

from the surface. Its owner lived in the first interglacial period, while *Pithecanthropus* was living in Java, and may have been a very similar creature. The jaw-bone is not the jaw-bone of a man as we understand man, but it is man-like in every respect, except that it has absolutely no trace of a chin; it is more massive than a man's, and its narrowness behind could not, it is thought, have given the tongue sufficient play for articulate speech. It is not an ape's jaw-bone; the teeth are human. The owner of this jaw-bone has been variously named *Homo Heidelbergensis* and *Palæanthropus Heidelbergensis*, according to the estimate formed of his humanity or sub-humanity by various authorities. He lived in a world not remotely unlike the world of the still earlier sub-man of the first implements; the deposits in which it was found show that there were elephants, horses, rhinoceroses, bison, a moose, and so forth with it in the world, but the sabre-toothed tiger was declining and the lion was spreading over Europe. The implements of this period (known as the Chellean Period) are a very considerable advance upon those of the Pliocene Age. They are well made but *very much bigger* than any truly human implements. The Heidelberg man may have had a very big body and large fore-limbs corresponding with the great size and massive character of the jaw. He may have been a hairy, strange-looking, inhuman creature. Three very similar jaws were found at Ternifine, in Algeria, in 1954, with Chellean tools beside them.

#### § 4

#### *The Piltdown Forgery.*

In the original version of this book, there appeared here a section dealing with the "Piltdown Man", and in the genealogical tree on page 143 there was a sort of spur to which the same name was attached. The reasons why that section was written, and why it no longer appears, are worth more than a moment's attention. It was at the end of the year 1912 that an amateur but very successful archæologist and geologist named Charles Dawson assisted by a professional, Smith Woodward, announced his discovery of part of the skull of a remote ancestor of man. It was half-man, half-ape, and the surrounding objects in the gravel-pit where it was found—at Piltdown, in the south of England—showed it to have been some five hundred thousand years old, as indeed its condition suggested. The brain case was human, but

the jaw was ape-like, apart from the teeth, which were worn down flat in a human way. The canine tooth, which would be most significant, was missing, but it was found later, after a reconstruction had been made of the head as if it were a sort of a man; it corresponded exactly with the canine tooth in the reconstruction. In the year 1912 this discovery caused a sensation. The clerical refusal to accept the fact of evolution was still widespread, and had frequently taken the form of a challenge to the scientists to produce "a missing link" that would join man to the apes. "The missing link has been discovered," it was cried, or denied, by propagandists for either side who were more zealous than well-informed.

The bones were carefully examined, and though some scientists still held that these were the remains of two different animals, most agreed that they all came from one being; they fitted together so exactly, for one thing.

The opponents of evolution were in fact mistaken in believing that this object which was given a name (*Eoanthropus Dawsoni*) was a godsend to the evolutionists. Rather, it was a nuisance. As more and more evidence of the development of the human race was discovered, the presence of Piltdown man became more and more of a puzzle. This very human braincase linked to a wholly ape-like jaw was not in the line of evolution at all—it was the reverse, indeed, of the main process of development; it must be a sport. Some hundreds of papers were written discussing it. This persistent checking and inquiring had in the end a result, but a very unexpected one. Forty-odd years later it was discovered that Piltdown man had never existed. He was what surely must be the most successful practical joke in human history.

Fluorine tests, first of all, showed that the braincase was not 500,000 but more like 50,000 years old. Then it was found that the teeth in the jaw had been deliberately ground flat, next that the jaw itself was modern, finally that the ancient look of the bones was due to ingenious staining. The tests used were not known in Dawson's day; if it was he who arranged the hoax he may well have thought it would never be discovered. Nor would it have been, if investigators had not followed the most essential duty of historians—to take nothing upon authority, to question everything, and always to be prepared to check and re-check by examination of the evidence.

## CHAPTER 7

### THE NEANDERTHAL MEN, AN EXTINCT RACE

(The Middle Palæolithic Age)

- § 1. *The genus Homo appears.*  
§ 2. *The World 50,000 Years Ago.*  
§ 3. *The Daily Life of the Neanderthal Men.*  
§ 4. *The Last Palæolithic Men*

#### § 1

AFTER *Pithecanthropus*, for many thousands of years the record consists almost entirely of flint implements, which improve steadily in quality. The archaeologists are presently able to distinguish scrapers, borers, knives, darts, throwing-stones, and the like. But the bones are few and fragmentary. Most interesting because of their great antiquity, are the three fragments of a single brain-case found in Swanscombe, Kent—two of them in 1935 and the third twenty years later. The skull was that of a young person, twenty-five years old or less, and as far as one can tell from the limited material available, it was exceedingly like the skull of a modern man except for the greater thickness of its bones. The Swanscombe Man lived before the third Glacial Age, and more than 200,000 years ago. For over half that tremendous interval, the bones stay few and incomplete. But the record improves as the fourth and last Glacial Age approaches and rises to a maximum. Man has taken to caves and is leaving abundant vestiges there. From many sites in Europe, from Palestine and Asia and Africa come human remains—skulls which differ a little from our own and often from each other, but which we must recognize as the remains of men.

Most celebrated of these caves is the one at Neanderthal, near Dusseldorf in Germany. Here, in 1856, the first bones were found of a distinct group of men that came to be known as Neanderthal Men, *Homo Neanderthalensis*. They are now known from many other European sites, and seem to have populated most of Europe at the beginning of the fourth Glacial Age. A Neanderthal Man was thick-skulled and heavy-boned, he stooped forward and could not hold his head as erect as living men do, he was chinless and perhaps incapable of speech, he was very thick-set, he was, indeed, not quite one of our present

species, but his brain-case was at least as large as ours and there can be no dispute about his inclusion in the genus *Homo*.

It is natural to suppose that these rather beastly men were the last "missing link" in the evolutionary chain leading to *Homo sapiens*. But this conclusion may be doubted. The men of the classic or extreme Neanderthal type, the type just described, were preceded in Europe, during the interglacial period before the last Ice Age, by other men more like ourselves. These "generalized Neanderthal Men", as they are sometimes called, had many of the features of their immediate successors, but in other respects they were more akin to *Homo sapiens*. Probably a primitive type of *Homo* came into existence in the middle Pleistocene, a type not unlike the generalized Neanderthal men, and gave rise to two divergent lines of descent. One led our way; the other, by emphasizing the heavier and more brutish aspects, produced the later extreme Neanderthal men.

## § 2

### *The World 50,000 Years Ago.*

In the time of the Third Interglacial Period the outline of Europe and western Asia was very different from what it is to-day. Geologists are able to mark out the broad lines of the differences; we give a map of their conclusions. Vast areas to the west and north-west which are now under the Atlantic waters, were then dry land; the Irish Sea and the North Sea were river valleys. Over these northern areas there spread and receded and spread again a great ice cap such as covers central Greenland to-day. This vast ice cap, which covered both polar regions of the earth, withdrew huge masses of water from the ocean, and the sea-level consequently fell, exposing great areas of land that are now submerged again. The Mediterranean area was probably a great valley below the general sea-level, containing two inland seas cut off from the general ocean. The climate of this Mediterranean basin was perhaps cold temperate, and the region of the Sahara to the south was not then a desert of baked rock and blown sand, but a well watered and fertile country. Between the ice sheets to the north and the Alps and Mediterranean valley to the south stretched a bleak wilderness whose climate changed from harshness to a mild kindness, and then hardened again for the Fourth Glacial Age.

Across this wilderness, which is now the great plain of Europe, wandered a various fauna. At first there were hippopotami, rhinoceroses, mammoths, and elephants. The sabre-toothed tiger was diminishing towards extinction. Then, as the air

chilled, the hippopotamus, and then other warmth-loving creatures, ceased to come so far north, and the sabre-toothed tiger disappeared altogether. The woolly mammoth, the woolly rhinoceros, the musk ox, the bison, the aurochs, and the reindeer became prevalent, and the temperate vegetation gave place to plants of a more arctic type. The glaciers spread southward to the maximum of the Fourth Glacial Age (about 50,000 years ago), and then receded again.

In the earlier phase, the Third Interglacial Period, a certain number of small family groups of men (*Homo Neanderthalensis*) and probably of sub-men wandered over the land, leaving nothing but flint implements and occasional bones to witness to their presence. There may have been other implement-making species of whom at present we have no more than a suspicion. They probably used a multitude and variety of wooden implements also; they had probably learnt much about the shapes of objects and the use of different shapes from wood, knowledge which they afterwards applied to stone; but none of this wooden material has survived; we can only speculate about its forms and uses.

As the weather hardened to its maximum of severity, the Neanderthal men—already, it would seem, acquainted with the use of fire—began to seek shelter under rock ledges and in caves, and so leave remains behind them. Hitherto they had been accustomed to squat in the open about the fire and near their water supply. But they were sufficiently intelligent to adapt themselves to the new and harder conditions.

As for the sub-men, they seem to have succumbed to the stresses of this Fourth Glacial Age altogether. The rudest implements presently disappear.

Not merely man was taking to the caves. This period also had a cave lion, a cave bear, and a cave hyæna. These creatures had to be driven out of the caves and kept out of the caves in which these early men wanted to squat and hide; and no doubt fire was an effective method of eviction and protection. Probably early men did not go deeply into the caves, because they had no means of lighting their recesses. They got in far enough to be out of the weather, and stored wood and food in odd corners. Perhaps they barricaded the cave mouths. Their only available light for going deeply into the caverns would be torches.

What did these Neanderthal men hunt? Their only possible weapons for killing such giant creatures as the mammoth or the cave bear, or even the reindeer, were spears of wood, wooden clubs, thrown stones, and those big pieces of flint they left behind

*Possible Outline of*  
**EUROPE & WESTERN ASIA**  
*at the Maximum of the*  
**Fourth Ice Age**  
*(about 50,000 years ago)*



|  |  |
|--|--|
| <i>Land</i> . . . . .                  |  |
| <i>Water</i> . . . . .                 |  |
| <i>Ice</i> . . . . .                   |  |
| <i>Present-day coastline</i> - - - - - |  |

THIS MAP REPRESENTS THE PRESENT STATE OF OUR KNOWLEDGE OF THE GEOGRAPHY OF EUROPE AND WESTERN ASIA AT A PERIOD WHICH WE GUESS TO BE ABOUT 50,000 YEARS AGO. THE NEANDERTHALER AGE

them, the "Mousterian" implements; and probably their usual quarry was smaller game. But they did certainly eat the flesh of the big beasts when they had a chance, and perhaps they followed them when sick or when wounded by combats, or took advantage of them when they were bogged or in trouble with ice or water. The Labrador Indians still kill the caribou with spears at awkward river crossings. At Dawlish, in Devon an artificial trench has been found which is supposed to have been a Palæolithic trap for elephants. We know that the Neanderthalers partly ate their kill where it fell; but they brought back the big marrow-bones to the cave to crack and eat at leisure, because few ribs and vertebræ are found in the caves, but great quantities of cracked and split long bones. They used skins to wrap about them, and the women probably dressed the skins.

We know also that they were right-handed like modern men, because the left side of the brain (which serves the right side of the body) is bigger than the right. But while the back parts of the brain, which deal with sight and touch and the energy of the body, are well developed, the front parts, which are connected with thought and speech, are comparatively small. It was as big a brain as ours, but different. This species of *Homo* had certainly a very different mentality from ours; its individuals were not merely simpler and lower than we are, they were on another line. It may be they did not speak at all, or very sparingly. They had little that we should call a language.

### § 3

#### *The Daily Life of the Neanderthal Men.*

In Worthington Smith's *Man the Primeval Savage* there is a very vividly written description of early Palæolithic life, from which much of the following account is borrowed. In the original, Mr. Worthington Smith assumes a more extensive social life, a larger community, and a more definite division of labour among its members than is altogether justifiable in the face of such subsequent writings as J. J. Atkinson's memorable essay on Primal Law. For the little tribe Mr. Worthington Smith described, there has been substituted, therefore, a family group under the leadership of one Old Man, and the suggestions of Mr. Atkinson as to the behaviour of the Old Man have been worked into the sketch.

Mr. Worthington Smith describes a squatting-place near a

# Palaeolithic Stone Implements

(all roughly to scale of hand shown)



Three views of a rostro-carinate (earliest period) implement

## Chellean Age



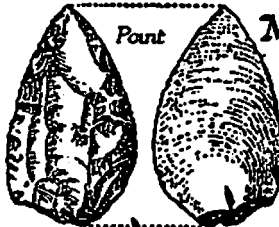
Chopping tool  
[N.B. This is a modern - not a Neanderthal - hand]



Hand-axes



## Mousterian Age



Point

Scrapers



Piercer

## Reindeer Age



Points



J. F. H.

### EARLY STONE IMPLEMENTS

The rostro-carinate may have been shaped by sub-men or merely by natural forces. The Chellean Age was that of Heidelberg Man and *Pithecanthropus*. The Mousterian Age Implements are those of Neanderthal men. The lower row (Reindeer Age) are the work of true men.



stream, because primitive man, having no pots or other vessels, must needs have kept close to a water supply, and with some chalk cliffs adjacent from which flints could be got to work. The air was bleak, and the fire was of great importance, because fires once out were not easily relit in those days. When not required to blaze it was probably banked down with ashes. The most probable way in which fires were started was by hacking a bit of iron pyrites with a flint amidst dry dead leaves; concretions of iron pyrites and flints are found together in England where the gault and chalk approach each other. The little group of people would be squatting about amidst a litter of fern, moss, and such-like dry material. Some of the women and children would need to be continually gathering fuel to keep up the fires. It would be a tradition that had grown up. The young would imitate their elders in this task. Perhaps there would be rude wind shelters of boughs on one side of the encampment.

The Old Man, the father and master of the group, would perhaps be engaged in hammering flints beside the fire. The children would imitate him and learn to use the sharpened fragments. Probably some of the women would hunt good flints; they would fish them out of the chalk with sticks and bring them to the squatting-place.

There would be skins about. It seems probable that at a very early time primitive men took to using skins. Probably they were wrapped about the children, and used to lie upon when the ground was damp and cold. A woman would perhaps be preparing a skin. The inside of the skin would be well scraped free of superfluous flesh with trimmed flints, and then strained and pulled and pegged out flat on the grass, and dried in the rays of the sun.

Away from the fire others of the man-pack prowled in search of food, but at night they all gathered closely round the fire and built it up, for it was their protection against the wandering bear and such-like beasts of prey. The Old Man was the only fully adult male in the little group. There were women, boys and girls, but so soon as the boys were big enough to rouse the Old Man's jealousy, he would fall foul of them and either drive them off or kill them. Some girls might perhaps go off with these exiles, or two or three of these youths might keep together for a time, wandering until they came upon some other group, from which they would try to steal a mate. Then they would probably fall out among themselves. Some day, when he was forty years old, perhaps, or even older, and his teeth were worn down and his energy abating, some younger male would stand

up to the Old Man and kill him and reign in his stead. There was short shrift for the old at the squatting-place. So soon as they grew weak and bad-tempered, trouble and death came upon them.

What did they eat at the squatting-place?

"Primeval man is commonly described as a hunter of the great hairy mammoth, of the bear, and the lion, but it is in the highest degree improbable that the human savage ever hunted animals much larger than the hare, the rabbit, and the rat. Man was probably the hunted rather than the hunter.

"The primeval savage was both herbivorous and carnivorous. He had for food hazel-nuts, beech-nuts, sweet chestnuts, earth-nuts, and acorns. He had crab-apples, wild pears, wild cherries, wild gooseberries, bullaces, sorbs, sloes, blackberries, yewberries, hips and haws, watercress, fungi, the larger and softer leaf-buds, nostoc (the vegetable substance called 'fallen stars' by country-folk), the fleshy, juicy, asparagus-like rhizomes or subterranean stems of the *Labiatae* and like plants, as well as other delicacies of the vegetable kingdom. He had birds' eggs, young birds, and the honey and honeycomb of wild bees. He had newts, snails and frogs—the two latter delicacies are still highly esteemed in Normandy and Brittany. He had fish, dead and alive, and fresh-water mussels; he could easily catch fish with his hands, and paddle and dive for and trap them. By the seaside he would have fish, mollusca, and seaweed. He would have many of the larger birds and smaller mammals, which he could easily secure by throwing stones and sticks, or by setting simple snares. He would have the snake, the slow-worm, and the crayfish. He would have various grubs and insects, the large larvæ of beetles, and various caterpillars. The taste for caterpillars still survives in China, where they are sold in dried bundles in the markets. A chief and highly nourishing object of food would doubtlessly be bones smashed up into a stiff and gritty paste.

"A fact of great importance is this—primeval man would not be particular about having his flesh food over-fresh. He would constantly find it in a dead state, and, if semi-putrid, he would relish it none the less—the taste for high or half-putrid game still survives. If driven by hunger and hard pressed, he would perhaps sometimes eat his weaker companions or unhealthy children who happened to be feeble or unsightly or burthensome. The larger animals in a weak and dying state would no doubt be much sought for; when these were not forthcoming, dead and half-rotten examples would be made to suffice. An unpleasant odour would not be objected to; it is not objected to now in many continental hotels.

“The savages sat huddled close together round their fire, with fruits, bones, and half-putrid flesh. We can imagine the wild man and his women twitching the skin of their shoulders, brows and muzzles as they were annoyed or bitten by flies or other insects. We can imagine the large human nostrils, indica-

tive of keen scent, giving rapidly repeated sniffs at the foul meat before it was consumed; the bad odour of the meat and the various other disgusting odours belonging to a haunt of savages being not in the least disapproved.

“Man at that time was not a *degraded* animal, for he had never been higher; he was therefore an exalted animal, and, low as we esteem him now, he yet represented the highest stage of development of the animal kingdom of his time.”



That is at least an acceptable sketch of a Neanderthal squatting-place. But before extinction overtook them, even the Neanderthals learnt much and went far.

Whatever the older Palæolithic men did with their dead, there is reason to suppose that the later *Homo Neanderthalensis* buried some individuals at least with respect and ceremony. One of the best-known Neanderthal skeletons is that of a youth who may have been deliberately interred. He had been placed in a sleeping posture, head on the right forearm. The head and arm lay on a number of flint fragments carefully piled together “pillow fashion.” A big hand-axe lay near his head, and around him were numerous charred and split ox bones, as though there had been a funeral feast.

#### § 4

#### *The Last Palæolithic Men.*

When the Dutch discovered Tasmania, they found a detached human race not very greatly advanced beyond this Middle Palæo-

lithic stage. But over most of the world the Middle Palæolithic culture had developed into a more complicated and higher life twenty or thirty thousand years ago. The Tasmanians were not racially Neanderthalers: their brain-cases, their neck-bones, their jaws and teeth, show that; they had no Neanderthal affinities; they were of the same species as ourselves.

They represented a Neanderthaloid stage in the evolution of the true men. There can be hardly any doubt that throughout the hundreds of centuries during which the scattered little groups of Neanderthal men were all that represented men in Europe, real men of our own species, in some other part of the world, were working their way along parallel lines from much the same stage as

the Neanderthalers ended at, and which the Tasmanians preserved to a higher level of power and achievement. The Tasmanians, living under unstimulating conditions, remote from any other human competition or example, lagged behind the rest of the human brotherhood. Yet even in this backward corner of the world early fossil remains, says Sir Arthur Keith, show that man has progressed. The Tasmanians of the early nineteenth century were less clumsy and brutish than their more ancient kinsmen.



## CHAPTER 8

# THE LATER PALÆOLITHIC AGE AND THE FIRST MEN LIKE OURSELVES

- § 1. *The Coming of Men Like Ourselves.*      § 3. *The Close of the Palæolithic Age.*  
§ 2. *The Geography of the Later Palæolithic World.*      § 4. *No Sub-men in America.*

### § 1

THE Neanderthal type of man prevailed in Europe at least for tens of thousands of years. For ages that make all history seem a thing of yesterday, these nearly human creatures prevailed. Along its own line this species of men was accumulating a dim tradition, and working out its limited possibilities. But finally between 50,000 and 25,000 years ago, as the Fourth Glacial Age softened towards more temperate conditions, a different human type came upon the European scene, and it would seem, exterminated *Homo Neanderthalensis*.

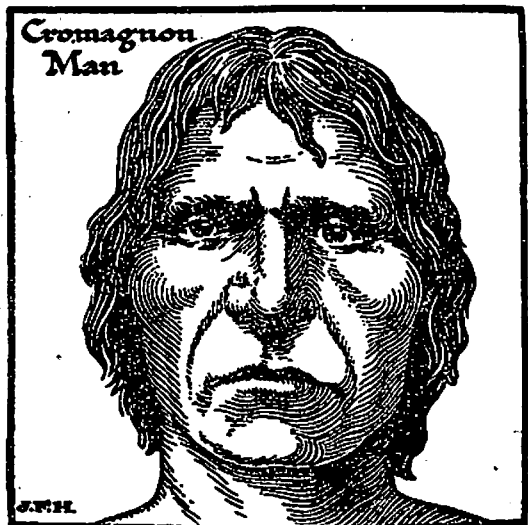
This new type was probably developed in South Asia or Africa, or in lands now submerged in the Mediterranean basins, and as more remains are collected and evidence accumulates, men will learn more of their early stages. At present we can only guess where and how, through the slow ages, parallel with the Neanderthal cousin, these first *true men* arose out of some more ape-like progenitor. For hundreds of centuries they were acquiring skill of hand and limb, and power and bulk of brain, in that still unknown environment. They were already far above the Neanderthal level of achievement and intelligence when first they come into our ken, and they had already split into two or more very distinctive races.

These newcomers did not migrate into Europe in the strict sense of the word, but rather, as century by century the climate ameliorated, they followed the food and plants to which they were accustomed, as those spread into the new realms that opened

to them. The ice was receding, vegetation was increasing, big game of all sorts was becoming more abundant. Steppe-like conditions, conditions of pasture and shrub, were bringing with them vast herds of wild horse. Ethnologists (students of race) class these new human races in the same species as ourselves, and with all human races subsequent to them, under one common specific name of *Homo Sapiens*. They had quite human brain-cases and hands. Their teeth and their necks were anatomically as ours are.

We know of two distinct sorts of skeletal remains in Europe in this period, the first known as the Cro-Magnon race, and the second the Grimaldi race; but the great bulk of the human traces and appliances are either without human bones or with insufficient bones for us to define their associated physical type. In the grotto of Cro-Magnon it was that complete skeletons of one main type of these Newer Palæolithic men, these true men, were first found, and so it is that they are spoken of as Cro-Magnards.

The Cro-Magnards were a tall people with very broad faces, narrow, prominent noses, and large brains even by modern standards. The brain capacity of the woman in the Cro-Magnon cave exceeded that of the average male to-day. Her head had been smashed by a heavy blow. There were also in the same cave with her the complete skeleton of an older man, nearly six feet high, the fragments of a child's skeleton and the skeletons of two young men. There were also flint implements and perforated sea-shells, used, no doubt, as ornaments. Such is one sample of the earliest true men. But at the Grimaldi cave near Mentone were discovered two skeletons also of the later Palæolithic Period with characteristics that point rather to the negroid type. They have been accepted—some of the experts dissenting—as evidence that a negroid race took part in the gradual invasion of Europe by



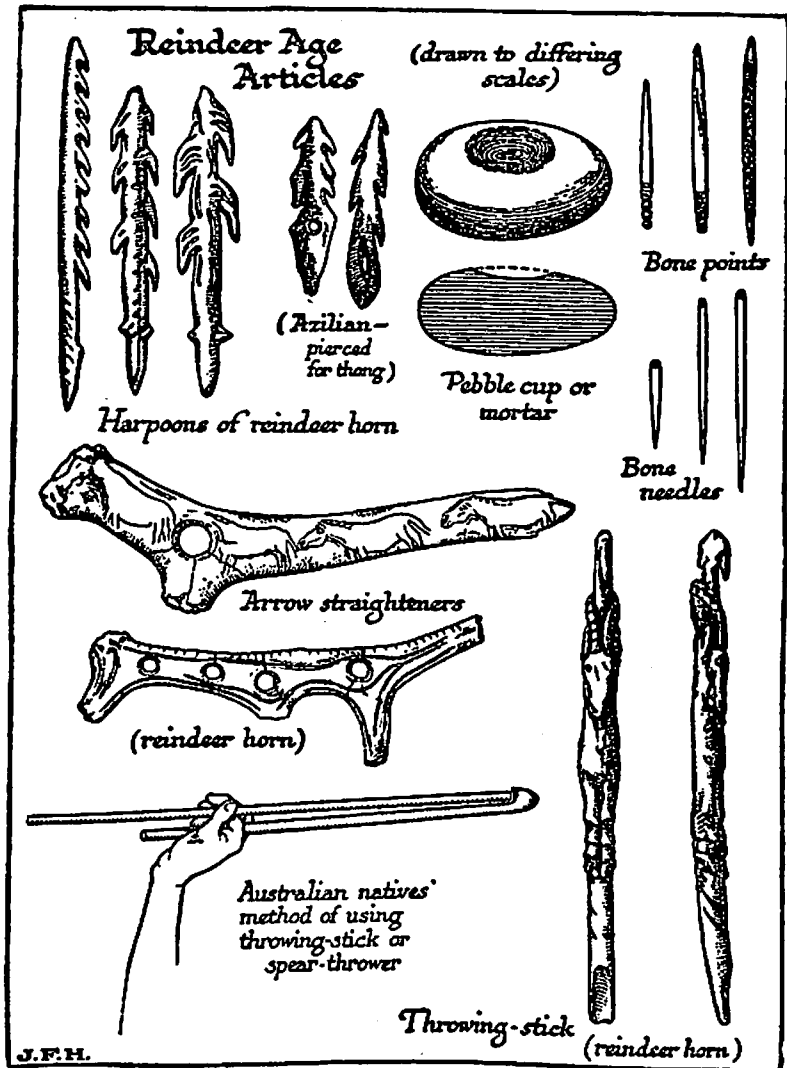
our species. The two races—if indeed they were distinct—may have overlapped in time, or Cro-Magnards may have followed the Grimaldi race, and either or both may have been contemporary with the late Neanderthal men. Various authorities have very strong opinions upon these points, but they are, at most, opinions. Meanwhile in Africa there were several types of *Homo sapiens*, such as the big-brained Boskop race with skulls more like the living Bushmen than any other surviving people. They were bigger, probably more intelligent Bushmen.

The appearance of these truly human Palæolithic peoples, with an intelligence very like our own, was certainly an enormous leap forward in the history of mankind. In Europe, they dispossessed *Homo Neanderthalensis* from his caverns and his stone quarries. And they agreed with modern ethnologists, it would seem, in regarding him as a different species. Unlike most savage conquerors, who take the women of the defeated side for their own and interbreed with them, it would seem that the true men would have nothing to do with the Neanderthal race, women or men. There was apparently no intermixture between the races, in spite of the fact that the newcomers, being also flint users, were establishing themselves in the very same spots that their predecessors had occupied.

We know nothing of the appearance of the Neanderthal man, but this absence of intermixture seems to suggest an extreme hairiness, an ugliness, or a repulsive strangeness in his appearance over and above his low forehead, his beetle brows, his ape neck, and his inferior stature. Or he—and she—may have been too fierce to tame. Says Sir Harry Johnston, in a survey of the rise of modern man in his *Views and Reviews*: “The dim racial remembrance of such gorilla-like monsters, with cunning brains, shambling gait, hairy bodies, strong teeth, and possibly cannibalistic tendencies, may be the germ of the ogre in folklore. . . .”

The true men of the Palæolithic Age, who replaced the Neanderthals, were coming into a milder climate, and although they used the caves and shelters of their predecessors, they lived largely in the open. They were hunting peoples, and some or all of them appear to have hunted the mammoth and the wild horse as well as the reindeer, bison, and aurochs. They ate much horse. At a great open-air camp at Solutré, where they seem to have had annual gatherings for many centuries, it is estimated that there are the bones of 100,000 horses, besides reindeer, mammoth, and bison bones. They probably followed herds of horses, the little bearded ponies of that age, as these moved after

pasture. They hung about on the flanks of the herd, and became very wise about its habits and dispositions. A large part of these men's lives must have been spent in watching animals.



Whether they tamed and domesticated the horse is still an open question. Perhaps they learnt to do so by degrees as the centuries passed. At any rate, we find late Palæolithic drawings

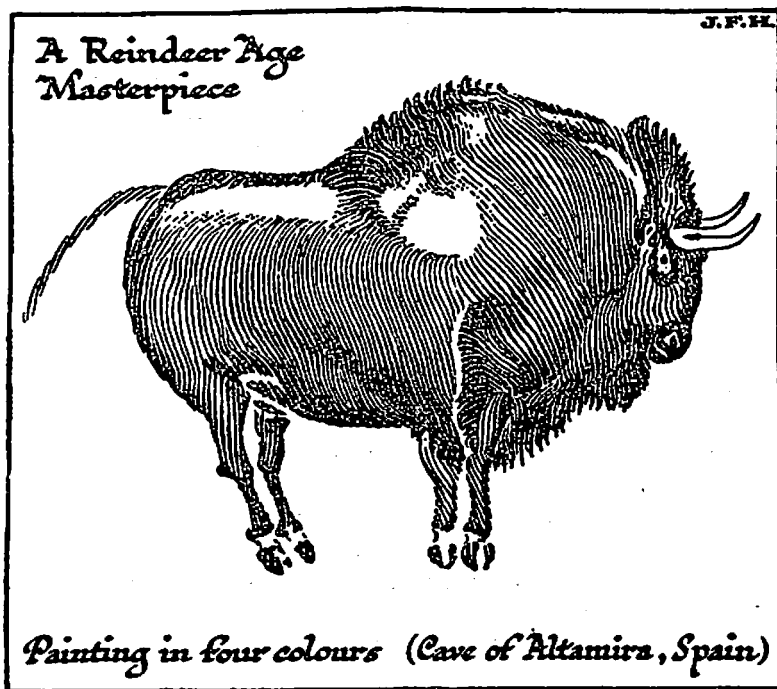


of horses, with marks about the heads that are strongly suggestive of bridles, and there exists a carving of a horse's head showing what is perhaps a rope of twisted skin or tendon. But even if they tamed the horse, it is still more doubtful whether they rode it or had much use for it when it was tamed. The horse they knew was a wild pony with a beard under its chin, not up to carrying a man for any distance. It is improbable that these men had yet learnt the rather unnatural use of animal's milk as food. If they tamed the horse at last, it was the only animal they seem to have tamed. They had no dogs, and they had little to do with any sort of domesticated sheep or cattle.

It greatly aids us to realize their common humanity that these earliest true men could draw. Indeed they drew astonishingly well. They were by all standards savages, but they were artistic savages. They drew better than any of their successors down to the beginnings of history. They drew and painted on the cliffs and walls of the caves they had wrested from the Neanderthal men. And the surviving drawings come to the ethnologist, puzzling over bones and scraps, with the effect of a plain message shining through guesswork and darkness. They drew on bones and antlers; they carved little figures.

These later Palæolithic people not only drew remarkably well for our information, and with an increasing skill as the centuries passed, but they have also left us other information about their lives in their graves. They buried. They buried their dead, often with ornaments, weapons, and food; they used a lot of colour in the burial, and evidently painted the body. From that one may infer that they painted their bodies during life. Paint was a big fact in their lives. They were inveterate painters; they used black, brown, red, yellow, and white pigments, and the pigments they used endure to this day in the caves and on the cliff surfaces of France and Spain. Of all modern races, none has shown so pictorial a disposition; the nearest approach to it has been among the American Indians.

These drawings and paintings of the later Palæolithic people went on through a long period of time, and present wide fluctuations in artistic merit. In its early stages the drawing is often primitive like the drawing of clever children; quadrupeds are usually drawn with one hind-leg and one fore-leg, as children draw them to this day; the legs on the other side were too much for the artists' technique. Possibly the first drawings began as children's drawings begin, out of idle scratchings. The savage scratched with a flint on a smooth rock surface, and was reminded of some line or gesture. But their solid carvings are at least



as old as their first pictures. The earlier drawings betray a complete incapacity to group animals.

As the centuries progressed more skilful artists appeared. The representations of beasts became at last astonishingly vivid and like. But even at the crest of their artistic time they still drew in profile as children do; perspective and the fore-shortening needed for back and front views were too much for them. The mammoth and the horse are among the commonest themes. In the caves of the north of Spain there are no drawings of men, only of animals; but in eastern Spain there are many paintings dating from the later divisions of this period in which human figures are displayed. Some of the people also made little ivory and soapstone statuettes, and among these are some very fat female figures. They are like Bushmen women. The human sculpture of the earlier times inclined to caricature, and generally such human figures as they represent are far below the animal studies in vigour and veracity.

Later on there was more grace and less coarseness in the human representations. One small ivory head discovered is that of a girl with an elaborate coiffure. These people at a later stage also scratched and engraved designs on ivory and bone.

Some of the most interesting groups of figures are carved very curiously round bone, and especially round rods of deer bone, so that it is impossible to see the entire design all together. Figures have also been found modelled in clay, although no Palæolithic people made any use of pottery.

Many of the paintings are found in the depths of unlit caves. They are often difficult of access. The artists must have employed lamps to do their work, and shallow soapstone lamps in which fat could have been burnt have been found. Whether the seeing of these cavern paintings was in some way ceremonial or under what circumstances they were seen, we are now altogether at a loss to imagine. In the south and east of Spain, however, the drawings are not in caves, but upon overhung rock shelters in a good light.

Archæologists distinguish at present three chief stages in the history of these newer Palæolithic men, these true men, in Europe, and we must name these stages here. But it may be as well to note at the same time that it is a matter of the utmost difficulty to distinguish which of two deposits in different places is the older or newer. We may very well be dealing with the work of more or less contemporary and different races when we think we are dealing with successive ones. We are dealing, the reader must bear in mind, with little disconnected patches of material, a few score altogether.

The earliest stage usually distinguished by the experts is the *Aurignacian* (from the grotto of Aurignac); it is characterized by very well-made flint implements, and by a rapid development of art and more particularly of statuettes and wall paintings. The most esteemed of the painted caves is ascribed to the latter part of this the first of the three subdivisions of the newer Palæolithic. The second subdivision of this period is called the *Solutrian* (from Solutré), and is distinguished particularly by the quality and beauty of its stone implements; some of its razor-like blades are only equalled and not surpassed by the very best of the Neolithic work. They are of course unpolished, but the best specimens are as thin as steel blades and almost as sharp. Finally, it would seem, came the *Magdalenian* (from La Madeleine) stage, in which the horse and reindeer were dwindling in numbers and the red deer coming into Europe. The stone implements are smaller, and there is a great quantity of bone harpoons, spearheads, needles, and the like.

The hunters of the third and last stage of the later Palæolithic Age appear to have supplemented a diminishing food supply by fishing. The characteristic art of the period consists of

deep reliefs done upon bone and line engraving upon bone. It is to this period that the designs upon round bones belong, and it has been suggested that these carved bones were used as rollers to print coloured designs upon leather. Some of the workmanship on bone was extraordinarily fine. Parkyn quotes from de Mortillet about the Reindeer Age (Magdalenian) bone needles, that they "are much superior to those of later, even historical, times, down to the Renaissance. The Romans, for example, never had needles comparable to those of the Magdalenian epoch." Their paintings were skilfully shaded to give an illusion of solidity.

It is quite impossible at present to estimate the lengths of these ages exactly. We are not even positive about their relative relationship. Each lasted perhaps for ten or twenty thousand years. Moreover, these divisions are based mainly upon the remains found in France and the north of Spain. As we go into the south of Spain and Italy and North Africa, their characteristics are no longer traceable. There was a different type of life to the south, different food and a different equipment.

At last it would seem that circumstances began to turn altogether against these hunting newer Palæolithic people who had flourished for so long in Europe. They disappeared. New kinds of men appeared from the south and east, replacing them. These latter seem to have brought in bows and arrows; they had domesticated animals and cultivated the soil. A new way of living, the Neolithic way of living, spread over the European area; and the life of the Reindeer Age and of the later Palæolithic men, after a reign vastly greater than the time between ourselves and the very earliest beginnings of recorded history, passed off the European stage.

There is, perhaps, a disposition on the part of some writers to exaggerate the intellectual and physical qualities of these later Palæolithic men and make a wonder of them. Collectively considered, these people had remarkable gifts, but a little reflection will show they had almost as remarkable deficiencies. The tremendous advance they display upon their Neanderthal predecessors and their special artistic gift must not blind us to their very obvious limitations. For all the quantity of their brains, the quality was narrow and special. They had vivid perceptions, an acute sense of animal form, they had the real artist's impulse to render; so far they were fully grown human beings. But that disposition to paint and draw is shown to-day by the Bushmen, by Californian Indians, and by Australian