black fellows; it is not a mark of all-round high intellectual quality.

The cumulative effect of their drawings and paintings is very great, but we must not make the mistake of crowding all these achievements together in our minds as though they had suddenly flashed out upon the world in a brief interval of time, or as though they were all the achievements of one people. These races of Reindeer men were in undisturbed possession of Western Europe for a period at least ten times as long as the interval between ourselves and the beginning of the Christian era, and through all that immense time they were free to develop and vary their life to its utmost possibilities. They were in close contact with animals, but they never seemed to have got to terms with any animal unless it was the horse. They had no dogs. They had no properly domesticated animals at all. They watched and drew and killed and ate. They do not seem to have cooked their food. Perhaps they scorched and grilled it, but they could not have done much more, because they had no cooking implements.

Although they had clay available, and although there are several Palæolithic clay figures on record, they had no pottery. Although they had a great variety of flint and bone implements, they never rose to the possibilities of using timber for permanent shelters or such-like structures. They never made hafted axes, or the like that would enable them to deal with timber. There is a suggestion in some of the drawings of a fence of stakes in which a mammoth seems to be entangled. But here we may be dealing with superimposed scratchings. They had no buildings. It is not even certain that they had tents or huts. They may have had simple skin tents. Some of the drawings seem to suggest as much. It is doubtful if they knew of the bow. They left no good arrowheads behind them. The doubt whether Palæolithic men of the Reindeer Age used the bow obviously does not apply to the Palæolithic men of the comparatively late Capsian culture. A careless reader might perhaps jump to the conclusion that the statement applies to *all* Palæolithic men. The earlier Palæolithic men, the Neanderthalers, were certainly without bows, and the Reindeer men probably knew nothing of archery. Certain of their implements are said to be "arrow-straighteners" by distinguished authorities, but that is about as much evidence as we have of arrows. They may have used sharpened sticks as arrows. They had no cultivation of grain or vegetables of any sort. Their women were probably squaws, smaller than the men; the earlier statuettes represent them as

grossly fat, almost as the Bushmen women are often fat to-day. They are fatted for marriage, and so, perhaps, were these Stone Age squaws. They were smaller than the men because, no doubt, they began to bear children before they had grown to their fullest possibilities. Primitive woman was a subjected creature.

These later Palæolithic men clothed themselves, it would seem, in skins, if they clothed themselves at all. These skins they prepared with skill and elaboration, and towards the end of the age they used bone needles, no doubt to sew these pelts. One may guess pretty safely that they painted these skins, and it has even been supposed printed off designs upon them from bone cylinders. But their garments were mere wraps; there are no clasps or catches to be found. They do not seem to have used grass or such-like fibre for textiles. Their statuettes are naked. They were, in fact, except for a fur wrap in cold weather, naked painted savages. In their women and their art they were like the Bushmen of South Africa; in their pursuit of the reindeer herd they were like the Indians of Labrador. Physically they were probably very like the Indians of Labrador.

These hunters lived on open steppes for two hundred centuries or so, ten times the length of the Christian era. They were, perhaps, overtaken by the growth of the European forests, as the climate became milder and damper. When the wild horse and the reindeer diminished in Europe, and a newer type of human culture, with a greater power over food supply, a greater tenacity of settlement, and probably a larger social organization, arose, the Reindeer men had to learn fresh ways of living or to disappear.

§ 2

The Geography of the Later Palæolithic World.

It is very important to grasp the differences between the geography of the Reindeer age and the present time. It is a matter too often overlooked. Even so eminent a man as Dr. Fairfield Osborn is caught napping in this respect. He can write, for example, of the "invasion" of Spain by the Chellean and Mousterian cultures coming by way of North Africa from Egypt—as though then as now that was the only possible route. Professor Obermaier goes further. He speculates whether the Chellean culture reached Spain from Africa "on some primitive kind of raft!"

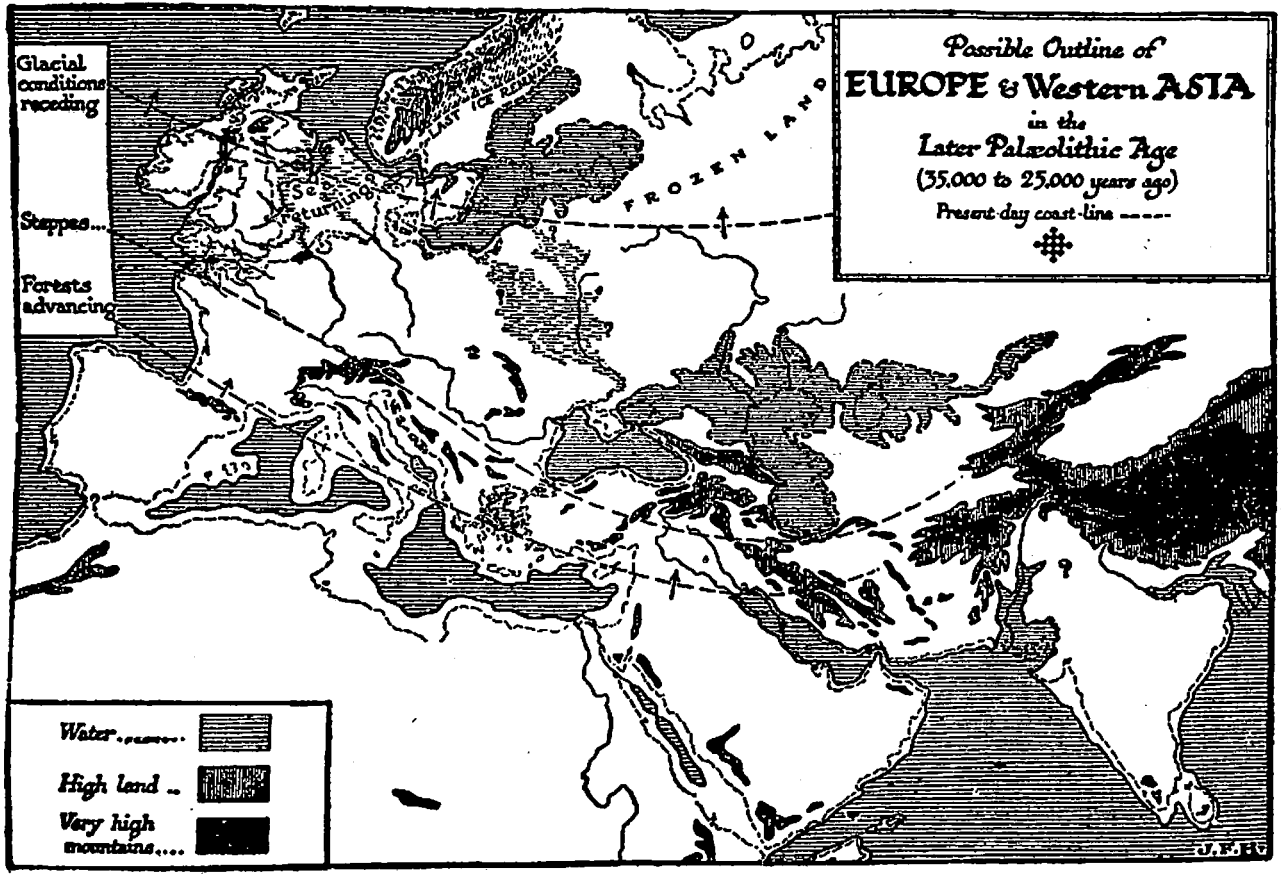
That raft was quite unnecessary. The approximate map of

Europe and nearer Asia as it was about thirty thousand years ago (see p. 95) will show at a glance the absurdity of thus treating Spain as a permanently distinguishable piece of the world.

That, however, is a remark by the way; the broader issue is the manifestly *marginal* nature of all these Palæolithic peoples of Europe. We are not yet in possession of the main text of the human story. The life of the Reindeer men was a frontier life. They lived on bleak highlands to the north of the better lands of the world. To the south and west was the Mediterranean basin. There, hidden for ever perhaps under the blue waters, must be the remains of contemporaries of the Reindeer men, who were probably much more advanced and sophisticated. These great valleys about the lakes of the Mediterranean bed and in the Red Sea triangle probably afforded admirable conditions for human development. The main stage of human history 20,000 years ago lay to the south-east of the Franco-Spanish area, the only area of the continent of Europe as yet at all adequately searched for vestiges of early man.

It is due largely to the labours of Professor Obermaier of Madrid that we begin to realize that while the Reindeer Men prevailed in France and North Spain, the men who wandered over the greater part of the Spanish territory and North Africa were of a different culture, which he calls (after a place name in Tunis) the *Capsian* culture. The Capsian did not follow the Aurignacian, Solutrian and Magdalenian stages of France, but it was contemporary with it. It was different, and on the whole it suggests more advanced social conditions. It lacks, perhaps, the representative vigour of the northern art (which includes the wonderful painted Altamira caves), but on the other hand it has provided a considerable number of paintings of human beings engaged in various activities. They are for the most part painted on rock surfaces, and they resemble in character and treatment many ancient and modern rock paintings done by the Bushmen of South Africa. Capsian paintings have also been found in Italy.

The life recorded by the Capsian paintings is an easier life under more agreeable climatic conditions than that of the Reindeer hunters to the north. Reindeer, bear and bison are not shown, and the chief animals are the ordinary deer and wild ox. Rhinoceros, wild ass and ibex also appear. Men carry bows and are naked, but most of the female figures are represented as clothed in skirts. Feather ornaments are frequent. One scene shows a boar hunt and another the smoking out of a hive of wild bees. There are also groupings that very probably


Possible Outline of
EUROPE & Western ASIA
in the
Later Palæolithic Age
(35,000 to 25,000 years ago)
Present-day coast-line
Glacial conditions receding
Steppes...
Forests advancing
Sea returning
LAST ICE REMAINS
FROZEN LAND
Water.....
High land ..
Very high mountains....
J.F.H.

represent ceremonial dances, and figures of men wearing masks representing animals over their heads and shoulders. When Professor Obermaier showed the author some of the tracings of those pictures in Madrid some years ago, he pointed out a curious disposition to distort the human figure, while representing animals without distortion very faithfully and recognizably. Always the human waist is elongated and much compressed, and often the legs are greatly inflated. This conventionality passes on in the later pictures into an almost diagrammatic treatment of human beings. The pictures cease to be pictures and become signs.

§ 3

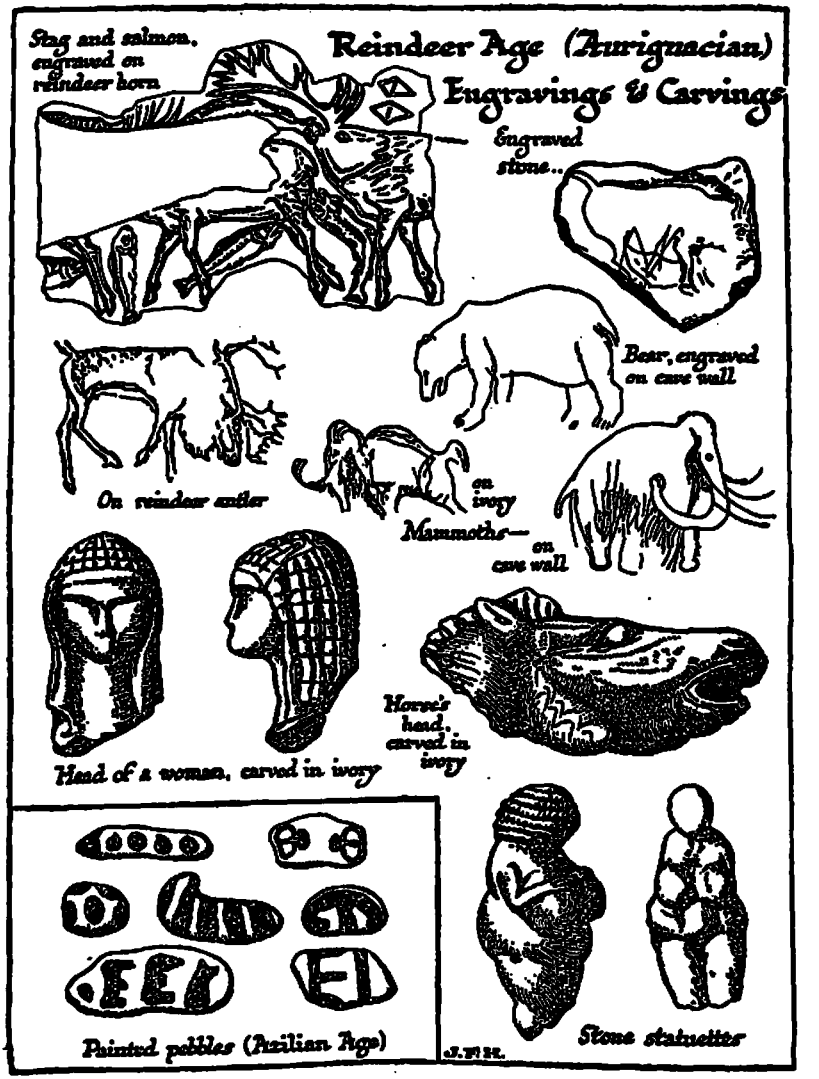
The Close of the Palæolithic Age.

It was about 12,000 or fewer years ago that, with the spread of forests and a great change of the fauna, the long prevalence of the hunting life in Europe drew to its end. Reindeer vanished. Changing conditions frequently bring with them new diseases. There may have been prehistoric pestilences. The transitional cultures of this period are often called Mesolithic cultures. In France there seems to have been a gap before the new population appeared, but in the south of Europe the later Capsian culture passes into the Azilian. The conventional painting of the Capsian folk is still more diagrammatic in the Azilian stage, and great numbers of pebbles are found painted with brush strokes that we now know to stand for standard types of man and beast. Various Australian tribes at the present time have very similar painted stones, which are called "soul stones," and are supposed to embody part or all of the soul or quality of a deceased ancestor.

These new people were a darkish, fine-featured people; they were the first comers of a race, the Mediterranean, dark-white or Iberian race, which is still the prevailing race in southern Europe. Their communities extended northward with the spread of the forests to replace the steppes, and the wane of the hunters, some 10,000 or 12,000 years ago.

The map of the world was assuming something like its present outlines, the landscape and the flora and fauna were taking on their existing characteristics. The prevailing animals in the spreading woods of Europe were the royal stag, the great ox, and the bison; the mammoth and the musk ox (Arctic forms) had gone. The great ox, or aurochs, is now extinct, but it survived in the German forests up to the time of the Roman Empire and perhaps much later. It was never domesticated. Domestic

cattle were brought into Europe later and are of a different breed. The great ox stood eleven feet high at the shoulder, as high as an elephant.



There were still lions in the Balkan peninsula, and they remained there until about 1,000 or 1,200 B.C. The lions of Würtemberg and south Germany in those days were twice the size of the modern lion. South Russia and Central Asia were thickly wooded then, and there were elephants in Mesopotamia

and Syria, and a fauna in Algeria that was tropical African in character.

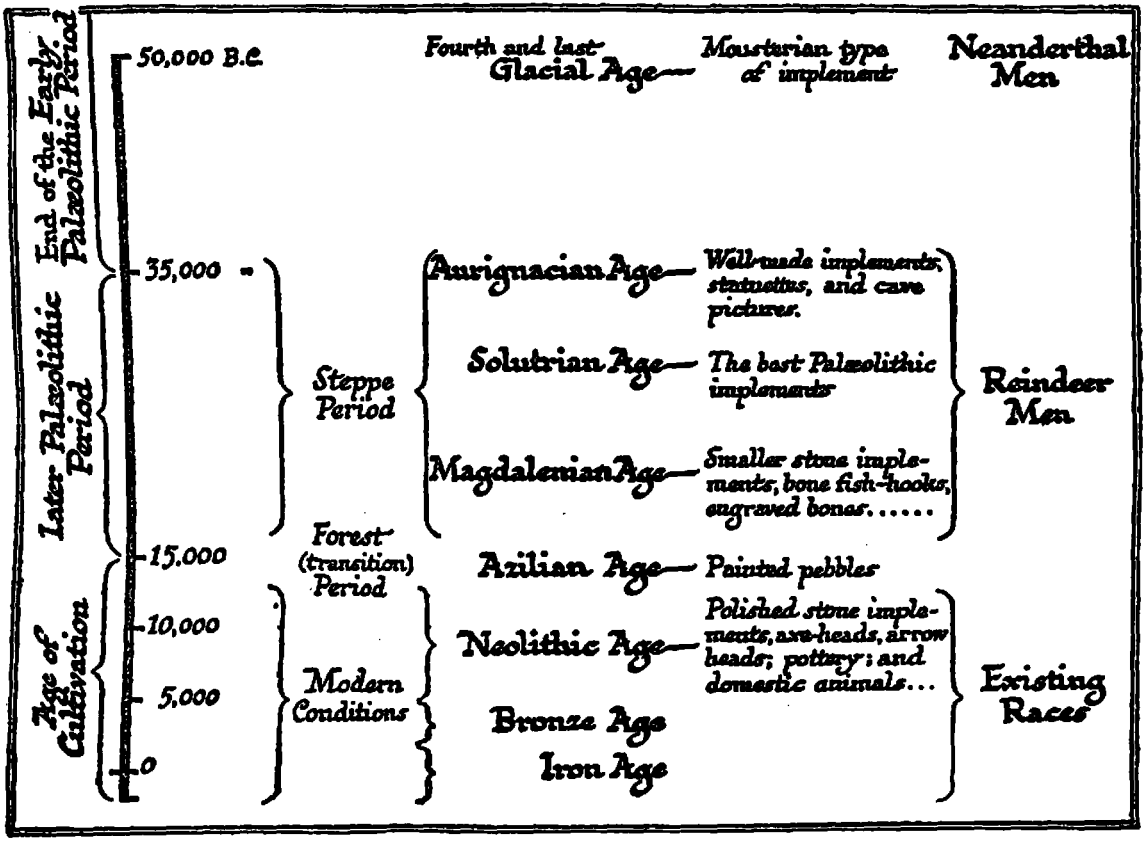
Hitherto men in Europe had never gone farther north than the Baltic Sea or the British Isles, but now the Scandinavian peninsula and perhaps Great Russia were becoming possible regions for human occupation. There are no Palæolithic remains in Sweden or Norway. Man, when he entered these countries, was already at the Neolithic stage of social development.

§ 4

No Sub-men in America.

There is no really convincing evidence of man in America before the end of the Pleistocene, or of any preceding race of sub-men. The same relaxation of the climate that permitted the retreat of the reindeer hunters into Russia and Siberia, as the Mesolithic tribes advanced, may have allowed them to wander across the land that is now cut by Bering Strait, and so to reach the American continent. They took no domesticated animals, except perhaps the dog, and as yet they had no tradition of agriculture. They spread thence southward, age by age. When they reached South America, they found the giant sloth (the *Megatherium*), the glyptodon, and many other extinct creatures, still flourishing. The glyptodon was a monstrous South American armadillo, and it is said that a human skeleton has been found buried beneath its huge tortoise-like shell.

All the human remains in America are apparently of an Amer-Indian character. The old world was the nursery of the sub-races of mankind. Somewhere between South Africa and the East Indies and the Mediterranean it was that these sub-races worked out their destinies, as lands rose and sank, and forests gave place to desert, and desert to forest. It may have been where now the Indian Ocean extends. Let it be repeated once more that the account of Palæolithic man is a partial account drawn from what is at present the chief available material, the European material. The material for the main story is still inaccessible. The main story was going on while the Neanderthaler wandered over Europe, in some region as yet not defined and it may be, submerged now beyond our exploration.



TIME DIAGRAM SHOWING THE ESTIMATED DURATION OF THE TRUE HUMAN PERIODS

CHAPTER 9

NEOLITHIC MAN

§ 1

The Neolithic phase of human affairs began in Europe about 5,000 or 10,000 years ago. But probably men had reached the Neolithic stage in the lands to the south-east some thousands of years earlier. First the Mesolithic, then the Neolithic culture came slowly into Europe from the south or south-east as the reindeer and the open steppes gave way to forest and modern European conditions.

The Neolithic stage in culture is characterized by the following important innovations:

(1) The presence of polished stone implements, and in particular the stone *axe* which was bound to a wooden handle. Later, this implement was probably used rather for working wood than in conflict. There are also abundant arrow-heads. The fact that some implements are polished does not preclude the presence of great quantities of implements of unpolished stone. But there are differences in the make between even the unpolished tools of the Neolithic and of the Palæolithic Period.

(2) The beginning of a sort of agriculture, and the use of plants and seeds. But at first there are abundant evidences that hunting was still of great importance in the Neolithic Age. Neolithic man did not at first sit down to his agriculture. He took snatch crops; or, rather, his women first gathered wild seed and later, perhaps, sowed snatch crops while he hunted. He settled later.

(3) Domesticated animals. The dog appeared very early. Before long, Neolithic man had domesticated cattle, sheep, goats

and pigs. He was a huntsman turned herdsman of the herds he once hunted.

(4) Pottery—but this came late in the story.

(5) Plaiting and weaving.

The Neolithic people may have "migrated" into Europe, in the same way that the Reindeer men had migrated before them; that is to say, generation by generation and century by century, as the climate changed, they spread after their accustomed food. But it is hard to estimate how far the Neolithic people were newcomers and how far their arts were developed or acquired by the descendants of some of the hunters and fishers of the Later Palæolithic Age. Perhaps, after the hunters of the reindeer had receded, the Mesolithic and the later Neolithic peoples partly developed, and partly learnt from more advanced people in the south and east, the new ways of living.

Whatever our conclusions in that matter, we may say with certainty there is no great break, no further sweeping away of one kind of man and replacement by another kind between the appearance of the Neolithic way of living and our own time. There are invasions, conquests, extensive emigrations and intermixtures, but the races as a whole still carry on and continue to adapt themselves to the areas into which they began to settle in the opening of the Neolithic Age. The Neolithic men of Europe were white men ancestral to the modern Europeans. They may have been of a darker complexion than many of their descendants; of that we cannot speak with certainty. But there is no real break in culture from their time onward until we reach the age of coal, steam, and power-driven machinery that began in the eighteenth century.

After a long time, gold, presumably the first known of the metals, appears among the bone ornaments with jet and amber. Irish prehistoric remains are particularly rich in gold. Perhaps 6,000 or 7,000 years ago, Neolithic people began to use copper in certain centres, making out of it implements of much the same pattern as their stone ones. They cast the copper in moulds made to the shape of the stone implements. Possibly they first found native copper and hammered it into shape. Native copper is still found to-day in Italy, Hungary, Cornwall, and many other places. But pure copper is inferior to flint as a material for implements; it will not keep an edge. Copper with a mixture of tin (up to one-tenth of tin) is much harder. Later—we will not venture upon figures—men had found out how to get copper from its ore. Perhaps, as Lord Avebury suggested, they discovered the secret of smelting by the chance putting of lumps

of copper ore among the ordinary stones with which they built the fire pits they used for cooking.

In China, Cornwall, and elsewhere copper ore and tinstone occur in the same vein; in Hungary copper is associated with antimony; and so, it may be rather through dirtiness than skill, the ancient smelters hit upon the harder and better bronze, which is an alloy of copper and tin. Bronze is not only harder than copper, but the mixture of tin and copper is more fusible and easier to reduce. The so-called "pure copper" implements usually contain a small proportion of tin, and there are no tin implements known, nor very much evidence to show that early man knew of tin as a separate metal. A lump of tin has been found in the Swiss pile-dwelling deposits, and tin was known as a foreign import in Egypt under the XVIIIth Dynasty. There is (rare) Mycenæan tin, and there are (probably later, but not clearly dated) tin objects in the Caucasus. It is very difficult to distinguish tin from antimony. There is a good deal of Cyprus bronze which contains antimony; a good deal which seems to be tin *is* antimony—the ancients tried to get tin, but actually got antimony and thought it was tin. The plant of a prehistoric copper smelter has been found in Spain, and the material of bronze foundries in various localities. The method of smelting revealed by these finds carries out Lord Avebury's suggestion. In India, where zinc and copper ore occur together, brass (which is an alloy of the two metals) was similarly hit upon.

So slight was the change in fashions and methods produced by the appearance of bronze, that for a long time such bronze axes and so forth as were made were cast in moulds to the shape of the stone implements they were superseding.

Finally, perhaps as early as 3,000 years ago in Europe, and earlier in Asia Minor, men began to smelt iron. Iron had been known of long before that age, but it was meteoric iron. As most people know, meteoric stones are mainly lumps of iron and nickel. It was rare and used for jewellery or as magical stuff. Once smelting was known to men, there is no great marvel in the getting of iron. They smelted iron by blowing up a charcoal fire, and wrought it by heating and hammering. They produced it at first in comparatively small pieces; its appearance worked a gradual revolution in weapons and implements; but it did not suffice to change the general character of men's surroundings. Much the same daily life that was being led by the more settled Neolithic men 10,000 years ago was being led by peasants in out-of-the-way places all over Europe at the beginning of the eighteenth century.

People talk of the Stone Age, the Bronze Age, and the Iron Age in Europe, but it is misleading to put these ages as if they were of equal importance in history. Much truer is it to distinguish between the Palæolithic Age and the Age of Cultivation. The Palæolithic (" Old Stone ") Age began with the earliest crude hand axes and lasted for the better part of a million years: during this vast stretch of time, the first tool-making sub-men gradually evolved into true men, *Homo sapiens*. The Age of Cultivation began with the opening of the Neolithic (" New Stone ") Period; it continued with the Bronze and Iron Ages, and is still going on. This is the Age with which the rest of this Outline is concerned. Its total duration, up to the present day, has been about one per cent of the duration of the Palæolithic.

§ 2

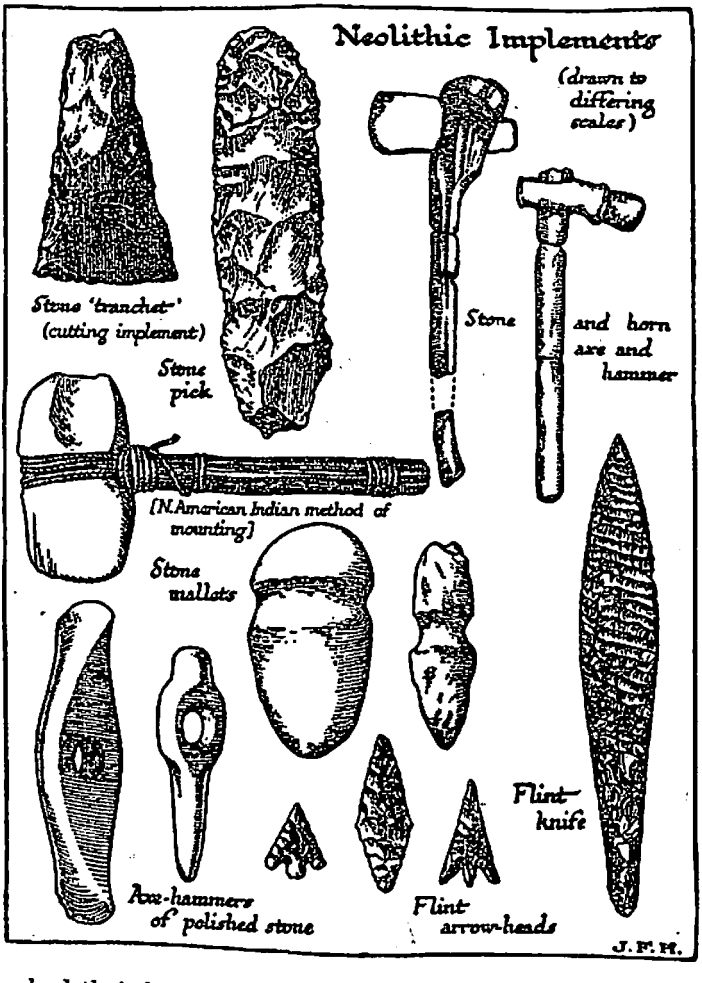
Where did the Neolithic Culture Arise?

As the ice sheets of the last Ice Age shrank back towards the poles and the tops of high mountain ranges there were corresponding changes of climate elsewhere. Great stretches of North Africa, Mesopotamia and Arabia, now desert, supported at that time an abundant plant and animal life. And through the hundred centuries or so while Reindeer Men were living under comparatively unprogressive conditions upon the steppes of France, Germany and Spain, the more favoured and progressive peoples to the south east were mastering agriculture, learning to develop their appliances, building houses and granaries, domesticating cattle, and as the climate to the north mitigated, advancing northward.

According to the evidence at present available—and it must be said that our knowledge of this critical phase in human history is growing very rapidly nowadays, as new sites are being discovered and explored—it seems probable that the earliest settled farming villages were founded in the Near East. Only there, and only at the end of the Pleistocene, were the ancestors of all of the main domesticated animals and cultivated plants to be found wild—wheat and barley, sheep, goats, cattle and pigs. But by five thousand years ago, neolithic societies were scattered across Europe and Asia, from Ireland to China, and southward into Africa.

There was never a single, uniform neolithic culture. Neolithic man had to adapt himself to local conditions, and the early village societies differed from each other in the relative importance of herding and agriculture, or the particular kinds of animals bred

and plants grown. They were self-supporting groups, settling and developing in places where conditions happened to be favourable, and to a large extent independently of each other.



They had their local ways of planning a house, or shaping a tool, or of decorating their pottery—if they had got as far as pottery. For some advanced much more rapidly than others.

Among the most surprising of recent discoveries are those of Dr. Kathleen Kenyon at Jericho in the Jordon valley, where

a whole series of successive cultures has come to light. First came people who built brick houses with rounded rooms, although they knew nothing of pottery. Their settlement covered eight acres of ground and was surrounded by a rough stone wall with at least one high tower; outside the wall was a ditch twenty-seven feet across. Later came another people, perhaps the conquerors of the first. They built square rooms with bricks of a new shape, and plastered the walls and floors. Though still ignorant of pottery, they had elaborate religious rites. The skulls of their dead were preserved, covered with a plaster restoration of the head and face—a practice that persisted until recently in Polynesia. When these people disappeared, the site lay unoccupied for several hundreds of years. The astonishing thing about this crowded, fortified eight-acre town is its date. Since 1950 it has been possible to date organic materials more accurately than before by means of the radiocarbon method. This depends on the fact that animals and plants contain a small proportion of radioactive carbon that decays at a known, slow speed. In charcoal from the second pre-pottery stage at Jericho, this has been going on since about 6,000 B.C.; and the first stage must have been at least a thousand years older. Jericho was a precocious town, the earliest we know. But it did not develop into one of the great city states that presently arose. It was abandoned as the surrounding country dried slowly into desert, and the agriculture on which it depended became impossible.

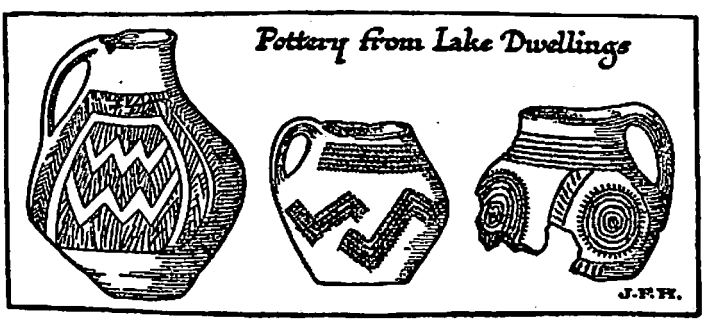
§ 3

Everyday Neolithic Life.

It will be of interest here to give a brief account of the life of the European Neolithic people before the appearance of metals. We get our light upon that life from various sources. They scattered their refuse about, and in some places (e.g. on the Danish coast) it accumulated in great heaps, known as the kitchen-middens. They buried some of their people, but not the common herd, with great care and distinction, and made huge heaps of earth over their sepulchres; these heaps are the barrows which contribute a feature to the European, Indian, and American scenery in many districts to this day. In connexion with these mounds, or independently of them, they set up great stones (megaliths), either singly or in groups, of which Stonehenge in Wiltshire and Carnac in Brittany are among the best-known examples. In various places their villages are still traceable.

One fruitful source of knowledge about Neolithic life comes from Switzerland, and was first revealed by the very dry winter of 1854, when the water level of one of the lakes, sinking to an unheard-of lowness, revealed the foundations of prehistoric pile-dwellings of the Neolithic and early Bronze Ages, built out over the water after the fashion of similar homes that exist to-day in Celebes and elsewhere. Not only were the timbers of those ancient platforms preserved, but a great multitude of wooden, bone, stone, and earthenware utensils and ornaments, remains of food and the like, were found in the peaty accumulations below them. Even pieces of net and garments have been recovered.

Similar lake dwellings existed in Scotland, Ireland, and elsewhere—there are well-known remains at Glastonbury in Somersetshire; in Ireland lake dwellings were inhabited from prehistoric times up to the days when O'Neil of Tyrone was fighting against the English before the plantation of Scotch colonists to replace the Irish in Ulster, in the reign of James I of England. These lake villages had considerable defensive value,



and there was a sanitary advantage in living over flowing water.

These lake-village people were considerably more advanced in methods and knowledge and probably much later in time, than the early Neolithic people who accumulated the shell mounds, known as kitchen-middens, on the Danish and Scotch coasts. These kitchen-midden folk may have been as early as 10,000 B.C. or earlier; the lake dwellings were probably occupied continuously from 5,000 or 4,000 B.C. down almost to historic times. Those early kitchen-midden people were among the most barbaric of Neolithic peoples, their stone axes were rough, and they had no domesticated animal except the dog. The lake-dwellers, on the other hand, had, in addition to the dog, which

was of a medium-sized breed, oxen, goats, and sheep. Later on, as they were approaching the Bronze Age, they got swine. The remains of cattle and goats prevail in their debris, and, having regard to the climate and country about them, it seems probable that these beasts were sheltered in the buildings upon the piles in winter, and that fodder was stored for them. Probably the beasts lived in the same houses with the people, as the men and beasts do now in Swiss chalets.

The people in the houses possibly milked the cows and goats, and milk, perhaps, played as important a part in their economy as it does in that of the mountain Swiss of to-day. But of that we are not sure at present. Milk is not a natural food for adults; it must have seemed queer stuff to take at first; and it may have been only after much breeding that a continuous supply of milk was secured from cows and goats. Some people think that the use of milk, cheese, butter, and other milk products came later into human life when men became nomadic. The writer is, however, disposed to give the Neolithic men credit for having discovered milking. The milk, if they did use it (and, no doubt, in that case sour curdled milk also, but not well-made cheese and butter), they must have kept in earthenware pots, for they had pottery, though it was roughly hand-made pottery and not the shapely product of the potter's wheel.

They eked out this food supply by hunting. They killed and ate red deer and roe deer, bison and wild boar. And they ate the fox, a rather high-flavoured meat, and not what anyone would eat in a world of plenty. Oddly enough, they do not seem to have eaten the hare, although it was available as food. They are supposed to have avoided eating it, as some savages are said to avoid eating it to this day, because they feared that the flesh of so timid a creature might make them, by a sort of infection, cowardly.

Of their agricultural methods we know very little. No ploughs and no hoes have been found. They were of wood and have perished. Neolithic men cultivated and ate wheat, barley, and millet, but they knew nothing of oats or rye. Their grain they roasted, ground between stones, and stored in pots to be eaten when needed. And they made exceedingly solid and heavy bread, because round flat slabs of it have been got out of these deposits. Apparently they had no yeast. If they had no yeast, then they had no fermented drink.

One sort of barley that they had is the sort that was cultivated by the ancient Greeks, Romans, and Egyptians, and they also had an Egyptian variety of wheat, showing that their

ancestors had brought or derived this cultivation from the south-east. The centre of diffusion of wheat was somewhere in the eastern Mediterranean region. A wild form is still found in the neighbourhood of Mt. Hermon. When the lake-dwellers sowed their little patches of wheat in Switzerland, they were already following the immemorial practice of mankind. The seed must have been brought age by age from that distant centre of diffusion. In the ancestral lands of the south-east men had already been sowing wheat perhaps for thousands of years. All Old World peoples who had entered upon the Neolithic stage grew and ate wheat, but the American Indians must have developed agriculture independently after their separation from the Old World populations. They never had wheat. Their cultivation was maize, Indian corn, a new-world grain. Those lake-dwellers also ate peas and crab-apples—the only apples that then existed in the world. Cultivation and selection had not yet produced the apple of to-day.

They dressed chiefly in skins, but they also made a rough cloth of flax. Fragments of that flaxen cloth have been discovered. Their nets were made of flax; they had as yet no knowledge of hemp and hempen rope. With the coming of bronze, their pins and ornaments increased in number. There is reason to believe they set great store upon their hair, wearing it in large shocks with pins of bone and afterwards of metal. To judge from the absence of realistic carvings or engravings or paintings, they either did not decorate their garments or decorated them with plaids, spots, interlacing designs, or similar conventional ornament. Before the coming of bronze there is no evidence of stools or tables; the Neolithic people probably squatted on their clay floors. There were no cats in these lake-dwellings; no mice or rats had yet adapted themselves to human dwellings; the cluck of the hen was not as yet added to the sounds of human life, nor the domestic egg to its diet.

Poultry and hens' eggs were late additions to the human cuisine, in spite of the large part they now play in our dietary. The hen is not mentioned in the Old Testament (but note the allusion to an egg, Job vi, 6), nor by Homer. Up to about 1,500 B.C. the only fowls in the world were jungle denizens in India and Burma. The crowing of jungle cocks is noted by Glasfurd, in his admirable accounts of tiger shooting, as the invariable preliminary of dawn in the Indian jungle. Probably poultry were first domesticated in Burma. They got to China, according to the records, only about 1,100 B.C. They reached

Greece via Persia before the time of Socrates. In the New Testament, as compared with the Old, the crowing of the cock reproaches Peter for his desertion of the Master.

The chief tool and weapon of Neolithic man was his axe; his next the bow and arrow. His arrow-heads were of flint, beautifully made, and he lashed them tightly to their shafts. Probably he prepared the ground for his sowing with a pole, or a pole upon which he had stuck a stag's horn. Fish he hooked or harpooned. These implements no doubt stood about in the interior of the house, from the walls of which hung his fowling-nets. On the floor, which was of clay or trodden cow-dung (after the fashion of hut floors in India to-day), stood pots and jars and woven baskets containing grain, milk, and such-like food. Some of the pots and pans hung by rope loops to the walls. At one end of the room, and helping to keep it warm in winter by their animal heat, stabled the beasts. The children took the cows and goats out to graze, and brought them in at night before the wolves and bears came prowling.

Since Neolithic man had the bow, he probably also had stringed instruments, for the rhythmic twanging of a bow-string seems almost inevitably to lead to that. He also had earthenware drums across which skins were stretched; perhaps, also, he made drums by stretching skins over hollow tree-stems. Bone whistles are known even from the Palæolithic time. One may guess that reed pipes were an early invention. We do not know when man began to sing, but evidently he was making music, and, since he had words, songs were no doubt being made. To begin with, perhaps, he just let his voice loose, as one may hear Italian peasants now behind their ploughs singing songs without words. After dark in the winter he sat in his house and talked and sang, and made implements by touch rather than sight. His lighting must have been poor, and chiefly firelight, but there was probably always some fire in the village, summer or winter. Fire was too troublesome to make for men to be willing to let it out readily. Sometimes a great disaster happened to those pile villages; the fire got free, and they were burnt out. The Swiss deposits contain evidence of such catastrophes.

All this we gather from the remains of the Swiss pile-dwellings, and such was the character of the human life that spread over Europe, coming with the forests from the south and from the east as the reindeer and the Reindeer men passed away. It is evident that we have here a way of life already separated by a great gap of thousands of years of invention from its original Palæolithic stage. The steps by which it rose from that condition we can

only guess at. From being a hunter hovering upon the outskirts of flocks and herds of wild cattle and sheep, and from being a co-hunter with the dog, man by insensible degrees may have developed a sense of proprietorship in the beasts and struck up a friendship with his canine competitor. He learnt to turn the cattle when they wandered too far; he brought his better brain to bear to guide them to fresh pasture. He hemmed the beasts into valleys and enclosures where he could be sure to find them again. He fed them when they starved, and so slowly he tamed them. Perhaps his agriculture began with the storage of fodder. He reaped, no doubt, before he sowed. The Palæolithic ancestor away in that unknown land of origin to the south-east first supplemented the precarious meat supply of the hunter by eating roots and fruits and wild grains. It is doubtful if at any stage primitive man was wholly carnivorous.

Somewhen he began definitely to sow.

It is one of the most curious and fundamental facts in the growth of human society, as Sir J. G. Frazer has shown in his monumental *Golden Bough*, that the idea of sowing was inextricably entangled in the primitive Neolithic mind with the idea of a human sacrifice. It was an entanglement of the childish dreaming, myth-making primitive mind; no reasoned process will explain it. In the world of 10,000 years ago, whenever seedtime came round there was a human sacrifice. And it was not the sacrifice of any mean or outcast person; it was the sacrifice usually of a chosen youth or maiden, a youth most often, who was treated with profound respect and deference up to the moment of his immolation. He was often, as it were, a sacrificial god-king, and all the details of his killing had become a ritual directed by the old, knowing men and sanctioned by the accumulated usage of ages.

Wherever man has reached or passed the beginning of agriculture, this human sacrifice or some surviving trace of it appears.

§ 4

Primitive Trade.

All these early beginnings must have taken place far back in time, and in regions of the world that have still to be completely explored by the archæologist. Neolithic men were long past these beginnings; they were already close, a few thousand years, to the dawn of written tradition and the remembered history of mankind. Without any very great shock or break, bronze came

at last into human life, giving a great advantage in warfare to those tribes who first obtained it. Written history had already begun before weapons of iron came into Europe to supersede bronze.

Already in those days a sort of primitive trade had sprung up. Bronze and bronze weapons, and such rare and hard stones as jade, gold because of its plastic and ornamental possibilities, amber because of its translucent beauty, and skins and flax-net and cloth, were being swapped and stolen and passed from hand to hand over great stretches of country. Salt also was probably being traded. On a meat dietary men can live without salt, but grain-consuming people need it just as herbivorous animals need it. Hopf says that bitter tribal wars have been carried on by the desert tribes of the Sudan in recent years for the possession of salt deposits in Fezzan. To begin with, barter, blackmail, tribute, and robbery by violence passed into each other by insensible degrees. Men got what they wanted by such means as they could.

§ 5

The Flooding of the Mediterranean Valley.

So far we have been telling of a history without events, a history of ages and periods and stages in development. But, before we conclude this portion of the human story, we must record what was probably an event of primary importance and at first, perhaps, of tragic importance to developing mankind, and that was the breaking in of the Atlantic waters to the great Mediterranean valley.

The reader must keep in mind that we are endeavouring to give him plain statements that he can take hold of comfortably. But both in the matter of our time charts and the maps we have given of pre-historic geography there is necessarily much speculative matter. We have dated the last Glacial Age and the appearance of the true men as about 50,000 or 25,000 years ago. Please bear that "about" in mind. The figures are only approximate. But it is no good saying "a very long time" or "ages" ago, because then the reader will not know whether we mean centuries or millions of years. Figures are better than that. And similarly these maps we give represent not the truth, but something like the truth. The outline of the land was "some such outline." There were such seas and such land masses. But both Mr. Horrabin, who drew these maps, and the writer, who incited