MODERN MAN

A date for the emergence of *Homo sapiens* would be impossible to come by; it is difficult to find even moderately unambiguous criteria for separating *H. erectus* and early *H. sapiens*. Perhaps the best is brain size and skull shape; by at least 250,000 years ago human groups had brain sizes close to modern values, and the larger brain was surrounded by a less angulated skull than that typical of *H. erectus*.

Stone tool cultures continued to increase in complexity, indicating that hominids were increasing their impact on the environment (though for a long time men were still tied to lakes and rivers, not having invented containers for carrying with them precious water). Clothing had certainly been invented by this stage, if not before, and hominid bands were living in dwellings that were, although temporary, nevertheless quite large.

The best known populations of archaic *Homo sapiens* are the *Neanderthals*, a group found in Europe (including European Russia), North Africa and Southwest Asia between 100,000 and 40,000 years ago. The Neanderthals had made at least two sets of advances over earlier hominids. First, their material culture was more complex. At this time (100,000 to 50,000 years ago) hominid material cultures seem to show the beginnings of regional differentiation, suggesting the

development of culturally homogenous (and perhaps linguistically distinct) regions separated by areas of minimal contact. Second, the Neanderthals buried their dead complete, complete with personal ornaments, wreaths and, in some cases, grave goods. Thus another major cultural development was achieved, the belief in an afterlife. Within the perspective of 14 million years of hominid evolution, the Neanderthals – separated from us by a few tens of thousands of years – were almost fully human. Certainly they were far from being apelike and brutish, as some have portrayed them.

Men with modern skulls first appeared in Africa some 90,000 years ago, although in very small numbers. However beginning about 50,000 years ago, they became much more plentiful, and by some 40,000 years ago had completely replaced archaic *Homo sapiens* populations. In some areas the replacement probably involved pushing older inhabitants out; in most regions more modern groups probably hybridized with the earlier ones; and some archaic populations actually evolved into modern types.

The transition to modern man, and his spread, has yet to be fully explained; but recent work suggest that quite profound behavioural changes occurred at or before the time he became dominant. First, there was a marked technological shift, at least in Southwest Asia, North Africa and Europe, to the manufacturing of blades (narrow flakes) by punch striking.

Using this as many cutting edges as he could using older methods. Second, hunting patterns change away from generalized big game hunting to the hunting of large migatory herd animals (for example, wild cattle, *Bos primigenius*, the bulls of which stood six feet tall at the shoulder).

Third, there were shifts in burial styles, suggesting that social roles within groups were becoming more clearly differentiated and that temporary social aggregations were becoming very large. A single grave might contain hundreds of mammoth shoulder blades or thousands of shells, suggesting very considerable intergroup contacts. Increased hunting group size is also indicated by some Upper Paleolithic campsites.

Fourth, there were probably some significant advances in the use of language. Neanderthal skulls show evidence of pharynx – vocal organs of great importance in articulate speech – that were markedly less developed than those in modern man. If the earlier forms of *Homo sapiens* were simply anatomically less well able to talk than their ancestors, we may have a clue to at least one of the reasons for the relatively low rate of cultural change in the Pliocene and Pleistocene.

Finally, there was the fact of modern man's extraordinary mobility. The migration to the New World – over the Bering land bridge that then connected Siberia and Alaska

– began about 20,000 years ago, and by about 9,000BC men had reached the southern tip of South America. In due course, human groups established themselves on every part of the globe save Antartica.