitive, such as when we say ‘Something just didn’t feel right’ about a particular person or situation. Feelings are a part of our intelligent appreciation of the world, although they are rather different from rational thought and they provide us with a blend of the physical and the emotional which is vital for us to use in navigating through the world.

Being intelligent is not purely to do with mental operations of the human brain, but involves all our senses of sight, touch, smell, taste, and hearing, singly or in combination. Our senses need cultivating through being directed in particular ways, to appreciate the varying greenness of bronze or the heft of a copper dagger. Synaesthesia is a

condition in which the inputs of the senses get mixed up. For those suffering from this condition shapes can have a taste and sounds colours, creating a cross-cutting sensorium which is both confusing and creative. Some cultures have cultivated a multi-sensorial approach to the world, replete with analogical reasoning, and notable among these are the cultures of Central America. Copper, gold, and silver were the only metals known in Central America (Mexico and the countries immediately to the south) in pre-Columbian times and none of these held a good cutting edge, so that other substances were sought. A main provider of cutting tools was the volcanic glass, obsidian, which was widely used and traded elsewhere in the world, including the western Pacific, from 20,000 years ago onwards, the Middle East from at least 10,000 years ago, and East Africa for many thousands of years. Obsidian is a form of glass, being as sharp as any other form and is still used today in delicate eye operations. One of the great advantages of obsidian for the prehistorian is that many sources are chemically distinct, allowing the possibility that obsidian tools can be traced back to their origins, allowing patterns of trade to be reconstructed over long periods of time. Much effort has gone into sourcing obsidian in Central America for sites dating to the last 3,000 years and into understanding changing methods of working obsidian. Obsidian has mainly been understood in economic terms (I shall return to economics below), but other elements of significance need to be brought into any account. Two aspects of obsidian can be highlighted. First, it is associated with volcanoes and so with the underworld, a link strengthened by the fact that, from later prehistory onwards, it was mined. Temples were frequently located near volcanoes, close to the destructive powers of the earth, and the links between sacredness, creation, and destruction helped explain obsidian's power to forge social relationships. From late prehistory at least obsidian knives were instruments of death and sacrifice, able to dispatch a victim and remove their heart. The Aztecs used obsidian mirrors as magical forms of divination, as a means to get in touch with the gods, a use that predates them and also survives into the colonial period.

The dark power of obsidian only partly derived from its uncommon sharpness, which was reinforced by links with the creative and destructive powers of the universe. It was also metaphorically placed in relationship to jade, the property of rulers, which could bring greenness and fertility to a local area, and turquoise, connected to the gods and which could emit smoke, like clouds against a blue sky. A Western notion of economy works with a scale of values created by usefulness, human labour power, or rarity. Obsidian was useful, especially if you wanted to offer a human heart to the gods, but its value derived from more mysterious sets of associations than those of utility, giving it ambiguous, but powerful qualities through which to affect human relations many miles from its source. Material things are not appreciated through one sense, but a number, giving us a synaesthetic reaction to the world, as sensory inputs mix and mingle. We can feel the sharpness of an obsidian blade on our skin, see its colour to the eye, hear the ringing tone of a blade, and its weight in the hand, all of which combine into our feel for the substance and its potentials.

Like science, the notion of economics divides people and objects, or rather only allows them to meet in particular ways, around the satisfaction of human needs. An emphasis on physical wants may allow us to understand later human history as more basic human needs come to the fore as motivations, due to population growth and scarcity imposed on some people by the rest. However, in earlier periods when people were fewer and power structures less impoverishing for those lowest on the social pyramid, it was relatively easy to provide food and shelter and to meet everyone's calorific requirements. Values other than those of need and utility flourished, allowing complex and tangled links between objects and objects, and objects and people. The scope for a purely economic analysis shrinks in prehistory, when the significance of broader human values blossomed before becoming subject to the weight of brute necessity. Many of the tools of analysis honed through work on the modern world, like the methods of economics, prove blunt instruments when applied to the values of prehistory.

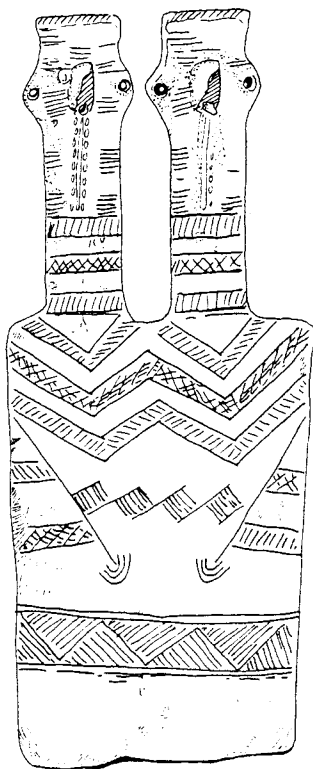
Gender and sexuality

The aesthetic values arising from the sensory qualities of objects influence the manner in which people act as social beings. We have looked briefly at the values attached to things; now let us turn to the values linked to bodies. A major element of all human societies is the distinction between genders, although to say that all people make gender distinctions is not say that all people make the same distinctions. A commonplace of recent gender analysis is to see gender as the cultural use that people make of the biological distinctions of sex. Physical differences between men and women of genitalia, body size, and shape are part of the raw materials for creating gender, but not the end of the story. Many groups distinguish more than two genders (the *hijras* of India or the Two Spirits of Native American groups are both well-known examples of people who are neither men or women) and for some people gender is not fixed, but derives from the situation in which individuals are placed. For instance, in Papua New Guinea penises can give birth in certain instances, making them a temporarily female organ, rather than a purely male one, and blood drawn from the penis in initiation rites is seen as analogous to menstrual blood, with its connotations for men of the power of fertility and the danger of female pollution.

The nature of human social life

Knapp and Meskell have examined a series of physical representations of the human figure from Cyprus in the Chalcolithic (Copper Age) and Bronze Age.

They feel that these figurines provide a commentary on what it means to be an individual in these periods, looking at the tendency to experience oneself as a distinct entity, how this sense of self may vary as experienced through age, status, sex, or ethnicity, and how this results in the cultural experience of being a man or a woman in a particular time or place. Other researchers have classified the human figures in terms of being either male or female, although some have both a penis and a vulva. They also question the



17. Red polished ware double-headed plank figurine from Dhenia, Cyprus, showing individual facemarks and jewellery

distinction that has been made between the Chalcolithic stone pendants and the Bronze Age plank figures, mainly made in clay. Inevitably some people have seen these figures as mother goddesses, but Knapp and Meskell see many of the figures as trying to harmonize the sexual characteristics of men and women, rather than emphasizing differences. Through the Bronze Age there is a growing emphasis on figures with individual adornment and jewellery, as well as face decorations that might be interpreted as

masks, tattoos, or face-painting. There were larger numbers of individual burials in the Bronze Age compared with the communal burials of earlier periods. The greater rise in the definition of the individual occurs against a background of increased numbers and sizes of settlements, the refinement of craft technologies, and intensified agricultural production, connected with the development of elites. Knapp and Meskell stress that individuality should not be seen in the same terms as modern individualism and rather than seeing people as parcelled up into fixed divisions of gender, age, and rank, we should understand this as a time of social fluidity when gender and other elements of identity existed as a spectrum, from which people could choose to develop various aspects of their personality, possibly reviewing and changing this choice at various times in their lives. The imprint of the material world on the human body, through jewellery, clothing, cosmetics, or tattoos, is vital in creating socially salient categories, which may derive power from being flexible and strategic, not fixed and rigid.

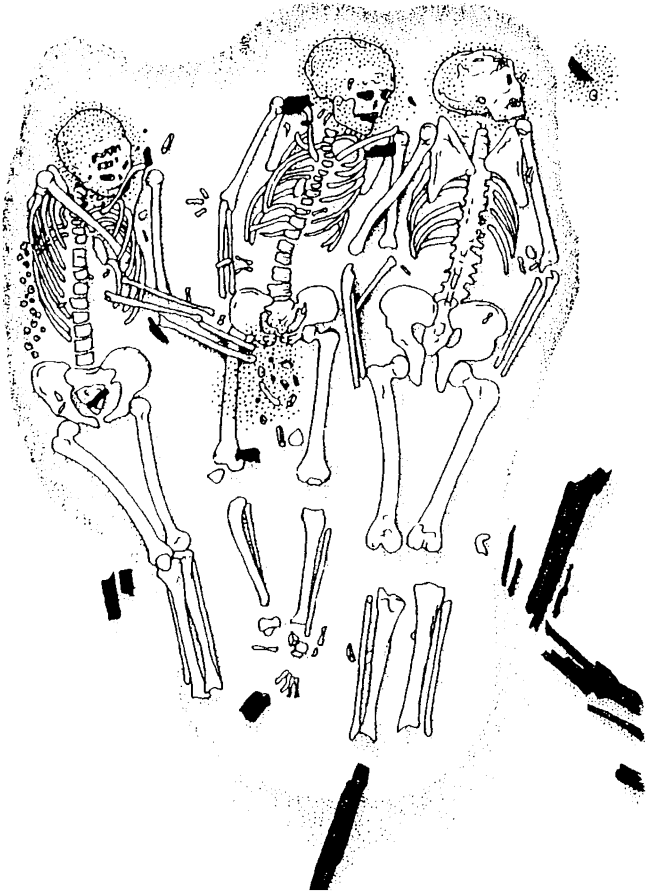
Gender is something to be created and performed, rather than inherited as an accident of biology and an unchanging dimension of biography. The creation of gendered identity can be a complex business and needs a series of material supports. The so-called Venus figurines of the Upper Palaeolithic period in Europe are distributed widely from the present-day Ukraine to France. These well-modelled clay or stone figurines have been seen as mother goddesses, connected with the fertility of people and the cultural landscape generally. More recently it has been argued that the figurines represent the whole life cycle of a reproductive woman, including pre-menstrual and post-menopausal states, and that they might have been used for women-only forms of education and initiation to teach girls about the female body. Figurines may have been made and used by women in secret, implying that there was some separation between men and women. Alternatively, as happens in many parts of the contemporary world, the figurines may have been used in the initiation of boys, where metaphors of

female fertility and pregnancy are important as education about general social reproduction. In this case, maleness may have been constructed through reference to women's bodies, implying a more complementary notion of gender and possibly sexuality than is evoked by the image of secret female rites. Whatever was the case with Upper Palaeolithic gender relations (and it is obviously difficult to pin this down), it appears that roles and relations were enacted through material forms, such as figurines, and not read straight from the biology of the body.

One Venus figurine comes from the site Dolní Vestonice in the present-day Czech Republic. This was a huge open site from the height of the last Ice Age which contained evidence of many habitation structures and burials. The burial which concerns us here was of three bodies lying side by side in a shallow pit.

Prehistory

The two outer bodies appear anatomically male and the inner one was of indeterminate sex, but might have been female. They were laid on their backs and then had branches placed over them which were burnt. Bits of clothing or body decoration survive in the form of pierced seashells, and wolf and Arctic fox teeth. The bodies were liberally sprinkled with red ochre, especially round their heads. The central figure had a block of ochre between her/his thighs and the left-hand figure is extending his hands into this pubic area of the central person. He had a stake driven through his pelvic area into the coccyx and although he appears to be looking at the central figure s/he has turned away, directing her gaze at the person to her left. Physical anthropological analysis has revealed that the central person had a congenital hip condition, *coxa vara*, which would have caused them to walk with a slight limp. It is tempting to see this person as central in all senses, someone whose physical characteristics helped mark them out, ambiguity and difference lending power to their statements and actions. Quite what the symbolism contained in the burial was we shall never know. It may have been celebration, punishment for sexual transgressions (a



18. The triple burial from Dolní Vestonice

favourite with popular interpretations – some sort of love-triangle of the type the tabloids constantly seek to expose), or due to untimely death. The pubic regions of two figures do seem to have been picked out, leading us to think of sex, and the presence of so much red ochre may have had links to blood, menstrual or otherwise. As Nancy Banks-Smith, the *Guardian* TV

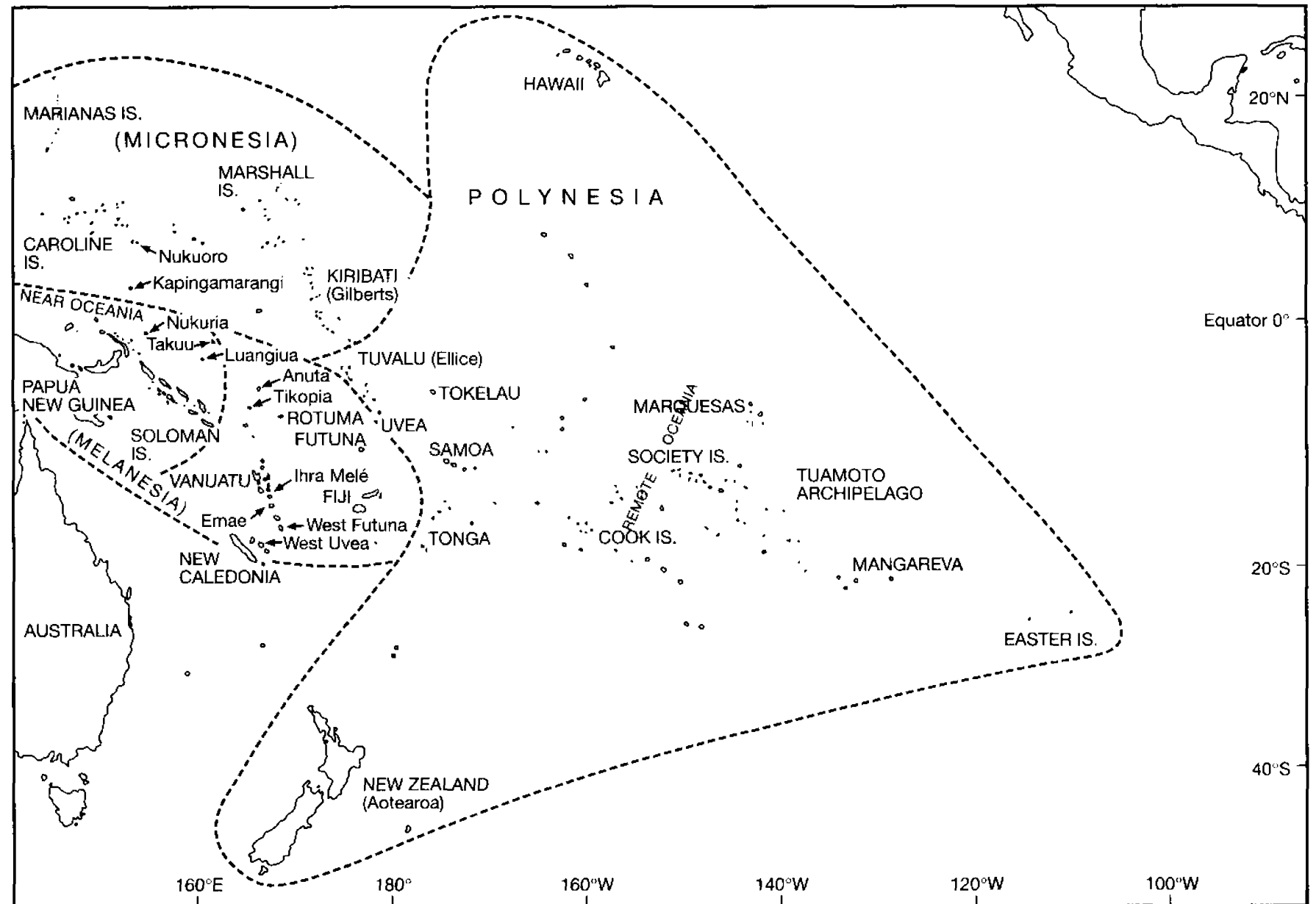
correspondent wisely said in the review of a programme made partly about this burial: 'They were buried in code and we have lost the key.'

The Dolní Vestonice burial combines intimations of sex and ambiguity of gender, emphasizing that these two dimensions of life are vital to the values attached to human actions in many times and places. Sex and gender are points at which the physical nature of our bodies and their social impacts meet, mixing what we tend to separate as the biology of the body on the one hand and the realm of cultural action on the other. Nature and culture are too complicated to be separated in this way; neither forms the foundation for the other. The burials at Dolní Vestonice indicate a powerful set of experiences for the individuals concerned and the community as a whole and we do not know what sort of social theatre led up to the triple burial, but the fact that the bodies seem to have been buried after *rigor mortis* had worn off hints that the whole process was not quick. The sheer physicality of the experience was vital to its impact: the incipient decay of the bodies as they were dressed in their burial best, acting out in silent mime roles important to those still living; the sprinkling of ochre, which may have mixed with real blood; the driving of a wooden stake into one body and the sudden roar of the flames at the end of the burial would have helped to heighten the already taut emotions of sisters, brothers, or parents of the trio and we can only guess what these emotions might have been – joy, fear, disgust, relief – or all of these together, experienced by various members of the community. Our bodies are the sites of pleasure, happiness, pain, and sorrow. But bodies are not purely private theatres of sensation. They are linked to the bodies of others, most intimately through sex or physical care, and indirectly through the education of the senses and emotions. Sensual experience is used socially, in initiation rites which often involve pain, or forms of performance like dance. Sex and gender are aspects of bodily being and actions vital to our identities. The past codes of these identities are hard for the prehistorian to crack, but so central are these issues that considerable effort is worthwhile.

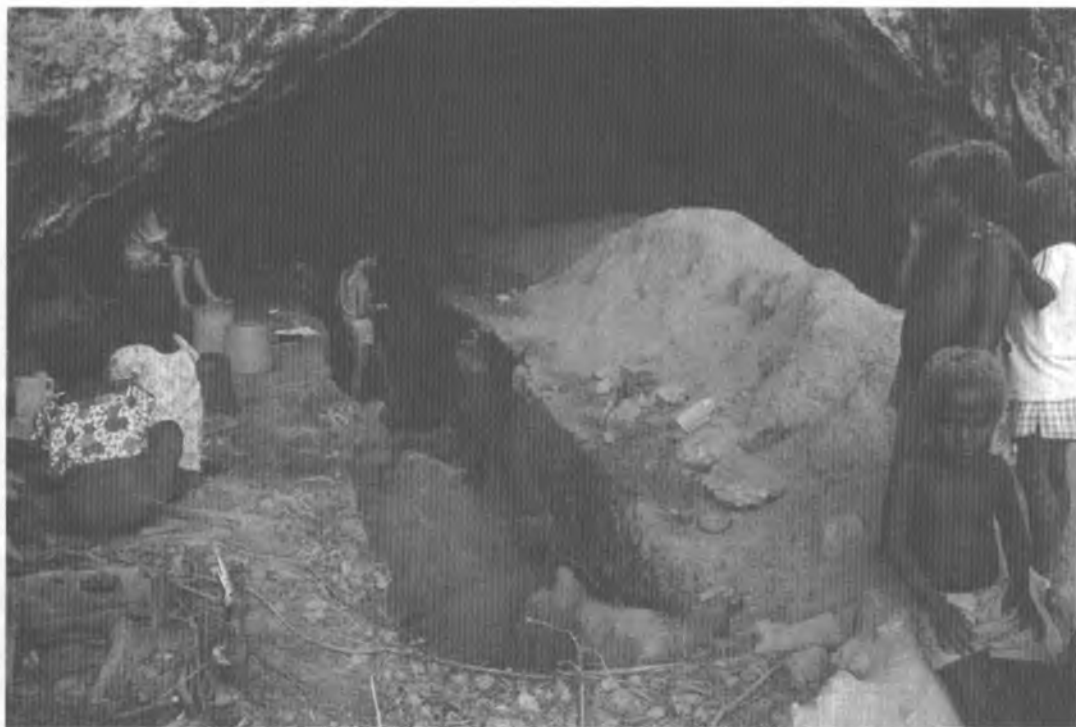
Explorations

An intelligent approach to the world is partly displayed through the encounter with novelty, or the creation of novelty. Explorations and settlement of new parts of the world extend people's social and physical knowledge, creating new sets of skills in the process. As we have seen, modern humans have colonized the whole of the earth's surface over the last 40,000 years, with the partial exception of Antarctica. The last major portion of the world to be settled was not a continent, but the Pacific Ocean. Extension of human life into the Pacific created new ways of being in the world with their own sets of physical skills and sensitivities to the physical and human worlds. Europeans consider the ability to sail and navigate at sea to be the result of a series of technological inventions and innovations, the concrete outcomes of problem-solving intelligence – the ability to know one's latitude is a tale of timepieces, astronomical observations, and charts. How was it that the biggest of all oceans, the Pacific, was crossed, starting some 3,500 years ago and completed with the settlement of Hawai'i, Easter Island, and New Zealand, less than a millennium ago? The necessary skills and abilities have a long prehistory.

In 1985 I was digging a site called Matenkupkum, a large, dry cave on the east coast of a place called New Ireland, one of the larger offshore islands of Papua New Guinea. The cave is metres from where the Pacific Ocean crashes onto the reef, and whilst digging I could look out of the cave aware that, directly ahead of me, but behind the horizon, were thousands of kilometres of open sea. The next landfalls are the tiny islands of Kiribati (formerly the Gilbert and Ellice Islands), easy enough to miss and then nothing but sea to the western seaboard of North America. Matenkupkum is a large, open cave in the coral limestone on a terrace above the present-day beach. Its name translates as the 'cave of the swifts' due to the birds that nest in fissures in the roof of the cave, one point on their long-distance travels across the globe. Matenkupkum had a stalactite



19. The Pacific Ocean



20. The cave of Matenkupkum, New Ireland, Papua New Guinea, during excavation

pillar in its centre said to contain the spirit of a woman, who could be seen down on the reef at nights of the full moon, but she was a benign spirit and the cave was not seen locally as a place of danger. What I wondered about as the dig progressed was how the finds from the cave fitted into the story of the human colonization of the Pacific, and how people had originally crossed those huge expanses of ocean?

The cave held intriguing finds. One set of these was from quite a different story to that of the colonization of the Pacific. Across the front of the cave a trench had been dug by Japanese soldiers in the Second World War, when Matenkupkum was one of a number of armed positions along the coast to protect a telephone line that ran from one centre of operations to another. This was a poignant sort of archaeology as we removed saucepans, boots, bullets and saké bottles from the trench. A local man sang me a song in Japanese he had been taught at that time, which he said concerned the demise of America. He looked embarrassed, uncertain how I would react. I wasn't sure what I felt. It was an ambiguous moment for both of us.

The rest of our finds were very different. In the upper levels of the cave earths large coral limestone slabs had been laid as the foundation for a hearth, much as people do today. Local people digging with me speculated excitedly as to who of their ancestors was responsible for this hearth and why they had no stories concerning such a thing. Connected with the hearth were large numbers of bones of wallaby, cuscus (a tree-dwelling marsupial), rats of a nicely edible size, thousands of shells from the reef, together with the bones of reef and deep-sea fish and numbers of rather crude stone tools, including small flakes of obsidian. Much of the deposit we dug out was ash from the hearth. Here was evidence of a camp, where people hunted animals on the grasslands and rainforest behind the cave, but mainly gathered shellfish and fish from the reef below. The obsidian, we were pretty sure even while excavating it, came from the volcanoes of adjacent New Britain some 350 kilometres away. Here was a hint of longer distance

connections in a mass of material otherwise obviously local. About a metre below the layers of the hearth was a deposit of a different type. Local stone tools were still there, as were fish and shellfish, but the only land animals were the bones of snakes and lizards and there was no obsidian. Material was much less abundant, without any evidence of hearths or burning.

Eating fish and dried biscuits at lunch time, I would sit and look out over the ocean and run through the finds in my mind. There was no pottery in the cave at all, which either indicated that it was used prior to the introduction of pottery into this part of New Guinea a little over 3,000 years ago, or that no pots had ended up in the cave (which seemed unlikely). We did not know when obsidian or hearths were first used, but a few thousand years ago seemed reasonable. The bottom-most layers looked to result from quite a different form of occupation, but the shells down the bottom still had their original colour, which seemed to contradict other indications that these lower deposits might be ancient.

Prehistorians are worried about the age of things and, working in unknown archaeological territory, the age of the finds from Matenkupkum were my initial means of comparing them to finds from other known sites and thus making sense of them. As I was to find there were no directly comparable finds to help me make sense of this site.

Let us cut to a scene a year later at a conference at the Australian Museum in Sydney where the results of the expedition as a whole were being presented. The excavations at Matenkupkum had been part of a broader project in which 14 different teams had excavated throughout the offshore islands of Papua New Guinea, organized by Jim Allen and myself. It is still the hardest thing I have ever done. The Sydney conference was the initial culmination of a lot of work; excitement was high. We had heard that morning about the first find of a bronze from within New Guinea, imported from south-east Asia; a wonderful set of Lapita period sites, some 3,300 years old, where water-logged conditions had preserved the remains of

houses built over the shallow waters of the reef, together with plant remains, shell tools, and obsidian, intermingled with spectacular Lapita pottery with the most intricate toothed designs. A seasoned archaeologist, not given to hyperbole, said that he felt the hairs on the back of his neck stand up when he saw the reconstructions of some of the pots, so powerfully did they evoke past skills and sensibilities. We had also heard about three other cave sites in New Ireland, two of which had deposits dating to 15,000 BP and another which was hard to date. The fourth cave was Matenkupkum. A female student is presenting the results from the excavation, which she is working on for her thesis. I know she is nervous, as this is her first big conference paper, the audience is a distinguished and potentially critical one, and the results are controversial, but she carries it off well. I had been uncertain as to whether to present the work myself, but Nola had done so much good work it was a shame to deny her the chance to present it; on the other hand I didn't want to expose her to a sceptical audience.

Scepticism might have been aroused by the dates from Matenkupkum, which showed that those basal levels were 35,000 years old. People must have sailed into New Ireland, which was always an island even at periods of lowest sea level, making this possibly the oldest evidence of island colonization in the world. The islands of the Mediterranean and the Caribbean, the two other great sets of islands, were only permanently occupied around 6000 BC, although visited before this. Similarly, the fish bones and shells were evidence of some of the oldest marine fishing and shellfish gathering in the world. Not that age was everything, but here was evidence of an unusually precocious set of maritime traditions, which provided a long backdrop to the large-scale, but recent, open-ocean colonization. The uniqueness of the Pacific island evidence was soon reinforced when we learnt that the northern tip of the Solomon Islands had been occupied almost 30,000 years ago, which involved a journey over the horizon, overcoming a considerable psychological barrier.

Skills of voyaging and navigation are only part of what was needed for successful island colonization. The basal levels at Matenkupkum show how long ago these were developed. The upper levels from the site, dating to between 21,000 and 10,000 years ago, contained a different part of the story. Islands generally have fewer plants and animals than larger landmasses, and foodstuffs can be scarce, so that getting to islands can be difficult, but staying alive once there can be even harder. It is notable that both the Mediterranean and Caribbean islands were only permanently settled once the intensive forms of land-use associated with farming were developed, allowing people to extract much food from a relatively small land area. The earliest inhabitants of Matenkupkum were certainly not farmers and the bones from these lowest layers indicate a small number of lizards, snakes, and birds as the only terrestrial foods. People seem to have overcome these constraints by moving themselves between scarce resources, living a mobile lifestyle in which the sea was vital as a source of food and of movement. After 21,000 years ago things changed and we started to find the bones of the grey cuscus, an arboreal marsupial, and evidence of obsidian from neighbouring New Britain. We know that the obsidian was imported, as no sources exist on New Ireland, but it seems too that the grey cuscus was also an import, soon to be joined by a new wallaby species, both ultimately originating from mainland New Guinea.

Such imports represent a new strategy. Instead of moving people between resources, resources were now moved to people. These were groups thought to be hunter-gatherers, yet they were certainly not passively suffering the constraints of their environment, but actively overcoming it, through moving around wild animals (and possibly plants) together with important materials such as obsidian. Pacific prehistorians talk of transported landscapes in relation to the smaller islands of the remote Pacific, all settled in the last 3,500 years. When sailing to Tonga, Tahiti, or Easter Island, colonists loaded their canoes with root crops like taro and yams, trees such as breadfruit and bananas, and the pig, dog, and chicken. The first few

centuries after landfall saw considerable replacement of the natural plants, the extinction of indigenous birds (the moa of New Zealand being the best known case), and their replacement with introduced plants and animals, often planted and used in ways that mimicked the original flora and fauna, giving some protection to these fragile ecosystems. What Europeans took to be natural paradises in places like Tahiti or Samoa were some of the most carefully managed landscapes on earth.

The origins of these transported landscapes can be traced back to the evidence from Matenkupkum some 21,000 years ago, as can the evidence for seafaring and fishing which goes back 35,000 years. The ability to move freely by sea and to cope with relatively restricted sets of resources on islands laid the basis for island life not found anywhere else in the world, showing that there were quite separate traditions of life developed in various parts of the globe.

Prehistory

Prehistory ended in Hawai'i on 17 January 1779. On this day Captain James Cook came ashore at Kealakekua Bay to a most rapturous reception; an estimated 10,000 people were there to greet him. He and his crew had been engaged in a fruitless search along the Canadian west coast for the north-west passage, which it was thought might provide a speedy route between the Pacific and the Atlantic, a hope we now know to be misplaced. As winter came on in these northern climes, Cook sailed south to overwinter in Tahiti, a place he knew well from his first two voyages.

Unexpectedly, on their way south, they encountered Hawai'i, being the first Europeans to do so and roughly a thousand years later than the initial Polynesian colonists of these islands. Having mapped part of the big island of Hawai'i and taken part in some dramatic encounters with the locals, Cook left Kealakekua Bay to resume the journey to Tahiti on 4 February 1779, saying to the Hawaiians that he would be back next year. All would have been well had not the foremast sprung on the *Resolution* a few days out from Hawai'i. Coming back to Kealakekua Bay to get a replacement mast, Cook

and his crew were met with a totally different reception. Thefts and confrontations escalated, culminating in the taking of a cutter on the night of 13 February. The next morning, Cook and a party of marines went ashore to take Kalaniopu'u, the paramount chief, hostage against the return of the boat. Returning to the shore with the chief, Cook and his men were surrounded by angry warriors. Cook fired his gun at a man about to strike him but the shot could not penetrate the warrior's protective matting. Seeing this the Hawaiian warriors ran forward, killing Cook and four marines, probably using iron daggers made in Birmingham and traded by his crew to the Hawaiian nobles. His men in offshore boats watched aghast as the great explorer died, his body carried off in triumph.

In order to understand Cook's death we need to consider the Hawaiian point of view. When Cook and his crew arrived, the Hawaiians were engaged in an annual festival, four months in length, during which processions took place in a clockwise direction around each of the Hawaiian islands with the god Lono at their head. Lono was the priests' and people's god and the Makahiki represented a period during which the normal social order was overturned. During this time the chiefs went into hiding and their god Ku with them. At the end of each Makahiki there was a ritual confrontation between Lono and Ku through which Lono was driven off, not to return again for another eight months until the start of the next Makahiki. This confrontation restored the rule of the chiefs. The social year was intimately tied to the agricultural round. With Ku restored, planting began, utilizing the February rains, one such rainstorm bringing about the damage to the *Resolution's* mast. Harvest took place at the beginning of the Makahiki festival. The calendar was also a basic part of the transported landscapes Hawaiians brought with them across the Pacific, specifying how plants and animals should be used, together with the human and cosmological implications of each part of the year. This ritual calendar provides the framework for Cook's death.

The anthropologist, Marshall Sahlins, has argued that Hawaiians, trying to make sense of the first encounter with Europeans, took Cook to be the commoners' god Lono. Cook arrived when the Makahiki was under way and in mapping Hawai'i his ships followed the clockwise progress of the Lono procession around the island. Cook came ashore on 17 January, just at the end of the procession and acquiesced in a number of rituals in which he was dressed as Lono, then unknowingly underwent a ritual confrontation with Kalaniopu'u. His departure for Tahiti was slightly late for the Hawaiians, but his promise to return next year was reassuring as it confirmed Cook/Lono's role in the ritual cycle. The big problem was his unprecedented return a few days later, which to the Europeans was caused by unforeseen and unwanted practical events, but to the Hawaiians looked like Lono challenging the power of the chiefs and with it the whole cosmological and social order, a challenge confirmed when Cook took Kalaniopu'u hostage. To use Sahlins's joke – this was one time when God was indeed an Englishman.

Cook's death resulted from the meeting of two social logics, which were each internally consistent, but based on different premises. Hawaiian logic was part of their ancient Pacific heritage, brought by the first colonists to those islands and shared with all other Polynesian groups, but given special expression in Hawai'i. The prehistory of Hawai'i is one of the creation of a sacred landscape, with temples, habitation sites, field systems, and fish ponds developing over a millennium and achieving modern expression in the four centuries before Cook's coming. The ritual system regulated not just the landscape, but also human relations. Wakea (sky-father) and Papa (earth-mother) are parents of the islands of Hawai'i and of human offspring, setting the basis for the taboo system, where women were seen as defiling in contrast to the sacredness of men. The two genders must not eat together, and women were forbidden to eat certain foods, such as pig, coconut, and bananas, which have male symbolic connotations. A further separation of rank also ran through the landscape, ensuring that

commoners (*maka'ainana*) and chiefs (*ali'i*) maintained a proper distance between each other. The basis of this distance was cosmological: the chiefs were closer to the gods than were the commoners and more able to influence divine powers. Hawaiian history was constructed so as to link philosophy and action into general precepts used as guides for living well.

In many ways, Hawaiian suspicions that Cook had come to overturn the accepted order turned out to be well-founded. In 1812 the taboo system was given up and Christianity adopted, which simultaneously reordered relations between men and women, chiefs and commoners, and all human beings to cosmological powers. Today identity for Native Hawaiians is a complex compound of past Polynesian inheritances, ultimately traceable to the offshore islands of New Guinea 35,000 years ago, their history since 1779, and contemporary life in a multicultural state of the US, where land they feel to be theirs is owned and used by people of European, Japanese, and Chinese descent. The past is deployed in the service of the politics of the present, where Polynesian inheritance is stressed but common cause is also made with Native American organizations on the US mainland, who are also attempting to overcome genocide and dispossession.

Colonial and post-colonial identities result from a clash of mythologies. Cook is seen as the great explorer and harbinger of capitalism (Adam Smith's global agent, as he has been described), using and developing new forms of navigation to travel and chart a major portion of the earth's surface, together with gathering systematic information on the peoples of the Pacific. Such rational control over the world expressed in charts and maps met the cyclical conceptions of Polynesians where the differences between the sacred and profane were blurred, so that a person could be a god. Europeans celebrated a new-found ability to navigate huge expanses of ocean without really reflecting on the ability of the so-called primitive peoples they encountered to do the same through a feel for wind and tide, close observation of the stars,

and long knowledge of Pacific seaways, transmitted through story, song, and actual voyages.

Our identities are not fixed, but exploratory. In different continents people have experimented with how to transform the world, so as to transform themselves. As with the Hawaiian year or African iron working, cycles of transformations are well known and understood. Other events are unexpected, putting normal common sense at risk. The coming of Cook for the Hawaiians was an extreme event, but war, sudden death, and natural disaster all have to be coped with. Explorations of the world are simultaneously explorations of the human body and being, charting the range of sensory experiences possible in the world and the values that can be attached to such experiences. Writing prehistory is a recapitulation of past experiences, re-exploring the creative possibilities of bodies and materials and their varied cultural logics.

Prehistory

All our identities and histories are partly mythologically based, resting on unexamined principles and taken-for-granted assumptions. The further we go back in time the more our myths flourish, unconstrained by direct knowledge. Socrates' dictum that the unexamined life is not worth living lies at the heart of much critical Western thought, encouraging the power of *logos* over *mythos*. The Victorians celebrated their own logic, but loved other peoples' myths. In this we are their children. Such attitudes have acted to dam up a rich reservoir of myth in our culture, making it an object of study rather than belief. Prehistory is a rare area where myth comes to life and this is a major part of its attraction. This is not to say that we are making up prehistory, or that we should do so. Ultimately the past is of interest for present purposes; it means nothing in itself. To give the past maximum power in the present we should celebrate and enhance its mythological properties, but ensure that the myths we are working through are healthy ones by which to live. The careful empirical examination of the past is not at odds with our use of prehistory to understand present relations between men, women, and children, between those of different

cultures, and between those with a deep belief in the divine on those who have lost such beliefs. For Cook to understand Hawaiian motives on the day of his death would have required a heroic effort of sympathetic understanding and the same was true of Kalaniopu'u. But a successful effort on everyone's part to understand foreign social logics would have changed the history that unfolded on 14 February 1779 and might subsequently have changed a clash of cultures into something approaching sympathetic understanding. These are utopian hopes to be sure, but more necessary now than at any time in the recent past.

Prehistory puzzles 3

A vital, but controversial, element of life in many areas of the world, although maybe especially in Britain, is that of class. Many would see class divisions as a major issue in most Western societies. Although class is something that is acknowledged at an anecdotal level, it is notoriously difficult to define. Income is a rather confusing measure, as there is quite a lot of overlap between working class, middle class, and aristocratic wealth. Class is partly about attitudes, but attitudes are very hard to pin down and define. A student working on kitchen equipment in Sheffield in northern England in the 1970s felt that she had come up with an unambiguous marker of class, which most middle class kitchens contained, but was absent from all working class households and this was the garlic crusher. One simple, but significant, object appeared to crystallize a whole bundle of social, cultural, and economic attributes, concentrating them to a single point. Whether if the survey was repeated 30 years later the same would be true is not clear – tastes have changed and greater travel and exposure to other cuisines have altered what people eat. Sheffield has a large south Asian population, but few migrants from the Mediterranean. In Melbourne (supposedly the third largest Greek city in the world) or New York the garlic crusher would be found more evenly spread across the city and other markers of class would have to be sought.

Each of us has a mix of possessions which are diagnostic of class differences in the area we live (type of house, furnishing, books, music, forms of socializing) causing us to think how might these provide different insights from evidence of income, occupation, and tastes, compared with the results of an interview.

Chapter 6

The prehistory of the future

Prehistory is alive and well, inhabiting the area of our lives least easily put into words: our connection to material things. Many of our most significant others are not people, but objects; and especially significant objects are not strangers to us, they are known, loved, and lived with. Cooking utensils, cars, beds, computers, hammers, or pens each hold a set of possibilities within, immediately apparent to those who know them well. Prehistory is less a period and more a set of potentialities which we know, sense, and feel, but find hard to speak. Realizing the potentials of the material world lies at the heart of what makes us, and has made us, human. It is a thread to follow into the silent parts of the human story. To attune ourselves to prehistory, past and present, we need to resonate with the non-verbal bits of human experience. I am aware of the irony of writing to say that words are only part of our story.

Crucially for the prehistory of the present, the world is being reconfigured, profoundly changing our relations with material things. A new type of space has emerged, changing what we do day to day and creating new mythologies: cyberspace. This is a term coined by the writer William Gibson in his novel *Neuromancer* to describe the new mass of interconnections between people, machines, and information which Gibson calls a 'consensual hallucination'. It makes no sense to ask 'Where is cyberspace?', despite the spatial metaphor. It is virtual, that is to say notional,

imagined, not concrete or really real. But, of course, it does exist as a set of connections and relations between hardware, software, and wetware (that's us – the cyberliterature is replete with new terms).

One of the intellectual products of web connectedness has been a shift from an interest in entities to the defining of relationships. The 19th and earlier 20th centuries divided up the world in order to study it. The Linnean classification of biologists was copied in many areas of study. It was the ethnologist and archaeologist Pitt Rivers who coined the term 'typology', and types became basic to understanding regional and chronological differences, encoded in the periods of European prehistory: the Stone, the Bronze, and the Iron Ages. In order to make sense of a mass of diverse material it is useful to divide this into stone, bone, pot, and metal or to distinguish the Lower, Middle, and Upper Palaeolithic. Disciplines arose around these classifications, so that archaeology split off from ethnology, and first museums, then academic departments, gave institutional structure to these classifications. Now we have many specialists – those who look at Neolithic pots, but know little of Iron Age ceramics; people who know about the prehistory of coastal New Guinea, but not the Highlands of that country. These divisions and specialisms have been most productive, but they do divide.

What was put asunder is now being recombined. Disciplinary boundaries are breaking down, so that the study of material culture can be carried out by prehistorians, historians, anthropologists, or geographers. Prehistorians studying material culture are wary of their own classifications, wondering how much sense it makes always to separate the study of pottery from that of metalwork or basketry, and are thinking of putting these pieces together in ways that provide a more holistic view of human social and sensory experience.

A stress on relations is unsurprising given the changes in how we live. In cyberspace relations work to change entities. Multiple User Domains (MUDs) are groups into which people can enter as

themselves or someone of a different gender or even species. New identities are not adopted randomly, but help people work through issues in the rest of their lives. A woman who lost a leg in an accident developed a one-legged MUD persona who had a series of satisfying virtual relationships, opening up the possibility of real-life relationships. MUDs have become rich areas of anthropological study. Predictably perhaps, despite the unfettered possibilities of virtual inventiveness, many new personae are depressingly familiar; a 'Boy's Own' mentality has dominated much of the new culture.

Nevertheless, entities are up for grabs, reworked through new virtual relations, leading to a greater fluidity in the realm of ideas. Entities are under threat from other elements of cyberculture, such as the notion of the cyborg. Part-person, part-machine, the cyborg belongs to a science-fiction future. Or does it? Many would argue that we are all already cyborgs. Medical interventions have changed our biochemistry through inoculations or even created people through IVF. Our organs can be removed or replaced and machinery introduced into the body in the form of a pacemaker or new hip joint. The distinctions between person and object will blur further over the next few years. Many of us are linked to machines for long stretches of the day. Cars, computers, telephones, industrial machinery, and the TV all have fundamental effects on our bodies, thoughts, and feelings. No wonder that many studying material culture are unhappy with the subject-object distinction. The changing world of the present has caused many prehistorians to think about our past differently, searching out the intimate connections that have always existed between people and things. The study of the past and our understanding of the present are deeply entangled.

Cyberspace is infinitely complex and inter-connected; cyborgs are neither one thing nor the other. Academia is now tending to stress a lack of clear boundaries between both disciplines and objects of study, as well as non-linear movements of history, thought, and action. The onwards and upwards progressive histories of the

Victorians are gradually being replaced with views that stress the complexity of history and not its directional nature. Many areas of the world have rejected the Three Age system of Stone, Bronze, and Iron, a rejection increasingly appealing to many in Europe.

Cyberspace is still very new, but not unprecedented. As a virtual system it stands as the latest in a long line of such systems, the most influential of which is language. Fully modern humans have been speaking for at least the last 40,000 years. Much of this conversation has probably been gossip, just as ours is in the present. Whether Neanderthals or even earlier ancestors could speak is still debated, as they may not have possessed the right architecture of mouth and throat to produce the same subtle range of sounds we do. Whether they were capable of humour, irony, fantasy, and myth we will probably never know. We do have one big clue to the development of language. Around 40,000 years ago there is a huge upsurge in symbolism, through rock art, carved animal and human figures, and decoration on objects.

The classic definition of a symbol is 'something that stands for something else' – the colour red for blood, which then might be generalized as a symbol for danger. In his book *The Prehistory of Mind* Steven Mithen sees a shift from human ancestors, up to and including the Neanderthals, who had a number of domain-specific intelligences, each concerning technology, the natural world, and the social world. They were unable to connect these different domains of thought. If Mithen is correct then the Boxgrove hominids, with whom I started this book, could think about the behaviour of horses with one part of their mind, making a handaxe with another, and their own position within the group using a third. They could not connect these areas of thought in any effective manner. The last 40,000 years has seen the rise of what Mithen terms 'cognitive fluidity', which can make connections between the natural and social worlds. Contemporary hunter-gatherers might see an animal as their ancestor, which must be treated with respect when killed and eaten. Such connections were impossible for the

Boxgrove hominids, he argues. The basis of cognitive fluidity is the ability to create symbols. When something can be seen to stand for something else all sorts of connections become possible, so that the separateness of domain-specific intelligences breaks down.

I take a rather different view of intelligence to Mithen, seeing it as a quality of our bodies as much as our minds. Working intelligently on and in the world our ancestors seamlessly combined the social and the natural. If the Boxgrove hominids did hunt, then this required a sophisticated understanding of animal behaviour and coordinated social action. Dividing culture and nature as separate categories of thought as Mithen does only occurred in the last few hundred years. However, what was only incipient prior to 40,000 years ago was the tension between the virtual world of words and the concrete realm of actions and relationships. A key element of modern human behaviour is that we can do things, but we can also think about doing things. Until sophisticated forms of symbolism developed 40,000 years ago, there were few symbolic means of constructing the world of action, so that hominids were more bound up in the immediacy of their material and sensory worlds. Symbolic forms of speech and representation operate through links to the world (blood⇒red⇒danger), but over time they also develop their own internal logics, which make these links much less straightforward. Sahlins's telling of the death of Cook pointed out that Hawaiians and Europeans worked with their own sets of cultural logics; their actions were motivated by one set of events, but also by the different sense they both made of those events. Modern human action and intelligence came about not through linking domains of thought previously separate, as Mithen has argued, but through setting up a tension between action and thought. Thought, in turn, is possible through symbolism which can recreate the everyday world in virtual form. The digital words I am creating now will be transferred later to the page to evoke (I hope) thoughts and feelings on the part of you the reader. Words are not the world itself, but do stand in a complex relationship to the world.

The virtual world, which was first brought into existence by sophisticated symbolic language, is in tension with the practical world, but is not totally opposed to it. As Renfrew has pointed out, a concept of weight is hard to conceive of in the absence of some material set of weights and could not have arisen purely as an idea. Now that they do exist as concepts measures of weight can be added or subtracted arithmetically and treated in a manner quite divorced from actual weights. Weight is both a concept and an actuality, virtual and real.

Cyberspace is a virtual system of relations that could not exist without computers, Ethernet cables, and people at keyboards. It exists both in our heads and at our fingertips. Cyberspace has created its own mythologies, gripping our imagination, as shown by increasing numbers of books and films featuring the net, helping to dispel one myth that we live by – that we have no myths.

Prehistoric relations between people and pots or pots and metal vessels hold no straightforward guides to present cyber and cyborg culture. But the tension between the material and the virtual has existed for at least the last 40 millennia and there are lessons to be learnt today from long-term relationships and tensions.

The present world is changing fast, giving new shape to old relations. We are uncertain of who we are, as part-people and part-objects, or of where we are going as a non-linear future unfolds. Oscar Wilde said that our one duty to history is to rewrite it. We have a growing sense that history is rewriting us.

Further reading

Chapter 1

- B. Connolly and R. Anderson, *First Contact* (Viking Penguin, 1987): how prehistory ended in the New Guinea Highlands.
- C. Gamble, *The Palaeolithic Societies of Europe* (Cambridge University Press, 1999): an intelligent and detailed account of the earliest prehistory of Europe.
- Ongka, *Ongka: A Self-Account by a New Guinea Big-Man*, trans. A. Strathern (Duckworth, 1979).
- M. Pitts and M. Roberts, *Fairweather Eden* (Century, 1997): an excellent account of the work, personalities and findings at Boxgrove.
- J. N. Postgate, *Early Mesopotamia: Society and Economy at the Dawn of History* (Routledge, 1994): good background of the origins of writing in Mesopotamia and Mesopotamian influences elsewhere.

Chapter 2

- R. Dunbar, *Gossip, Grooming and the Evolution of Language* (Faber, 1997): discusses the links between brain size and social complexity in primates and the origins of language in humans.
- C. Gamble, *Timewalkers: The Prehistory of Global Colonization* (Penguin, 1993).
- M. Mauss, *The Gift*, trans. W. D. Halls (Routledge, 1990, 1st published 1928): a classic work of French anthropology that laid much of the basis for understanding exchange and social relations in kin-based societies.

Chapter 3

- R. Gould and M. Schiffer (eds.), *Modern Material Culture: The Archaeology of Us* (Academic Press, 1981): has a lively chapter by Rathje on the Tucson Garbage Project, plus other interesting material.
- T. Ingold, *The Perception of the Environment* (Routledge, 2000): excellent on hunter-gatherer relationships with their landscapes.
- G. Stocking, *Victorian Anthropology* (Free Press, 1987): dense, but excellent account of the debates of the nineteenth century and their social context.
- B. Trigger, *A History of Archaeological Thought* (Cambridge University Press, 1989): the most comprehensive account there is.

Chapter 4

- P. Bogucki, *The Origins of Human Society* (Blackwell, 1999): a well-written and comprehensive account of human prehistory, developed around a notion of progress.
- Y. Bonnefoy (ed.), *Mythologies*, trans. W. Donniger (Chicago University Press, 1991): a comprehensive survey, originally in French, of world mythologies.
- V. G. Childe, *What Happened in History* (Penguin, 1942): classic account of human history by the most influential archaeologist of the earlier 20th century.
- J. Diamond, *Guns, Germs and Steel* (Vintage, 1998): a lively and provocative account of human history from an evolutionary perspective.
- S. Fiedel, *Prehistory of the Americas* (Cambridge University Press, 1992).
- A. Moore, G. Hillman, and A. Legge, *Village on the Euphrates* (Oxford University Press, 2000): the site report on Abu Hureyra – large but worth the effort.
- C. Renfrew, *Archaeology and Language* (Jonathan Cape, 1987): this book rekindled archaeologists' interests in the history of languages and put forward the hypothesis that the spread of the major language families was due to the movements of farmers.

- and K. Boyle (eds.), *Archaeogenetics: DNA and the population prehistory of Europe* (McDonald Institute for Archaeological Research, 2000): explores the possibility of a 'grand synthesis' of archaeological genetic and linguistic data, focusing on the new genetic information.
- T. Shaw, P. Sinclair, B. Andah, and A. Okpoko (eds.), *The Archaeology of Africa* (Routledge, 1993).
- A. Sherratt, *Economy and Society in Prehistoric Europe* (Princeton University Press, 1997): an account of European prehistory that tries to develop an holistic and materialist perspective.

Chapter 5

- R. Gilchrist, *Gender and Archaeology* (Routledge, 1999): contains a comprehensive overview of the issues surrounding gender, worked through a number of case studies.
- C. Gosden, *Anthropology and Archaeology* (Routledge, 1999): looks at questions of aesthetics and transformations as approached from both an archaeological and anthropological perspective.
- (ed.), *Archaeology and Aesthetics, World Archaeology*, 33 (2001).
- P. Kirch, *On the Road of the Winds* (University of California Press, 2002): a comprehensive and accessible account of Pacific prehistory.
- G. Lock, C. Gosden, D. Miles, and S. Palmer, *Uffington White Horse Hill and its Landscape* (Oxford Committee for Archaeology, in press).
- M. Sahllins, *Islands of History* (University of Chicago Press, 1985): a difficult but fascinating account of Pacific history, including the death of Cook.

Chapter 6

- D. Bell and B. Kennedy (eds.), *The Cybercultures Reader* (Routledge, 2000).
- S. Mithen, *The Prehistory of the Mind* (Thames & Hudson, 1996): emphasizes the importance of mind rather than bodily intelligence, but provides a lively and interesting account of this important subject.
- T. Taylor, *The Prehistory of Sex* (Fourth Estate, 1996): lively but generally uncritical survey of a subject bound to sell books.

Timelines

Africa

c.120,000 BC	First fully modern humans (in a physical, if not behavioural, sense)
120,000	Klasies River Mouth site: evidence of fishing, shellfish gathering, and seabird predation; fishhooks and stone tools
c.100,000	First movement of fully modern humans out of Africa
40,000	Beginning of the Late Stone Age (LSA); human adornment in form of ostrich eggshell beads
30,000	Southern African rock art; possible development of the bow and arrow
6000	Cattle pastoralism in north Africa; settled agriculture in Egypt
5000	Sorghum, African rice, and guinea fowl all domesticated in the circum-Saharan area by this date
4000–3000	Development of hieroglyphic script in Egypt; end of prehistory there
3000–2000	By this time cattle and goats introduced into sub-Saharan Africa (quite possibly earlier); African yams and oil palm domesticated; dates of tea and coffee unknown

800	Copper working in West Africa (may date earlier)
500	Evidence of iron smelting in Nigeria and central Niger; spreads to rest of West Africa by AD 1000
0	Spread of cattle, sheep, and iron to southern Africa

Americas

South

13,000 BC	Monte Verde
12,000	Clovis
6000	Potatoes, maize, beans in the Andes
5000	Pottery in the Amazon and Andes
3500	Pots, cotton, and domesticated camelids, guinea pigs, in the Andes
900	Large ceremonial centres in the Andes
AD 100	Rise of Tiwanku polities, ultimate ancestors of Inca empire

Central

12,000	Clovis
7000	First squash and gourds
5000	Maize and beans
2500	Pottery
1000	Earliest state formation
500	Writing in the Mayan area
AD 1000	Metal production

North

12,000	Clovis
10,000	Folsom
7000	Gourds and squash in the Mid-West
4000	Pottery and copper in the Mid-West
3000	Maize in the South-West

2000	Bow and arrow in the Arctic
1000	Pottery in the Arctic and South-West
600	Pottery and maize in Great Basin

Asia

South-West

Prehistory	15,000 BC	Expansion out of refugia?
	12,000	Natufian
	10,000	Pre-pottery Neolithic; earliest cereal and animal domestication
	9500	Start of Abu Hureyra
	6500	Hassuna and Samarran painted pots, baskets, obsidian, copper beads, olives, and vines
	5000	Tripartite houses; ploughs
	4000	Wheel-turned pottery
	3500	Cities in Mesopotamia; first bronze working and writing

Central and East

7000	Farming villages from Turkmenistan to Baluchistan: domesticated cereals and animals
6500	Rice cultivation, pottery, and villages in China
3000	Bronze and silk weaving in China; rice in Thailand and Vietnam
2500	Cities in the Indus Valley
1800	Start of Shang dynasty, China
1400	First Chinese writing

Australia and the Pacific

40,000+ BC	First colonization
35,000	First island colonization: New Ireland
30,000	First rock art: Australia; first colonization of the Solomon Islands
25,000	First occupation of Australian central desert
20,000	Movement of obsidian and animals in New Guinea
14,000?	First use of tree crops: New Guinea
8000	Sea level rise divides Australia and New Guinea
6000	First horticultural systems in Highland New Guinea; dog introduced in Australia; new tool types in Australia
3500	Lapita expansion into the Pacific as far as Tonga and Samoa
1000	Sweet potato introduced into Pacific from South America
AD 1000	Sedentary settlement on Murray River, Australia; first settlement of Hawai'i, Easter Island, and New Zealand
1350	Sweet potato introduced into New Guinea Highlands
1788	First white settlement of Australia

Timelines

Europe

c.40,000 BC	First fully modern humans
15,000	Expansion out of refugia in Iberia–Southern France, Balkans–Ukraine
10,000	Wild grains, fruit, and marine resources utilized
6500	Early Neolithic villages in south-east Europe; cereals and domesticated animals
4500	Earliest use of copper

4000	First farming in north-west and first megaliths
3500	Ploughs and carts
3000	Wool and horses
2000	First texts in Minoan palaces
2300	First use of bronze
800	Introduction of iron; urbanization in Mediterranean
100	First urban settlements in northern Europe

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