THE BRONZE AGE AND THE CELTIC WORLD

THE BRONZE AGE AND THE CELTIC WORLD BY HAROLD PEAKE, F.S.A.

LONDON : BENN BROTHERS, LIMITED
8 BOUVERIE STREET, E.C.4
1922

PRINTED AND MADE IN GREAT BRITAIN BY HEADLEY BROTHERS,
18, DEVONSHIRE STREET, E.C.2 ; AND ASHFORD, KENT.

DEDICATION

To the anonymous benefactors whose liberality made possible the delivery of these lectures this work is gratefully dedicated.

PREFACE

THE substance of the following pages was delivered in February last in a series of six lectures at The University College of Wales, Aberystwyth. In volume form the matter has been somewhat re-arranged and the latter part expanded.

So many attempts have been made during the last century and a quarter to locate the Aryan cradle and to trace the wanderings of the Wiros, that it may be considered presumptuous for the author to venture on a further suggestion. He can only plead that most of the previous attempts have been made by philologists, usually with little or no archæological experience, while the discoveries of the last quarter of a century have placed the inquirer to-day in a position which is vastly superior to that of most of his predecessors. The evolution and distribution of the leaf-shaped swords seem to provide a crucial test by which to gauge the value of previous suggestions.

The author has felt that it would be for the convenience of the reader if he reduced the footnotes at the bottom of the page to the smallest possible dimensions, while describing each work quoted very fully in the bibliography at the end of the volume. In many cases, where the subject matter does not form the basis of his argument and the fact is not in dispute, he has thought that it would be more useful to quote a recent and readily accessible volume, preferably in English, in which authorities are fully cited, than to include all the original authorities in the notes and bibliography. This applies specially to Chapter II, and to some extent to those immediately following.

The author would like to take this opportunity of thanking his many friends, who have so kindly placed their knowledge and experience at his disposal, especially the Principal and other authorities of The University College of Wales, Aberystwyth,

for inviting him to deliver the lectures, and Professors H. J. Fleure and H. J. Rose. He wishes also to thank the Rev. Professor A. H. Sayce, Professor W. M. Flinders Petrie and Miss M. A. Murray, who have sent him valuable notes, Mr. E. Sharwood Smith for much help with classical references, Professor J. L. Myres and Dr. S. Singer for many helpful suggestions. Especially are his thanks due to Mr. J. H. Le Rougetil, for procuring drawings of swords from the Buda-Pest Museum, to Sir Arthur Evans, Dr. A. J. B. Wace and Mr. S. Casson for photographs and drawings from Crete and Athens, to Dr. W. Šmid and Dr. F. Neumann for sketches and notes on the specimens at Graz and Laibach, and above all to Dr. Adolf Mahr, of the Naturhistorisches Museum at Vienna, for drawings of the swords and other objects in his museum and for an immense amount of help in other ways. He wishes also to thank the authorities of various museums for permission to publish drawings of specimens in their collections, and the Trustees of the British Museum for allowing him to reproduce Plate III.

These are only some of the many kind friends who have given him assistance and who have helped him with suggestions and in verifying references. To all these he returns his grateful thanks. He wishes also to acknowledge the great help afforded to him by the officials of the London Library, the Society of Antiquaries, the Royal Anthropological Institute, the Hellenic Society and the Royal Asiatic Society, and to take this opportunity of thanking them for their unvarying courtesy.

HAROLD PEAKE.

29th June, 1922.

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Chapter I

THE PROBLEM

FOR the last fifteen hundred years the Celtic tongues have been spoken only in the extreme north-west of Europe, in parts of Ireland, the west of Scotland, and the Isle of Man, in Wales, Cornwall and Brittany, and for some little time these languages have ceased to be spoken in Cornwall and the Isle of Man.

But we have ample evidence that these tongues had once a wider range, and were pushed westward in the first instance by the spread of Roman culture and the Latin language as the empire increased its bounds, and still more by the Teutonic tribes who invaded the western half of that empire and brought about its fall.

If however we examine the evidence which has come down to us from the first century before the Christian era, especially such material as has been furnished by Cæsar and Strabo, we shall find that languages of the Celtic type were spoken at that time throughout all Europe west of the Rhine and north of the Pyrenees and the southern slopes of the Alps. We shall note also that these tongues were spoken in many parts of Spain and in North Italy, though in both these areas they were of relatively late introduction.

Again there is another area in which Celtic speech was in use at that time, or had been shortly before. This is the mountain or Alpine zone of Central Europe, as far east, at least, as a line drawn from Cracow to Agram. It is possible, too, that such tongues may have been spoken at one time still further east.

The problem before us is to inquire first in what region the Celtic tongues originated, then how and when they spread to the areas in which we find them two thousand years ago. To do this we shall have to review the condition of these areas both from the standpoint of prehistoric archæology and physical anthropology, to see whether the evidence derived from these sciences, taken together with that drawn from comparative philology and the study of place-names, can help us to reach a solution.

But the problem is further complicated by the fact that the Celtic languages fall into two groups. In the one occurs the sound *qu*, which has in later days become a hard *c*, while in the other this sound has become labialised and converted into a *p* or *b*. It has been thought by some that the *qu* peoples, spoken of usually as Goidels or Gaels, arrived first from the common Celtic home, and that the *p* peoples, called Brythons or

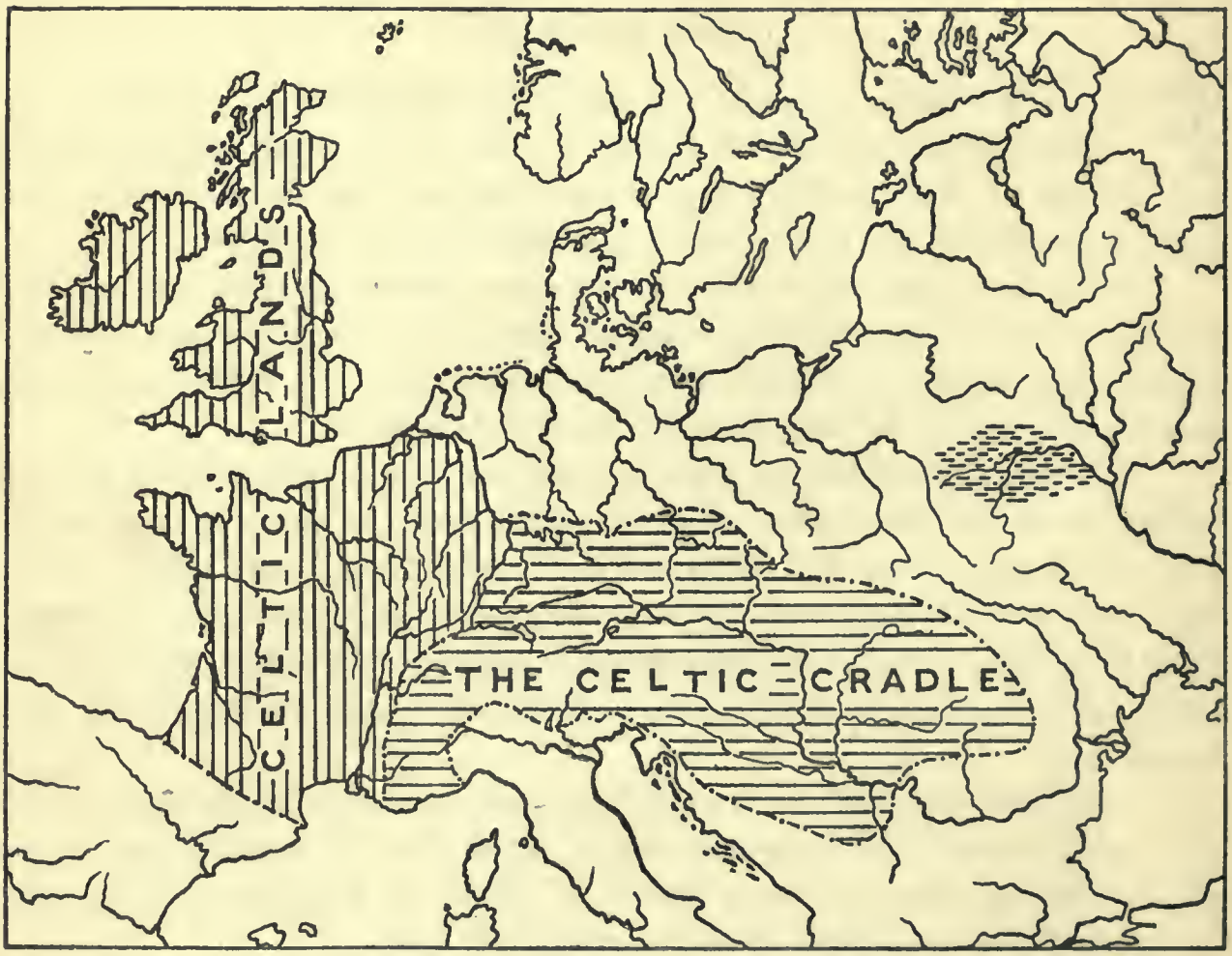


FIG. I.—CELTIC LANDS AND THE CELTIC CRADLE.

Cymri, came later from the same centre ; this view is, however, strenuously denied by others. We have, therefore, to determine if we can, not only whence and when the Celtic languages arrived in the west, but whether they came in one, two or more waves.

Lastly, we find that the Celtic tongues, as spoken to-day, contain elements of grammar and syntax, and not a few words too, which divide them off sharply from those

groups of languages to which they are in other respects akin. Also it is believed by some that non-Celtic languages, such as Pictish, survived in this region until relatively late times, while it is well-known that a primitive non-Celtic tongue, the Basque, is still spoken in the fastnesses of the Pyrenees. It is important, therefore, if we are to have before us all the factors which enter into the problem, that we should inquire what people were here before the first Celts arrived, and that we should make ourselves to some extent familiar with all the different races and cultures which preceded the Celtic invaders.

If we pass across England and Wales from east to west, and the same is almost as true if we cross Scotland, we find, first of all that the population is mainly tall and fair, while as we proceed we come across elements which are darker and shorter, until in Wales and the West Highlands we find the majority of the people are small brunettes of slender build. This dark type is also to be met with in Ireland, especially in the west, the part of that island in which the Erse language has best survived.

It is because the Celtic tongues, whether *qu* or *p*, are spoken chiefly by people of this small brunette type, that it is frequently called the Celtic race, and yet all the evidence of ancient authorities goes to show that 2,000 or 2,500 years ago the Celts were looked upon as a tall, fair people.[1] Here is another difficulty which must be taken into consideration as we make our inquiries, for no solution can be considered sound which cannot, without straining the evidence, answer all these questions.

As we have seen the main areas which were Celtic-speaking in the time of Cæsar were the British Isles and Gaul, west of the Rhine; these I shall term Celtic lands, leaving out Spain and Cis-alpine Gaul as areas into which the Celtic invasion arrived at a relatively late date. Now, besides these Celtic lands Celtic tongues were spoken in the Alpine zone, and perhaps at one time still further east. It is from this area that the Celtic languages have been thought by some to have entered the lands of the west. They cannot have been introduced from Spain or Italy, into which they were late entrants, but it has been suggested by some writers that they arrived from the north-east, from the Baltic region. It is true that there is some slight evidence that Celtic place-names have existed in this area, but the balance of evidence, as I shall hope to show, seems to

[1] Beddoe (1885) 29; Holmes (1907) 434, 437, 440; Macalister (1921) 2. 41-49.

prove that Celtic people arrived there relatively late and not in large numbers, and that they were never the dominant people of that region. There remains only the Alpine zone and the lands to the east of it. This area, from the Jura to the Iron Gates, from the northern slopes of the Carpathians to the southern foot-hills of the Alps, I shall term the Celtic cradle, and I trust that the evidence which I shall produce will convince my readers that I am correct in so doing.

Chapter II

THE FIRST INHABITANTS OF CELTIC LANDS

OF the earliest inhabitants of Celtic lands we know little or nothing. We have, it is true, a number of tools made of flaked flint, but they tell us little of the men who fashioned them. In spite of the recent admissions by the eminent French archæologists who have examined the new discoveries at Foxhall,[1] there is still no little difference of opinion as to the human workmanship[2] of rostro-carinates, eoliths and such like early attempts, and no human remains have come to light which can be attributed with any probability to this horizon.

When we come to what is usually termed the lower palæolithic period we are on surer ground, for no one now denies the origin of implements of the Chelles and St. Acheul types. But the only skeletal remains which can with certainty be attributed to this period are the human jaw from the Mauer sand-pit near Heidelberg,[3] and the famous Piltdown skull.[4] Few people now believe that the Galley Hill skeleton dates from so remote a time,[5] while the discoverer himself has disclaimed so early an origin for the Ipswich man.[6]

To attempt to reconstruct a human type from a mandible alone would be indeed to carry far the principle of *ex pede Herculem*, and as yet there is little agreement among anthropologists as to the exact date, or for that matter the exact reconstruction, of the Piltdown skull,[7] though the ingenious hypothesis that a unique human cranium without

1 Moir (1921) 390-411 ; Burkitt (1921) 2. 456, 7 ; Man xxii. 33.

2 Macalister (1921) 1. 148-177.

3 Keith (1915) 1. 228-244 ; Schötensack (1908).

4 Keith (1915) 1. 293-452 ; Dawson, etc. (1913) ; Boule (1915).

5 Keith (1915) 1. 178-193 ; Duckworth (1913) ; Macalister (1921) 1. 222, where other authorities are cited.

6 *Nature*, 12th October, 1916.

7 The question is well discussed by Macalister (1921) 1. 196-204, who gives numerous references.

a jaw, was found in close association with a unique troglodyte mandible has now, I understand, definitely been abandoned.[8]

Thus little or nothing is known of the first inhabitants of Celtic lands, beyond their tools, but when we come to the middle palæolithic period the case is different. While some difference of opinion still exists, the view advanced by Obermaier[9] and others seems to be gaining ground, that in Celtic lands the industry of Le Moustier first appeared as the climate was becoming colder on the approach of the last or Würm glaciation, though it is thought by some that it had flourished in an earlier and warmer time in the regions lying to the east.[10] This industry is believed by most authorities to have survived the first Würm maximum and to have lasted through the temporary amelioration of the Laufen retreat. Whether it survived, too, the second maximum, and lasted until the climate definitely improved is more doubtful, but many archæologists of great repute believe that it did so,[11] and unless this was the case it will be difficult to explain certain features of the Audi flints.[12]

Though there is as yet no general agreement as to the duration of the Mousterian industry, it is different when we come to consider the type of man who was responsible for this work. Everyone is agreed that the authors of this culture were of the type known as Neanderthal man, for several skeletons of this type, or parts of them, have been found associated with flint implements of Le Moustier design, and none have as yet turned up under conditions which make this correlation impossible.[13]

A considerable number of skulls and skeletons, about two dozen in all, of Neanderthal man have been found, the great majority in Celtic lands ; but, though there is a general resemblance between all the members of the series, sufficiently strong to mark them off from the Piltdown skull on the one hand and from modern men on the other, the type is in many respects very variable. There are vast differences observable

[8] Osborn (1921) 585, 6.

[9] Obermaier (1906-7).

[10] Burkitt (1921) 1. 95-97 ; Macalister (1921) 1. 215-218, 255-259, 585-590.

[11] Obermaier (1906-7) ; Burkitt (1921) 1. 47 ; Macalister (1921) 1. 584, where other authorities are cited.

[12] *Vid. infr.* p. 6.

[13] Macalister (1921) 1. 285-314, where all authorities are fully cited ; Keith (1915) 118.

between the skull from Chapelle-aux-Saints,[14] the highest form yet discovered, and that of the Gibraltar man,[15] or rather woman, which is the most primitive yet found in Europe. As far as one can judge from the descriptions which have appeared as I write, the skull recently found at Broken Hill in Rhodesia differs from that of Gibraltar hardly if at all more than the Gibraltar skull differs from that found at Chapelle-aux-Saints. In the latter case there are several intermediate forms, in the former such may yet turn up, for Africa has, as yet, produced but one other skull of this type, that found not long ago near Constantine in Algeria, no description of which has, I believe, yet been published.

Skulls of this type have been so frequently described,[16] individually and collectively, that it is unnecessary to give another detailed account. It will be sufficient to say that they are large and massive, the vault is low, and they are specially distinguished by having over the eye sockets a heavy and continuous projecting ridge, known as a *torus*, which is one of the distinguishing features of the large anthropoid apes. Another point of importance is that the head was so attached to the body that it could not have been held absolutely erect, and must have produced a slouching gait, though the degree of this slope varied considerably in different specimens, and in the case of the Rhodesian skull was quite halfway between the slope of the Gibraltar skull and that of the gorilla.[17]

But it is unnecessary for our purpose to pursue this question further, for with the arrival of modern man, after the last glaciation was past, Neanderthal man disappeared. That the two races met, though not necessarily in this continent, seems clear from the fact that at Audi, near Les Eyzies, in the Dordogne, we find a culture, which in some respects resembles that of Le Moustier, and in others the succeeding culture of Aurignac.[18] That these two races interbred is unlikely, for Neanderthal man must have appeared an unsightly beast to his modern successor. In any case, if mating did take place, the union must have been sterile, for, in spite of much that has been written to

[14] Macalister (1921) 1. 298-301 ; who cites Boule (1911-13).

[15] Keith (1915) 1. 122-124, 156.

[16] Keith (1915) 1. 102-136 ; Macalister (1921) 1. 285-314.

[17] Smith (1922) 464, 465 ; but a different view is held by Woodward (1922) 579.

[18] Burkitt (1921) 1. 72, 92, 97, 98.

the contrary,[19] there is no clear evidence of the survival of any distinctive Neanderthal traits in the men of later days.[20]

The second maximum of the Würm glaciation seems to have culminated about 15,000 B.C.,[21] and about that time, or conceivably earlier, modern man first arrived in North Africa, if we may judge by the appearance of a fresh type of flint industry, known usually as Capsian.[22] Whence he came is uncertain. It has been suggested that he may have reached the north from tropical Africa,[23] but no evidence has been adduced in support of this hypothesis. It seems more likely that he came from Asia, probably by means of the Sinaitic peninsula, or possibly across the Straits of Bab-el-Mandeb. This much is certain ; about this time the Capsian culture is found extending along the north of the continent, from Egypt as far west at any rate as Algeria, and perhaps beyond, though at no point but one is it found far from the Mediterranean coast.[24] The one exception is in Egypt, where implements of this type have been found as far south as Luxor,[25] so that we may be satisfied that modern man in his earliest movements passed up the Nile valley at least as far as the First Cataract. It would seem probable that in Egypt the invaders came into touch with their Neanderthal predecessors, who retreated before them up the Nile valley towards Luxor, where Dr. Seligman has found implements of Le Moustier type more developed than any discovered elsewhere[26] ; it is possible that some retreated further south and may even have reached Rhodesia.

Other of these Neanderthal refugees seem to have gone westward, and perhaps passed up the Italian land-bridge to western Europe ; if so it was probably these, who had come into contact with the Capsian culture of North Africa, who were responsible for the Audi industry. They were followed before long by the invaders, and in Celtic

[19] Macalister (1921) 1. 581, who cites Hrdlička.

[20] Macalister (1921) 1. 313 ; Keith (1915) 1. 135.

[21] Vid. Appendix I.

[22] From Capsa, the old name for Gafra in Tunisia ; Morgan, etc. (1910-1).

[23] Macalister (1921) 1. 576-580.

[24] Burkitt (1921) 1. 95, 106.

[25] Seligman (1921).

[26] Seligman (1921) 128.

lands at least were soon exterminated, though it is just possible that they survived to a later date further east.[27]

The culture of the newcomers is known as that of Aurignac, and seems to have started in Europe about 12,500 B.C. A great many skeletons of this period have been discovered and described, and though all of these show us men very like those of the present day, there is a considerable range of variation among them.[28] The skulls of the upper palæolithic periods, apart from the Chancelade skull[29] to be discussed later, may be divided into three marked groups, though it is well to remember that there is no strict uniformity among all the members of each group. All the skulls of this period, however, are long, for the broad-headed type, so prevalent in Central Europe to-day, did not arrive until the closing phase.

Of the first of these three groups we have only two examples, the mother and son from the Grotte des Enfants, near Mentone.[30] But as these are the earliest in date, and differ in some respects very markedly from the remainder, they have been distinguished by the name of the Grimaldi race, after the owner of the cave, the Prince of Monaco.

This type was small, being less than 5 ft. 3 in. in height, the skulls were of the long variety, having length-breadth indices of 68.5 and 69.2, and the jaws and teeth project, so that they exhibit a character known as prognathism. This latter character has caused the race to be termed negroid, and unjustifiable deductions have been drawn from this term. It has been shown, however, that there is no reason for supposing any affinity between this type and the negro race of tropical Africa.[31] Both of these skeletons were found in a contracted position, and that of the boy was covered with red ochre.[32]

Our second group is the Cromagnon, and is based largely on the skeletons found in the cave of Cromagnon, near Les Eyzies. By many anthropologists this term is used to cover all the skeletons from this period except those of the Grimaldi type, but more recently it has been shown that all these remains cannot conveniently be placed in one group, for the distinguishing characters are but faintly visible in some and totally absent from a large number.[33] The term is now becoming used in a more restricted sense.

[27] Macalister (1921) 1. 581.
[28] Fleure (1920).
[29] Testut (1889).
[30] Keith (1915) 1. 62-68.
[31] Keith (1915) 1. 66.
[32] Keith (1915) 1. 65.
[33] Fleure (1920).

The Cromagnon type is tall. The men were often 5 ft. 10 in. or 5 ft. 11 in. high, though the women were frequently much shorter, Their heads were large, larger than the average in Europe to-day, but not very high ; they were long as compared with their breadth, having a cranial index of about 74 ; their noses were narrow, but their faces were short and relatively broad. This combination of a long head and a short face is unusual, and is called disharmonic, and this disharmony is one of the most striking characteristics of Cromagnon man.[34]

It is often thought that this disharmonic trait, the long head and the short face, is evidence of the mixed ancestry of the race which exhibits it,[35] and if this were the case we might expect Cromagnon man to be the result of a crossing of two other races. There is no other evidence to indicate that this was the case, and if such crossing had occurred, it seems likely that it took place before the Cromagnon type reached Europe.

It seems probable that it is to the men of the Cromagnon type that we must attribute the beginnings of that art, which reached its finest development in a later age, and has provided the most conspicuous as well as the most pleasing feature of the upper palæolithic culture.[36]

Lastly we have the type represented by Brünn I., Brüx, Lautsch, Combe Capelle, Barma Grande (one of the skulls from B.G. now in the Musée de Menton, but not the skulls generally known as B.G. 1 and 2), the woman from the upper layer in the Grotte des Enfants, the *Calotte du gravier de fond* at Grenelle, the Denise fragments, as well as by one or two skulls of the transition period from palæolithic to neolithic found at Ofnet (No. 21, i.) and a few of those belonging to the same period found at Mugem. The type is usually high-headed as well as narrow-headed, and tends to have the orbits horizontally lengthened, the glabella and supraciliaries strong, the fore-head retreating, the nose broad and the upper jaw projecting (alveolar prognathism). The cephalic index is usually between 68 and 72 ; the stature is moderate or low.[37]

Thus we find during the period of Aurignac three groups of long-headed men, the Grimaldi, Cromagnon and Combe Capelle, and, especially on the Riviera, in the Barma Grande cave and the Grotte des Enfants, skulls which show various apparent combinations of these types, while at Solutré and Laugerie Basse we find the last type showing

[34] Ripley (1900) 39, 173.

[35] Ripley (1900) 39, 40.

[36] Parkyn (1915) ; Burkitt (1921) 1. 192-272.

[37] Fleure (1920) 19-21.

modifications to some extent towards the characteristics of modern men. These types and intermixed types occupied west and central Europe, so far as it was habitable during the later palæolithic periods, and the combinations of Combe Capelle and Cromagnon characters in the skulls of Obercassel (Magdalenian period) is noteworthy. The earliest in point of time is the Grimaldi, which has been found only near Mentone, and there are reasons for believing that its distribution lay around the western Mediterranean, then an inland sea. This view is supported by the fact that marked alveolar prognathism has been noted among the natives of Algeria and Morocco, and I am told that it is not uncommonly met with in Spain ; it is also very marked in Portugal, though here it has been attributed to a different cause. It is, however, of old standing in that country, as it has been noted among the skulls from Mugem,[38] which are believed to date from the close of the palæolithic age. A similar feature has been noted in some of the skulls from the Algerian dolmens.[39]

To the Cromagnon type, pure, it is difficult to ascribe any other skulls besides those from Cromagnon, and those from Lafaye Bruniquel, but some of the Cromagnon characters are well shown in some Barma Grande skulls. The type is said to survive in the Dordogne and perhaps near the western Pyrenees in North Spain at the present day.[40] The Combe Capelle or Brünn type, is seen to have occurred on the whole more to the north and east, and seems rather to focus in Central Europe and the southern part of the North German plain. It was probably the latest to arrive on the scene, for it is associated only with remains of late Aurignac type, and has been more frequently found in the succeeding Solutré period.

Thus we see that by the close of the period of Aurignac, about 11,000 B.C., we have three groups of long-headed men in Celtic lands, and that, though they overlap, they are tending to obtain for themselves definite areas of distribution.

During the closing years of the Aurignacian period the climate had been getting milder and perhaps drier, and steppe conditions prevailed over much of France and still more further east. Herds of horses arrived and were hunted for food and the *saiga*, a kind of antelope, was found as far south as the Dordogne, if not beyond, during the

[38] Corrêa (1919) 121, 122.

[39] Bourguignat (1868) 43, 48, 49, Pl. vii., viii.

[40] Ripley (1900) 165-179.

succeeding Solutrean period. These Steppe conditions are more characteristic of the latter period,[41] when France was invaded by a new people, not given, as far as we know, to artistic efforts, but who were able to fashion very skilfully made weapons of flint to aid them in chasing the beasts of the steppe.[42] The fact that skulls of our third group the Combe Capelle, are more common during this period and have only been found during the later phases of the previous age, when, as we have seen, steppe conditions were already approaching, leads us to suspect that it is to this type of man that we must attribute the invasion of Celtic lands which took place at this time. The Cromagnon men seem to have retreated to the south-west and to have taken refuge in the fastnesses of the Pyrenees,[43] while the invading hunters dominated the southern part, at least, of the Celtic lands.

But towards 9,500 B.C. the climate began again to deteriorate, and the steppe conditions passed gradually to those of tundra. The steppe animals retreated to the east, towards South Russia and Turkestan, and most of the men of Solutré, who hunted them for food, seem to have followed in their wake. It seems doubtful whether the Solutrean invasion reached Britain, though implements of this type are said to have been found here,[44] and Proto-Solutrean stations are reported as occurring in England.[45] It has been claimed recently that this type reached the south of Sweden,[46] but this view is not generally accepted in that country.[47]

On the departure of the Solutrean invaders the remnant of the aborigines, who had fled to the mountains in the south-west, and there developed their art to a much greater pitch of perfection, now returned to France, and once again, as the men of La Madeleine, became the dominant race in Celtic lands. It seems possible that some of their comrades had fled north to Britain on the arrival of the men of Solutré, and had survived there throughout this period, for, though no industry has been found in the British

[41] Thus Burkitt (1921) 1. 42, 127, but Macalister (1921) 1. 373, 376, 582, states that the steppe conditions had passed before the beginning of the Solutrean period.

[42] Burkitt (1921) 1. 130-133.

[43] Burkitt (1921) 1. 132, 135.

[44] Burkitt (1921) 1: 129; Macalister (1921) 1. 434.

[45] Burkitt (1921) 1. 129.

[46] Montelius (1921).

[47] Nordmann (1922).

Isles which can accurately be described as that of La Madeleine,[48] in the strict French meaning of that term, we do find traces of the culture of Aurignac, persisting perhaps until still later times.

It must not be thought, however, that the Combe Capelle race never reached these isles. Whether the culture of Solutré did so or not seems uncertain, but some of the skeletons which have been found here have been classed with the Combe Capelle group.[49] But, as we have seen, this race was present in France, at any rate in some parts of that country, for some little time before the arrival of the men with the culture of Solutré.

The colder climate of the Magdalenian period has been shown to coincide with the Bühl advance of the Alpine glaciers,[50] which reached its maximum about 7,500 to 7,000 B.C. After that the climate slowly improved, though the precipitation increased, and forests sprang up on the hitherto open lands. As the tundra conditions in Celtic lands gave way to forest, the reindeer migrated to the north and north-east, while their place was taken by the red deer. As the forests developed it became increasingly difficult for men to traverse great distances or to intermingle as freely as they had done before. There was a tendency for separate groups to develop in different regions ; so that, when we arrive at the next period, the Azilian, we find very different types of people in various parts of Europe.

Even before the close of the Magdalenian period a fresh type had arrived, apparently from the north, if we may judge from the skeleton found at Chancelade in the Dordogne. This skeleton bears a close resemblance to those of the modern Eskimos,[51] and since the latter have retained a type of art reminiscent of certain phases of Magdalenian culture,[52] we may suspect that Chancelade men, following the departing reindeer, passed north-eastward to the tundra of Siberia.

It was between 7,000 and 6,500 B.C. that a fresh wave of Capsian people from North Africa began to invade Spain,[53] into which peninsula they introduced what is known as East Spanish Art.[54] By degrees they pressed the Magdalenian Cromagnons to the

[48] Burkitt (1921) 1. 232.

[49] Fleure (1920) 21-25.

[50] Burkitt (1921) 1. 43.

[51] Testut (1889) ; Clark (1920) 288-291.

[52] Sollas (1911) 348-350, where all authorities are cited.

[53] Osborn (1918) 516-518.

[54] Burkitt (1921) 1. 273-285.

Pyrenees, where their culture declined to that which we know as Azilian.[55] The invaders passed on through Celtic lands, bringing with them a new culture, known as Tardenoisian,[56] and seem to have reached the British Isles before 5000 B.C.

These people seem to have been another variety of the same long-headed race, which had developed into a distinct type in North Africa, and had there, perhaps, mingled to a greater or lesser degree with the descendants of the Grimaldi men, whom we met with at the beginning of the period of Aurignac. If we may judge by those who seem to be their descendants, they were of rather short, slight build, with long narrow heads, brown skin, dark hair and eyes, the type which to-day is known as the Mediterranean race.[57] It is possible that the Grimaldi elements in their composition, and which are sometimes found comparatively pure, may account for that small dark type, often showing marked alveolar prognathism, which has been found in certain out of the way regions, such as Apulia and Sardinia, and which are known to some anthropologists as Iapygian,[58] and have been termed Ethiopic by Ruggeri.[59]

This new population seems to have been peaceably inclined and made no attempt to exterminate its predecessors, but settled down in the lower lands and by the sea shore, while the Cromagnon men remained in the mountain zones of the Pyrenees and the Dordogne, and the Combe Capelle type survived in Central Europe and among the hills of Wales. It seems almost certain that the newcomers were still hunters, quite ignorant of agriculture and the domestication of animals; as some of their settlements have been found by the sea shore and on the banks of streams, it seems likely that they lived to a considerable extent on fish and molluscs.

It would appear, then, that the type which we know as the Mediterranean race, and which has given to Wales, Scotland and Ireland the majority of their small brunette inhabitants, is made up of the descendants of all the types of long-headed men—except the Chancelade variety—which we meet with in the Celtic lands of western Europe during the upper palæolithic period. That the Combe Capelle type survives on the moorlands of Plynlimmon has been shown by Fleure: examples of an africanoid type with alveolar prognathism are not uncommon in Wales and in the poorer quarters of our big cities,

55 Macalister (1921) 1. 525.

56 Macalister (1921) 1. 537, 538.

57 Sergi (1901).

58 Brace (1863) 65, 66; Keane (1908) 360.

59 Giuffrida-Ruggeri (1921).

and the Cromagnon type only seems to be missing or at any rate relatively scarce. The main element, however, which has gone to make up the Mediterranean race as we now know it, seems to be that which entered Europe through Spain, with Capsian culture, during the closing years of the Magdalenian period.

These people have left in the west, not only considerable vestiges of their blood, but no small amount of their language, or to state the matter more accurately the language of these people has left a marked effect upon the tongues which succeeded it in the west. More than twenty years ago Mr., now Sir John Morris Jones[60] pointed out that "the syntax of Welsh and Irish differs in some important respects from that of the languages belonging to the other branches of the Aryan family," and suggested that these points, in which too the neo-celtic tongues differed from ancient Gaulish, were due to the influence of a language which had been spoken in these lands before the introduction of the Celtic tongue. He pointed out that many of these peculiarities, which occur also sometimes when the English tongue is spoken by Irishmen, were similar to the syntactical arrangements in force in the language of ancient Egypt and among the Berber dialects spoken by the natives of Algeria, the Kabyles, Shawiya and Tuaregs.

Now the Egyptians and other peoples of North Africa are considered by all anthropologists as typical members of the Mediterranean race, though the inhabitants of the western part seem, as we have seen, to have incorporated no small amount of Grimaldi blood; it would seem then that we may accept the suggestion of Sir John Morris Jones that the syntax of Welsh and Irish is a legacy from the language spoken by these Mediterranean invaders, who reached Spain about 7000 B.C. and formed the bulk of the population of the British Isles about 5000 B.C.

So far we have been dealing with the early inhabitants of the Celtic lands of the west, but a word must be said of some fresh arrivals into the Celtic cradle in Central Europe. It was during the Azilian period, about 6000 B.C., that a new race appeared in Central Europe, coming from the east. Of their earlier abode we know nothing positively, but there are reasons for inferring that their line of approach was by the Kopet Dagh and the Armenian highlands, and that they came ultimately from the slopes of the Hindu Kush and the western side of the Himalayan *massif*. This race,

[60] Jones, Morris (1900).

which is called the race of Ofnet, from the skulls found in the caves of Ofnet, in Bavaria, had a broad head, the outline of which as viewed from above consisted of two segments of circles, the one forming the back of the head, the other the front. The brow-ridges are slight, the nose short and straight, the eye-sockets low and almost rectangular, the cheek-bones not very prominent and the chin weak and undeveloped.[61] This race seems to have met and mated with the remnants of the Combe Capelle race in the Upper Danube basin, and the progeny of this union seems to have been a type with a pear-shaped head as seen from above, with a rounded back, indistinguishable from the type found later in the Swiss lake-dwellings and in the mountains of Central Europe at the present day, and which is known as the Alpine race.[62]

The Ofnet race seems to have spread westward into the Celtic lands, either at this time or perhaps later, though probably in small numbers, for a skull found at Grenelle, near Paris, under what are believed to be neolithic surroundings, belongs to this type.[63] Other broad-headed skulls of this or the Alpine type, dating from about 5000 B.C., or a little earlier, have been found at Mugem on the banks of the Tagus,[64] while others of this type of about the same date have been found in the caves of Furfooz in Belgium.[65]

Whether any of this broad-headed Asiatic strain reached the British Isles at so early a date is uncertain. No skulls of this type and date have been discovered, but broad-headed types occur sporadically in Wales, Ireland and the western islands of Scotland, which may conceivably represent descendants of early Ofnet or Alpine immigrants.

Somewhat later, before 4000 B.C., fresh waves of broad-headed immigrants seem to have arrived in Central Europe from the Armenian highlands or the Anatolian plateau, bringing with them the knowledge of grain, cultivated fruits and domestic animals, and the custom of erecting pile-dwellings in marshes or lakes, and of grinding and polishing axes of flint or other hard stone.[66] Such knowledge seems to have reached even the west of Switzerland by 4000 B.C. and to have spread later throughout the *massif central* of France, which was already peopled by men of the Alpine type.

[61] Macalister (1921) 1. 541, 542.

[62] Macalister (1921) 1. 542.

[63] Macalister (1921) 1. 542.

[64] Corrêa (1919) 123.

[65] Osborn (1918) 481-485.

[66] Peake (1922) 1. 64, 65.

But the art of polishing hard stone spread further than the people who were responsible for its introduction, and during the next few centuries this art had become well known throughout the Celtic lands of the west; the need for more efficient tools to fight the encroaching woodland must have encouraged this art. How far the elements of agriculture had travelled with the art of grinding axes seems uncertain, for few, if any, unquestionable neolithic dwelling sites of this time within this area have been found or thoroughly explored. The scanty evidence at our disposal seems to show, however, that the people of the west were possessed of some domesticated animals, so that the inhabitants of Celtic lands had passed from a purely hunting stage before 3,000 B.C.

There is one other culture, introduced into Europe perhaps by another race, which I must not omit to mention, as it may have provided another element, albeit a small one, in the early population of Celtic lands. At Mullerup, in the peat moss of Maglemose, in the west of the island of Zealand, there was found in 1900 an important dwelling site with a very distinct culture, including harpoons and other implements of horn and bone, which is known to Scandinavian archæologists as the Mullerup, but to English-speaking students as the Maglemose culture.[67] More recently, in 1917, another settlement, exhibiting what appears to be the same culture, was discovered at Sværdborg, in the south of the same island.[68]

No skulls or skeletons have been found associated with this culture, and there has been much speculation as to the race which was responsible for it. Owing to the presence of harpoons it was first assumed that this culture was a direct derivation from the Azilian and Magdalenian, though it has been pointed out that the Maglemose harpoons are very different in form from the Azilian, and resemble more nearly some found in eastern Russia.[69] Still the majority of authorities treat this culture as of Azilian origin. Others, relying largely on the resemblances of certain elements of culture to those found at some very late Aurignacian sites in South Poland, believe the people and the culture to have arrived from that region.[70] Recently I have suggested another explanation.[71] Noticing the resemblance between the Maglemose

[67] Osborn (1918), 487, 488.

[68] Johansen (1918-19).

[69] Burkitt (1921) 1. 155.

[70] Burkitt (1921) 1. 156.

[71] Peake (1919).

culture and a slightly later civilisation known as East Scandinavian or Arctic, which has been found at several sites associated with skulls of Mongoloid type, I have suggested that in the Maglemose people we may perhaps see the first arrival in Europe of that Mongoloid race, which now peoples a large part of the north-east of the continent. My suggestion has not been well received in Scandinavian circles, and M. Nordmann has submitted it to very searching though courteous criticism.[72] While duly appreciating the value of all the evidence he has cited, I am still of opinion that my view, though far from proved, meets the existing evidence as well as, if not better than, its rivals.

The importance of the Maglemose problem for our purpose lies in the fact that certain sites in the British Isles have produced an industry which has been claimed, and perhaps rightly, to be akin to that of Mullerup amd Sværdborg. Certain discoveries in the caves at Oban and on a raised beach on the island of Oronsay, are claimed to be of this or of Azilian culture,[73] while other finds at Holderness are said to resemble more closely still the Maglemose culture.[74] More recently still Mr. O. G. S. Crawford has suggested that certain implements, which he and I discovered last year at an early occupation site on the Newbury Sewage outfall works at Thatcham, Berks., bear close resemblances to some found at Sværdborg.[75]

It is too soon yet to appraise the value of these resemblances. Some of these sites, notably those at Oronsay and Thatcham, appear on some grounds to be somewhat later than the settlements at Mullerup and Sværdborg. This does not, of course, disprove their cultural connection. It is unwise, at present, to draw any positive conclusions from such evidence, but we may note that it is possible that during late Azilian times, or perhaps later still, fresh elements entered the British Isles from the Baltic region, and that it is at least possible that these elements may have been of the Mongoloid race.

People showing slight Mongoloid traits may be found sporadically throughout Wales, though, as far as I can ascertain, this type has not been noted as prevalent in any particular areas ; how far it may be noted in the west of Scotland or in Ireland I am uncertain. But we cannot be sure that the introduction of this Mongoloid strain

[72] Nordmann (1922).

[73] Macalister (1921) 1. 533-535.

[74] Burkitt (1921) 1. 108, 155.

[75] Peake & Crawford (1922).

dates from so early a time, as it is quite possible that the type may have been introduced much later by the Vikings, who may perhaps sometimes have carried Finns with them in their forays.

Though after the close of Azilian times the culture of Celtic lands changed more than once and in more respects than one, we have at present no reason for suspecting the introduction of fresh racial elements before the beginning of the Bronze Age. The origin of Campignian culture, which seems to have flourished over the northern part of Celtic lands, in one form or another, from about 5000 to 3500 B.C., is still a matter of dispute, but it is doubtful whether the solution of the problem is likely to introduce a fresh element into the population of the Celtic lands.

The vast mass of the population of this area about 3000 B.C. were the descendants of the long-headed populations of Europe and North Africa in the upper palæolithic period. In some parts of the south the Cromagnon type may have persisted, in a pure or mixed form, as did the Combe Capelle type further north, while a modified form of the Grimaldi type was found from Portugal to Wales, especially in fishing villages. The prevailing type seems to have been that which came latest from Africa, and which most truly deserves the name of the Mediterranean race, though it may be well to realise that this term, as commonly used, seems to include all the varieties before mentioned, as well as a modified mixture of all these long-headed types.

In Central France, and to a less extent elsewhere, the Alpine type had penetrated, though it is doubtful whether it had, as yet, reached the British Isles. And we must realise that it is just possible that some Mongoloid peoples, from the Baltic and ultimately from Siberia, may have made a few settlements in this country, though their numbers are not likely to have been great.[76]

Such then, as far as our evidence extends at present, seems to have been the population of Celtic lands in the true neolithic age, when people lived in small, self-contained communities, and outside commodities were rarely met with, and then only bartered from tribe to tribe. As we shall see, the next thousand years or so were to introduce fresh elements.

[76] Fleure & James (1916) 114; Beddoe (1885) 8-13.

Chapter III

EARLY TRADE WITH CELTIC LANDS

UNTIL the close of the stone age the movements of people had been by means of gradual drifting. During the palæolithic age, when the population supported itself by hunting, the people wandered over considerable areas in search of game, and the inhabitants of different regions frequently met and mingled with one another. As the forest conditions arose during the close of the Magdalenian period these wanderings were restricted in scope, and with the gradual introduction of domesticated animals and the practice of agriculture during the neolithic age, more settled communities arose. Thus the different types mixed less with one another, and the communities became more specialised, both in type and culture, as their wanderings diminished.

A new method of intermixture was, however, soon to arise, as the practice of commerce developed. It is possible that even during the palæolithic age, tribes who lived in a region where flint or other suitable material was abundant, or who had become skilled in the fashioning of some advanced type of implement, sometimes bartered their spare products for other commodities. Such operations, if they did exist, must have been very limited in extent, and confined to bartering between neighbouring tribes.

During the neolithic age this simple principle of exchange continued, though it was probably more frequent, since communities had a narrower range, and some must have been living in regions where suitable raw material was scarce or non-existent. Some well favoured regions also had begun to develop regular commerce. The inhabitants of the island of Santorin, the ancient Melos, had before metal was known organised an export trade in obsidian goods, for they held a monopoly of that excellent volcanic glass in the Ægean region[1]. It seems likely, too, that the people of the Lipari

[1] Bosanquet (1904) 216-233.

islands traded in the same material with south Italy, Sicily and Malta.[2] Some of the natives of the French department of Indre-et-Loire, finding themselves possessed of great quantities of beautiful honey-coloured flint in the neighbourhood of Le Grand-Pressigny, exported implements, both finished and in the rough, to many distant places in France,[3] and the same is probably true of the dwellers on Pen-maen-mawr, if we may judge from the extensive remains of their industry recently discovered at Graig Llwyd.[4] The industry of Le Grand-Pressigny seems, however, like the obsidian trade in the Mediterranean, to belong to the closing phases of the neolithic age, while the Graig Llwyd factory may well date from the bronze age.

So long as these products of local industry were distributed by land, as in the case of Le Grand-Pressigny and Graig Llwyd, the old method of barter from tribe to tribe was possible and doubtless still continued. But when an island, such as Santorin, was the scene of production, such methods were ineffectual, and a definite organisation for export became necessary. To carry goods from one island to a neighbouring isle or to the mainland requires a ship and a crew, besides some representatives of the makers to effect the sales. When the ship has been equipped it is economical to provide a full cargo, and this would be more than one small community would need or could afford to purchase. This leads to trading voyages of some days' or weeks' duration, when the ship can call at a number of ports to meet the needs of many communities. The inland inhabitants have also to be catered for, and the most serviceable ports became in their turn fresh centres of distribution, and need a depôt under the supervision of a representative of the makers.

Thus, even before the close of the stone age, we see developing, especially in the Mediterranean region, the beginnings of an organised commerce, involving visits paid by ships and their crews to distant ports and foreign communities, and sometimes leading to the establishment of small foreign trading settlements. With the introduction of metal these features increased rapidly, and, as we shall see, before the bronze age had been in existence for many centuries, an extensive trade had grown up, mainly by sea, but sometimes by land as well, so that bronze became known and used

[2] Peet (1909) 150; Mosso (1910) 365-367.

[3] Déchelette (1908-14) 1. 355-661 *passim*.

[4] (Warren 1921).

over most parts of Europe which were not too remote from the sea to be affected by sea-borne commerce. Thus a considerable mingling of peoples and cultures took place, not by the sudden arrival of large numbers of invading hordes, but by the constant infiltration of small bodies of merchants and seamen.

The origin of the discovery of metal is still unknown, though many ingenious suggestions have been made. All investigators are agreed that gold, being the most strikingly conspicuous metal, was the first to be noticed and used, though there are those who believe that copper was almost if not quite as early a discovery. Professor Elliot Smith has made interesting suggestions in both cases. He believes that somewhere on the African shore of the Red Sea a cult arose which involved the use of the cowry shell as an amulet for fertility; such cults are well-known and widely spread.[5] For some reason the shells did not ultimately satisfy the people, or the supply diminished, and they made models in gold, deposits of which were found in that locality. Thus the virtue of the amulet, residing originally in its form, became transferred to the material, and gold became and has since remained a lucky and fortunate possession.[6]

Copper, on the other hand, he believes to have been discovered in Egypt. The inhabitants of this country had, in neolithic days, been in the habit of mining malachite in the Sinaitic peninsula, and grinding this mineral on slate palates into a powder, which they applied to their eyes. Green powder thus applied is said to save the wearer from the ill-effects of glaring sunlight, and perhaps served also to keep away the flies, which are a constant source of ophthalmia. Professor Elliot Smith suggests that an Eygptian, grinding his lump of malachite on his decorated slate palate, one day met with an unusually hard lump, which he could not grind satisfactorily. In a fit of temper he threw the offending morsel into the fire, doubtless with words of objurgation; later on in the ashes he found a small red bead of copper. A repetition of this action, no doubt with the same formula, produced an identical result, and so the discovery of the reduction of copper from its ore was made.[7] I must admit that at one time I doubted the possibility of this explanation, as I questioned whether the heat of a fire of dung,

5 Smith, G. Elliot (1919) 143, 150-153.

6 Smith, G. Elliot (1919) 221-225.

7 Smith, G. Elliot (1911) 4.

now and probably then also, the only available fuel, would be sufficient to reduce the ore. To satisfy me on this point, Mr. R. H. Rastall of Cambridge kindly made a laboratory experiment upon a piece of malachite, and as a result assured me that the heat of a dung fire would be ample for the purpose.

While admitting that Professor Elliot Smith's theories are both possible and suggestive, I feel inclined to offer another, albeit more prosaic solution to these problems. Primitive men, whether in prehistoric times or among backward peoples to-day, and, dare I say it, this is perhaps more true of primitive women, have a habit, not, I believe, quite extinct even in more advanced circles, of collecting small objects with natural perforations, or through which holes could readily be drilled, and stringing them upon a thread or wire to make necklaces or bracelets for the adornment of their persons. Such customs carry us back a long way. The old Grimaldi woman from the *Grotte des enfants* wore two bracelets composed of perforated shells, while her son, if indeed he were her son, had worn on his head a chaplet of the same materials.[8] The Alpine inhabitants of the North Italian lake-dwellings used the vertebræ of pike for the same purpose.[9] Whether the use of strings of beads originated in some religious practice I know not, for it may be that such religious associations, though found to-day among Buddhists, Moslems and Christians, may be relatively modern. That in later days it proved a safe and convenient way of storing accumulated wealth seems more certain, and for this purpose the custom is still practised. Perhaps after all the Preacher was right and this, like everything else, was vanity.

Leaving the cause unsolved, we may be content to note that the practice dates from the first arrival of modern man in Europe, and may be much older. But shells and the vertebræ of fish are easily damaged, and store would have been set by perforated stones, which would have been much more durable. Pebbles of clear quartz, with natural perforations, were worn sometimes by our Saxon forefathers,[10] but such stones are scarce and would have been prized accordingly.

I picture to myself the first discoverer of gold as a young man wishing to obtain the favour of a maid, or perhaps to purchase her from her father. I imagine such a

[8] Macalister (1921) 1. 353.

[9] Mosso (1910) 205-209.

[10] Peake & Hooton (1915) 98, 117.

youth going in search of some object, rare and durable and capable of being strung on a necklace. Walking down to a clear stream, perhaps to wash, though more probably to drink or to fish, he noticed in its bed a brilliant yellow stone of quite exceptional beauty. Picking it up and examining it he found he could bend it where it was thin, so that with the aid of a stone he was able to fashion it into the much sought-for bead. Here he had something which was perforated, strong, rare and also beautiful. We can imagine that his success would have been assured. Then would have followed the first gold rush.

Now copper, too, is found in a native state, and is also malleable and easily modelled with a stone hammer; it, too, is capable of exhibiting a bright metallic lustre when clean. Though it could not compare with gold for beauty, or in the permanence of its natural lustre, it could well take second place, and being less rare it soon came to be used freely for decorative purposes. At first it was obtained only in a native state, and was hammered, not melted, as was the case until recent times around Lake Superior.[11] Later some copper ornaments probably fell into the fire, and it was thus discovered that it could be melted. Later still experiments were made with other metallic-looking ores, such as chalcopyrite, and the metal age had come.

Where these discoveries were made is still a matter of uncertainty. Copper objects have been found not uncommonly in tombs of the second predynastic period in Egypt, and sometimes in those of the first.[12] So rare, however, are they in the latter, that, since the two cultures must to some extent have overlapped, it seems possible that the knowledge of this metal was introduced into Egypt by the second pre-dynastic people. It has been suggested recently that these people, with a copper culture, bringing the knowledge of wheat and the cult of Osiris, came from North Syria, from somewhere between Damascus and Beyrut,[13] and if Breasted's views upon the Egyptian calender are sound, we may expect that they entered the Delta 4241 B.C. or thereabouts.[14]

In Mesopotamia we are not very sure of our dates at so early a period, nor have we got any clear evidence of the earliest copper civilisation of that region, but the

[11] Lubbock (1865) 201, 202.

[12] Breasted (1912) 28.

[13] Newberry (1920).

[14] Breasted (1912) 597.

beautiful copper lions brought back from Tell-el-'Obeid, near Ur, by Dr. H. R. Hall[15], show that at the time when they were made the art of working copper must long have been known, and Dr. Hall tells me that their date may be placed with fair certainty between 3500 and 3000 B.C. Small foundation figures, cast solid in copper, have been found which date from the time of Ur-Ninâ, about 3000 B.C.[16], while Mr. Raphael Pumpelly, describing his excavations at Anau in Turkestan, states that he found copper implements in a deposit, which on other grounds he dates between 8000 and 7000 B.C.[17] While there is no doubt that copper was found in the lowest layer of the Anau village site, there are few people who agree with the early date claimed for it by Mr. Pumpelly. Taking all the available evidence into consideration, it seems likely that copper was known and used in western Asia as early as 4500 B.C. and might conceivably have been known as early as 5000 B.C.; that it was known before that seems unlikely as far as we can judge from the evidence available at present.

Gold, as we have seen, seems to have been the first metal to be discovered, though we have no sufficient reason for believing that its discovery preceded that of copper by any considerable period. Objects of gold have been found in graves of the second pre-dynastic period in Egypt, as well as some of silver and of lead,[18] so that before 3500 B.C. the metal age had passed its infancy.

It will be seen from what has gone before, that the discovery of metal must have taken place somewhere in western Asia; in Asia Minor, Armenia or Persia. The knowledge spread first of all from tribe to tribe and from city to city, and the objects were traded like the stone axes of Le Grand-Pressigny and Graig Llwyd; but about 4241 B.C. this knowledge was carried into Egypt with an invading people. So far, then, there is no evidence of organised trade, for the gold, silver and lead, which have been found in the pre-dynastic tombs, may have arrived in the same way. Gold, it is true, was found in quartz veins in the granite mountains by the shores of the Red Sea, and in the Wadi Foakhir,[19] but it is not clear that these sources were tapped before the fourth or fifth dynasties; in later days the principal source of supply was Nubia which had, however, been inaccessible to traders until Mernere had made the first cataract

[15] Hall (1920.)

[16] Gowland (1912) 247; King (1910) 72, 360.

[17] Pumpelly (1908) I. 32 *et seq.*

[18] Breasted (1912) 28.

[19] Breasted (1912) 6, 94.

passable for navigation about 2570 B.C.[20] Silver was always imported from abroad, probably from Cilicia.[21]

There are reasons for believing that some, at any rate, of the gold used during the period of the Old Kingdom was of foreign origin. Professor Flinders Petrie tells me that Dr. Gladstone made for him an analysis of the gold object found in the tomb of King Khasakhemui, of the second dynasty, who reigned, according to the chronology we are using, about 3200 B.C. He found on this gold object a red crust, which he stated was antimoniate of gold. Now it appears that antimony will only combine with gold in the presence of tellurium, and Professor Petrie tells me that he has been advised that there is no known source of this ore, telluride of gold and antimony, except in Transylvania. I have been informed that all the gold found within the Carpathian ring is of this nature, but as the richest sources lie in Transylvania, where gold was worked by the Romans, the conclusion is the same, that before 3200 B.C. the Egyptians were obtaining gold from Central Europe.

As it seems unlikely that gold would be carried between such distant points as the valleys of the Danube and the Nile by the old method of bartering from tribe to tribe, especially since there are so many physical obstacles on the route, including the Taurus range, it seems more likely that we should see here evidence for an organised sea commerce. Not that I would imply a direct sea traffic from the Danube to the Nile, but that some intermediate people, probably some islanders in the Ægean, the people perhaps of Melos or Crete, traded on the one hand with settlements near the mouth of the Danube and with those in the Delta as well. The obsidian trade of Melos may well be as early as this, in fact it seems to have been on the decline by 3000 B.C., and we find Cretan trade flourishing only a few centuries later. Either or both of these islands might well have been responsible for this traffic.

Oversea trade, then, was in existence, if not very highly developed, during the early days of metal, the centuries preceding 3000 B.C. The knowledge of copper, and the possibility of making copper nails and wire, must have given a great impetus to ship building, which must at this stage have passed from the use of rafts and dug-outs to

[20] Breasted (1912) 136.

[21] Breasted (1912) 94.

that of boats built as we know them now. But a new discovery, greater even in some respects than those which I have been describing, was still further to encourage oversea traffic.

The manufacture of implements of flint and obsidian had reached a high pitch of perfection during the early days of metal, and although the new materials were valuable for ornaments, copper knives were, in many respects, less serviceable than stone ones, as the metal is soft and its edge easily turned. It is true that many men, particularly those who wished to display their wealth, preferred copper daggers to those made of flint, for they were more ornate, more novel and had a scarcity value. Those, however, who were poor, or untouched by the fashionable snobbery, preferred the well-tried flint article, which was probably more effective for its purpose.

But with the discovery that the addition of about ten per cent. of tin to the copper produced an alloy of considerable hardness and no little toughness as well, from which could be made implements which seldom chipped or turned, and which could have their edges quickly renewed by hammering or grinding did such an accident happen, the days of copper came quickly to an end, and the traffic in flint implements, even in obsidian, fell upon evil days. It was this discovery, which made metal not merely a luxury, but a really serviceable article to man, which brought the stone age to an end and ushered in the true metal age.

How, when and where this discovery was made is still a mystery. At one time I was disposed to think that it was perhaps in Spain, where both these metals are found, that the discovery was accidentally made, but evidence which has come to hand quite recently has disposed of this idea. Professor Sayce has recently published an extract from a tablet found in the royal library of Assur.[22] It is from a document drawn up in the reign of Sargon of Akkad, whose date has now been finally fixed at 2800 B.C. It is a geographical description of that monarch's empire, giving a list of the provinces, at the close of which it is said that his conquests had extended "from the lands of the setting sun to the lands of the rising sun, namely to the tinland (Ku-Ki) and Kaptara (Crete) countries beyond the Upper Sea (the Mediterranean)." At first there was a tendency to interpret this passage as though Ku-Ki was beyond the Mediterranean, and must refer either to Spain or Brittany ; but this is to misunderstand

[22] Sayce (1921).

the passage. As Professor Sayce says: "the western extension of the empire ended with the Syrian coast; beyond that were Kaptara or Krete and the Tinland." Ku-Ki may well have been Cyprus, or some other island in the Mediterranean, or some region easily accessible from it.

Now the importance of this passage is that it shows us that as early as 2800 B.C. the Babylonians were cognisant of the existence of tin, and doubtless aware of its value as an ingredient of bronze; this can only mean that they were using it to harden the copper, which they had worked so well centuries earlier. The passage implies that Sargon's rule extended to Ku-Ki, which may perhaps mean no more than that some of his subjects had a trading post there. What seems important is that the discovery of the value of tin and bronze had been made before 2800 B.C., somewhere in western Asia, though at what sites is at present uncertain. Copper mines, which are known to have been worked at an early date, exist south of Trebizonde, near Erzeroum, in Armenia and at Diarbekir in the upper valley of the Tigris; ancient tin workings have been found further east in Khorazan.[23] But the local supply of tin was apparently insufficient, and merchants from the Persian Gulf were carrying on a trade in this commodity with a place in the Mediterranean region, even if they had not already, as seems probable, established a definite trading post in Ku-Ki.

Thus we see that a definite organised trade, both by sea and by land, had been established in the eastern Mediterranean region before 2800 B.C., and that this included a new and important feature, the search for and importation of raw materials as well as the export of manufactured articles.

Now, as I have shown elsewhere,[24] at a date which cannot be very much later, during a period which closed about 2200 B.C., the eastern Mediterranean was in close trade relations with Spain, and was exploiting the mineral resources of that peninsula. At present it is uncertain who these traders were, but they seem to have been in touch with Crete, the Cyclades and the second city of Hissarlik, and perhaps too with Cyprus. Though we have no evidence that these traders were from the Persian Gulf, they were trading between Spain and the area in which Ku-Ki probably lay, and if they were not subjects of the Babylonian Empire, they were at least carrying on the metal trade first organised by the people from the Persian Gulf.

[23] Gowland (1912), 245, 252.

[24] Peake (1916) 2. 119, 120.

Quite recently it has been stated that there is no clear evidence that the Spanish copper mines had been worked at so early a time,[25] but the data cited by Siret[26] seem to me to prove conclusively that the early settlements of El Argar had direct or indirect trade relations with Hissarlik II., and the discovery throughout the Spanish peninsula of clay balls of a certain type,[27] which exactly resemble some found by Schliemann in the burnt city,[28] seems to me to place this early connection beyond all reasonable doubt.

How early this Spanish trade began we cannot yet say with certainty, beyond the fact that it must have been in existence for some time before the destruction of Hissarlik II. in 2225 B.C.[29] How long it continued in the same hands is also uncertain. But, as I have shown elsewhere,[30] there is evidence that while it lasted, and certainly before 2000 B.C., the eastern traders not only passed through the Pillars of Hercules and discovered the tin fields in the north-west of the peninsula, but learned also that both tin and gold were to be found in the rivers of the south of Brittany. Before the close of the third millenium, probably several centuries before its close, this Levantine trade had reached the Morbihan, where stone axes have been found which repeat the shapes of copper axes from Cyprus.[31]

Now, if we compare the copper and bronze axes found throughout the Mediterranean, from Cyprus to Spain, and those found along the west of Europe from Spain to Brittany, we find a gradual change in form from the triangular axes of Cyprus to the western type, with semi-circular butt and widely splayed edge. The earliest types are found only in the east, the more developed only in the west, for in the east they followed a different line of development. It is true, however, in a general way that the type develops as we pass westward and northward, two or more varieties overlapping at many points en route. This can better be understood by reference to the series of axes shown in Plate I., which could probably be made more perfect, were it possible to get drawings of all the specimens in local museums and private collections.

If again we take the copper daggers, with broad butts and slightly ogival blades, several of which have been found in Crete, and compare them again with those found

[25] Leeds (1922).

[26] Siret (1908, 1909, 1910).

[27] Hildburgh (1922).

[28] Schliemann (1880) 349, figs. 245, 246.

[29] Peake (1916) 1. 169.

[30] Peake (1916) 2. 119, 120.

[31] Peake (1916) 2. 119, 120

at Scurgola in South Italy and Monteracello in Sicily,[32] and with other types from Malta,[33] Spain, Brittany and the west, we shall find the type gradually narrowing at the butt and lengthening in the blade, till we come in later centuries to the type commonly known as the rapier, but which I think might more correctly be termed a dirk (see Plate II.).

The gradual evolution of the axe and the dagger as they pass westwards and northwards seems to indicate a line of trade, spreading further and further to the north-west as the centuries pass. At present we must be content with an outline of the movement, but if illustrations of all the specimens found in these regions were available, I doubt not but that the evidence would be more convincing and the details and the dates more minute and exact.

Thus we find these early traders seeking for copper, tin and gold, or any other precious commodities, on the north-west of Europe before 2000 B.C., and it has been shown by various authorities that among the gold-fields explored at that time none was richer than the Irish gold-fields in the Wicklow Hills.[34] It is needless here to recapitulate all the evidence which has been adduced to establish the early working of these deposits. The wealth of gold ornaments of this period found in the island, most of which have passed into the melting pot, but hundreds of which are still in the National Museum at Dublin,[35] would alone be sufficient evidence ; but we know also that certain ornaments, known as *lunulæ* or crescents, were exported and reached Brittany, Denmark and Germany.[36] It is likely, too, that gold objects of Irish origin reached to more distant places.[37] This shows us that Ireland was in touch with the trade routes we have been discussing, and this in turn accounts for the vast numbers of bronze implements of early types which are to be found in all museums and private collections, not only in Ireland itself, but throughout Great Britain.

[32] Peet (1909) 194, quoting B.P. xxiv. 208 ; 214, 260, fig. 142, quoting B.P. xxii. 305.

[33] Zammit (1917) Pl. xxi. fig. 2.

[34] Crawford (1912) 1. 194, where the literature on the subject is summarised.

[35] Armstrong (1920).

[36] Crawford (1912) 1. 195, 196, with map (fig. 8).

[37] Crawford (1912) 2. 42.

It would seem probable that the early traders from the Mediterranean also reached the Baltic at about the same date, for we find there, too, an early bronze industry, which, while bearing a close resemblance to Central European models, exhibits also western and Mediterranean types.[38] The search for amber probably induced our traders to go to this distant region, for amber, like the precious metals, was much in request in Mediterranean lands, for again it was a substance from which beads could readily be made. It was probably these traders who carried with them the news of the Irish gold-fields, and in due course other traders, starting out from the Baltic, joined the gold rush. We have already seen that a gold crescent of Irish work has been found in Denmark, we can find, too, other evidence of this trade.

Now if we plot out on a map of the British Isles the sites at which have been found the bronze implements of this period, and such a map of flat celts was published some years ago by Mr. O. G. S. Crawford,[39] we shall notice certain striking features. Where the chalk lands or limestone hills exist these finds are fairly numerous and generally distributed, for, as Crawford showed, these areas were open grass lands. But throughout the rest of the country these sites string out into long lines, and these lines, if produced, would intersect near Dublin ; these lines seem to indicate trade routes, passing through thickly wooded and probably uninhabited country on their way to the Irish gold-fields.

One such route starts from Southampton and passing Winchester, crosses the Kennet at Newbury, where it was met perhaps by a route from Chichester. Thence it passed by the head waters of the Thames to a point on the Cotswolds not far from Cirencester, where it may have been joined by other routes from the south-west. It descended the scarp slope of the Cotswold at or near Broadway, crossed the Avon near Evesham, and the Severn at Bevere Island above Worcester. Thence it passed up the west side of the valley, crossing the river again below Shrewsbury. Its course across north Shropshire seems to have lain on the watershed between the Tern and the Perry, if we may judge from evidence of a later date,[40] thence passing from Ebnal towards Llanarmon-dyffryn-Ceiriog, it crossed over to the Dee Valley, where we can pick up

[38] cf. *inter alia* M.A.N. (1908-9) 5, fig. 1, 11, fig. 5.

[39] Crawford (1912) 1. 186, fig. 2.

[40] Peake (1922) 2.

fresh evidence near Corwen. From the head of Bala lake it seems to have turned slightly north of west, instead of passing down the Mawddach Valley, and it reached the coast somewhere to the north of Harlech, perhaps by the so-called Roman steps at Cwm Bychan. This is the best attested route so far traced out, but further work is required to establish its course with precision all the way.

Another route from the Yorkshire coast through York to the Aire gap has been described by Colonel E. Kitson Clark,[41] while some years ago I traced several from the borders of the Fens into Leicestershire, where they met at Bardon Hill; thence the route passed through Ashby-de-la-Zouch as far as Burton-on-Trent, where it seemed to be pointing to the Peak district.[42] There appears to be a route running thence by Macclesfield and Knutsford towards Warrington, while there are signs that the route through the Aire gap also turned south towards the same spot. Near Warrington a number of flat axes have been found,[43] some on the north and some to the south. The northern settlement was in the parish of Winwick, and among the things found there and dating from this time is a battle-axe of the so-called boat-axe or *batyx* type.[44] This type and the flint of which it is made both indicate Denmark as the place of origin. The fact that both these trade routes run to Warrington, which seems then to have been an island in the middle of the Mersey, shows, I think, that here we have a port, from which in the early bronze age Baltic traders set sail for Dublin Bay.[45] Warrington, therefore, rather than Chester, was the first predecessor of Liverpool, and the Mersey holds its own as the earliest estuary used for the western trade. Crawford's map also shows that a similar trade route must have crossed Scotland from the Firth of Forth to the Firth of Clyde and the Mull of Galloway, but no details of such route have been worked out.

Much work yet remains to be done before the courses of these trade routes can be traced with precision and their dates fully established, but enough has been said, I trust, to show that in addition to direct sea routes from Brittany, the Irish gold fields tempted traders to cross both England and Scotland on their way from France and

[41] Clark (1911).

[42] Peake (1911).

[43] Crawford (1912) 1. 196.

[44] Evans (1897) 212.

[45] Crawford (1912) 1. 196.

the Baltic.[46] These traders would have needed provisions for the journey, and for these would have bartered bronze axes to the people settled on the chalk downs and limestone hills. The journey across the Midland plain was through a densely wooded and probably uninhabited area, and in passing through Wales they kept mostly to the valleys, while the bulk of the population grazed its sheep on the high moorlands.[47] The few axes found must have been such as were lost by the way, and considering the number found this indicates an extensive traffic.

In Ireland the traders probably employed the natives to wash the alluvial gold ; they had also to barter with them for their supplies. No wonder, then, that bronze implements of the earliest type have been found almost more abundantly in that island than in any other part of Europe, while the number of gold objects found there is unsurpassed elsewhere. Doubtless the natives worked the gold fields sometimes on their own account, and they seem also to have tried to supply themselves with home-made metal axes. There are veins of copper ore in various parts of the island, which they seem to have discovered, but tin is to all intents and purposes absent.[48] It is possible, too, that the traders refused to divulge the secret of the tin alloy. It would have been strange indeed had they not done so, and so the native Irish, for a time at least, made themselves axes of copper. This, at least, seems so be the most plausible explanation of the great number of copper axes found in that island.

The foregoing is, of necessity, but a brief account of the early metal trade and its relations with Celtic lands. To do the subject justice would require more space than is at my disposal ; nor is the time yet ripe for more detailed treatment. This outline will serve to show that foreign elements reached Celtic lands some 4000 years ago, though in small numbers ; who these people were must be considered in the next chapter.

[46] Peake (1917).

[47] Peake (1922) 2.

[48] Crawford (1912) 1. 197, fig. 9.

Chapter IV

THE PROSPECTORS

In many parts of the world there are to be found monuments of rough, unhewn stones, sometimes rudely shaped by hammering, which from the size of the stones used have been termed megalithic monuments.[1] These consist of burial chambers, either a simple slab or capstone supported on four or more uprights, or a similar but more complex chamber, approached by a stone-lined passage. Other monuments consist of circles or alignments of standing stones, or single stones only set in an upright position. There are many types; some, like the dolmen or simplest burial chamber, or the simple standing stone, are widely distributed, while others have a restricted range. One type of elaborate temple is found only in Malta and in the adjacent island of Gozo.[2] Such monuments have these features in common: the stones are large, they have not been hewn with chisels or axes, and they are orthostatic or set on end.

Frequently associated with these megalithic monuments are other structures, which are believed to belong to the same culture, though the association is not so clearly established. Such are bee-hive huts, round towers, and dry walls with polygonal masonry. These are often found in close association with the erections of larger stones, but not infrequently where true megalithic structures are absent.[3]

An attempt has been made to show that the dolmen originated in Egypt, and is closely connected with the *mastaba*, the tomb used throughout the earliest dynasties.[4] Elsewhere I have endeavoured to show that there are reasons why we cannot attribute the origin of these structures to the inhabitants of the Nile Valley, and that the resemblances may better be explained by supposing that the idea of the former was

[1] Fergusson (1872); Borlase (1897); Peet (1912).

[2] Peet (1912) 98-113; Ashby, etc.; Magri (1906); Zammit (1910).

[3] Peet (1912) 1-4; see also Giuffrida-Ruggeri (1916) 21, who quotes Patroni (1916).

[4] Smith (1913).

introduced into Egypt, perhaps at the beginning of the second predynastic period, from some region, such as Syria, where dolmens were known, or else that both had been derived from a common ancestry.[5]

It has been suggested by some inquirers that the fashion of erecting such megalithic monuments of orthostatic blocks arose at one time and in one place, and was carried by degrees from centre to centre until it reached many widely scattered regions between Ireland and Polynesia.[6] It is not suggested that this culture, with which has been associated many others, such as terrace cultivation, irrigation, the use of conch shells and a number of others, was carried to all these places simultaneously or even within the same millenium, nor is it asserted that the people who introduced it to these widely scattered regions were of necessity the same. The idea may, I think, be better expressed by saying that a cult or religion became widely disseminated at an early date, that it developed many varieties in the regions in which it took root, and that these regions often became in time fresh centres for dissemination. Thus it might happen that a daughter cult might ultimately become spread through part of the region in which the parent cult had arisen. A parallel may be drawn from the spread of Christianity, especially in these islands. The new faith reached Britain during the period of the Roman occupation and thence spread to Ireland; later, when it had disappeared from the former, it passed from Ireland to Iona and thence back to England.

We need not discuss the whole of this hypothesis, which is concerned with a much wider area than the lands we are considering. One of the most essential features, however, of this interesting thesis is that the people, whoever they were, who spread the cult of megalithic monuments and allied practices, were travelling in search of gold, silver, copper, tin, amber and pearls; they were, in fact, merchants in search of precious and easily portable commodities.

Now Perry,[7] who has specially worked at this part of the hypothesis, maintains that megalithic monuments are invariably found in association with metalliferous

5 Peake (1916) 2. 116, 117.

6 Perry (1915); Smith (1915).

7 Perry (1915).

deposits, amber coasts and pearl fisheries, and he has produced maps which appear at first sight very convincing. A careful examination of his megalith map shows that he has copied that of Fergusson, published in 1872,[8] and which represents far less accurately the distribution of these monuments than does that published by Colonel A. Lane-Fox in 1869.[9] Neither of these maps, however, gives us a really reliable summary of the facts. Much work has been done on this subject since these maps were produced, many fresh areas have been added, and two at least have been deducted ; but no one has recently attempted to make a map of the European megaliths, or those of any country except Holland.[10] The French anthropologists have made a list of the dolmens in France, and published a summary giving the number noted in each department,[11] a catalogue of the British megaliths is in process of formation.

Wherever it has been possible to test it with sufficient accuracy, we find that Perry's contention is substantially true, and that there is a definite relation between many areas rich in megalithic structures and deposits of metal which are known to have been worked in early days ; the megalithic areas of the Baltic coincide fairly well with the coasts producing amber. Nevertheless there are many spots, rich in metals, and which are known or suspected to have been worked in early days, where megaliths, have not hitherto been noted, and on the other hand, dolmens and other such structures occur, sometimes with great frequency, in areas devoid of metals or other precious commodities. The problem is not quite so simple as it would appear from Perry's account.

Still, looking at the matter broadly in the light of information available at present, it does seem that, in western Europe at any rate, the megalithic monuments cluster thickest in or *around* those regions which produced gold, copper, tin and amber, and which were readily accessible to maritime traffic, and that they coincide very closely with the lines of trade which I described in the last chapter. The exceptions, too, are not destructive to the hypothesis. In the British Isles we find that the megaliths in the main coincide with the metalliferous areas, though in some cases more closely with lead ores than with the metals previously mentioned. As lead does not seem to

[8] Fergusson (1872) map, p. 533.

[9] Lane-Fox (1869) 66.

[10] Aberg (1916) 22, 23, map ii.

[11] Déchelette (1908-1914) i. 384-386 ; Mortillet (1901) 32.

have been used in north-west Europe before 1000 B.C., these monuments must, if any connection be implied, date from a much later period than that which we are discussing. But a large number of megalithic structures are found in the region surrounding Salisbury Plain and in certain parts of the Cotswolds. These are some of those open chalk and limestone areas already mentioned, which were the early centres of population in this country. As we have seen, certain trade routes to Ireland seem to traverse these regions, and here the merchants would have obtained their supplies of food for the rest of their journey; it would not surprise us, therefore, if they introduced their cult here, and that these populous areas formed fresh centres of dispersion.

The long barrows of Wiltshire and the Cotswold areas, and the same is probably true of those in South Wales, have been thought by some Scandinavian archæologists to be closely related to the types peculiar to the Baltic region. Dr. Knut Sterjna[12] believed that the English chambered long barrows represented a stage in the evolution from the dolmens to the chambered barrows (*sépultures à galerie*) of Denmark and Sweden. The stone circles, which are conspicuous in the Salisbury plain area, are absent in France, and seem to have originated by the Baltic. It would seem, then, that some at any rate of our English megaliths were introduced, not so much by merchants coming from the south as by those adventurers who came later from the Baltic region, some of whom we have seen passed across this country to the port at Warrington.

In France, too, though megaliths are more numerous and finer in the Morbihan, where we have seen that tin and gold were found, than elsewhere in that country, yet they cluster thickly in Finistère, and in a curved line from that department to the Mediterranean coast near Narbonne.[13] The occurrence of so many megaliths in Finistère and the adjoining departments may be due to the need of the early traders to take refuge in the inlets of that region, while endeavouring to round the dangerous promontory. That they did so not infrequently is shown by the occurrence near these inlets of numerous hoards of bronze implements, most of which date from the time which we are discussing.[14]

[12] Sterjna (1910).

[13] Lane-Fox (1869) 66.

[14] Déchelette (1908-14) ii. map facing p. 512.

The band across the country clusters most thickly just north-east of the line, running through the Carcassone gap, now followed by the *canal du midi*. This seems to indicate that a land route through the pass was in use at this time, as a safer alternative to rounding the Iberian peninsula by sea. From this line the cult seems to have spread north-eastwards, though these monuments grow scarcer the further we leave this line.

Lastly, there are certain islands in which these monuments are found, which do not seem to have produced any wealth of the type required, notably Sardinia and Malta. We have also an isolated group near Taranto. It seems probable that such islands, and points *en route* with good harbours like Taranto, would have been convenient points of call to these traders, as Tarentum was afterwards to the Phœnician and Greek merchants. Here, and perhaps too at Syracuse, they may well have had depôts, but from the wealth of its megalithic monuments we may well believe that Malta was the base of operations for the western and northern trade. Here we have a small island, very isolated and with excellent ports, with a population primitive and docile; such a spot would be a safe depôt in which to collect and store valuable merchandise, until it was convenient to ship it through the more traversed and perhaps pirate-infested seas of the east. Thus, though there are more exceptions to his rule than Perry would lead us to suspect, these exceptions do not seem to weaken his hypothesis, but rather help to prove the rule.

Now in Britain and the north generally these monuments, or at any rate some of them such as dolmens and long barrows, are believed to date from the neolithic age, albeit from its latest phases; nevertheless there are instances in Scandinavia and Brittany of the discovery of copper tools and gold beads in these tombs.[15] Further south the evidence of metal in association with them is clearer, but in Malta the only bronze implements discovered, the hoard found in 1915 in the temple of Hal Tarxien,[16] had been deposited above three feet of silt which had accumulated on the temple floor. This at first sight seems to militate against the theory that these structures were the tombs and temples of miners.

[15] Sterjna (1910); Déchelette (1908-1914) i. 393.

[16] Zammit (1917) Pl. xxi. fig. 2.

I do not think, however, that these facts are necessarily fatal to the hypothesis. In the first instance it is probable that gold and amber were the objects of search, and these were probably to a large extent exported. For a long time metal implements must have been rare in these regions, and the people might well have hesitated to bury them with their dead. The tools of metal were modern and new-fangled, while burial customs are singularly conservative, as we can see at any English funeral. For centuries and millenia it had been customary to bury with the corpse weapons of stone for use in the next world; what kind of a reception would the deceased have had on his arrival with a metal instrument? It would have been a great risk, which was seldom if ever taken. In matters of burial and religion, which are in fact one, the older course is safer, and so these people, even after metal was known, continued to bury stone implements with their dead, just as Joshua circumcised the Israelites with flint knives.[17] The temples of Malta, too, were erected without the use of metal tools, as was Solomon's temple,[18] and it is probable that while this cult lasted no metal object might be taken within the shrine. It was only after Hal Tarxien had been deserted, and its floor covered with three feet or more of dust, that traders in bronze, or perhaps pirates, who knew not the ancient cult, ventured to bury their treasure in the desolated sanctuary.

In a recent paper Mr. Thurlow Leeds has suggested that the dolmen originated in the Iberian peninsula, in the basin of the Tagus, and thence spread throughout west Europe.[19] The first type he believes to have been polygonal with a short gallery of approach, lined with large stones, and this gallery seems, from his plans, to have been somewhat in the nature of an ante-chamber. He further shows that such primitive dolmens are derived from cave tombs, found in the neighbouring region, and in these caves the antechamber seems more apparent. More recently[20] he has compared these early dolmens with certain rock-cut tombs at Castellucio near Syracuse, though, if I understand him aright, he would derive the Sicilian tombs from those in Portugal. Taking all the facts into consideration it seems more likely that the Iberian caves and dolmens are derived from the rock-cut tombs of south-east Sicily.

[17] Joshua v. 2; cf. Exodus iv. 25.

[18] 1 Kings vi. 7.

[19] Leeds (1920) 229.

[20] Leeds (1922).

As to the date of this trade we can say little with certainty at present. We have seen that objects have been found in Spain which seem to point to a connection with Hissarlik II. In the temple of Hal Tarxien in Malta were found certain carved stones with a double spiral ornament[21], which exactly resemble some in the Syracuse museum, which had closed some of the rock-cut tombs near that city.[22] These tombs have been relegated by Signor Orsi to the period he calls Siculan I., and to this period belong the rock-cut tombs at Castellucio, in one of which was found several pieces of carved ivory, which closely resemble a piece found in Hissarlik II[23]. This city was founded about 2500 B.C., or perhaps some centuries earlier, and seems to have been sacked about 2225 B.C.[24] The trade then which we are discussing must have taken place during the latter half of the third millenium B.C., and in the light of the Babylonian tablet already quoted may well have begun some centuries earlier. How soon the trade and the megalith cult passed on from Spain to Brittany and thence to Ireland and the Baltic is uncertain, though it becomes difficult to fit in all the successive cultures unless we postulate that megalithic monuments were known in Denmark and the south of Sweden as early as 2400 or 2500 B.C. [25]; in Brittany a still earlier date seems to be needed. We may then suggest tentatively that the Atlantic trade began before the close of the first half of the third millenium.

All this seems to indicate that the rock-cut tomb with an antechamber, the fore-runner of the dolmen, came from Asia ; the antechamber also occurs in the Egyptian *mastaba*. Professor Elliot Smith believes that this structure, and the use of the antechamber, developed in Egypt,[26] but of this I do not feel confident. It may well have been introduced into that land from the north-east by his Giza folk. If these may be identified, as I think they may, with Newberry's people, who introduced wheat and the second pre-dynastic culture, we must postulate the use of rock-cut tombs with

[21] Zammit (1920) Pl. xxxiv. fig. 3.

[22] Sergi (1901) 284, fig. 78.

[23] Peet (1909) 204, fig. 75 ; Déchelette (1908-1914) ii. 75.

[24] Peake (1916) 1. 169.

[25] The megalithic structures had passed through several stages before the arrival in Jutland of the single grave people, or beaker-folk. cf. Sterjna (1910).

[26] Smith (1913).

antechambers in Syria before 4000 B.C. Rock-cut tombs and dolmens, dating from before and just after the discovery of metal, are not uncommon in some parts of this region.[27]

Some years ago Professor Fleure was engaged in a detailed survey of the physical characters of the present inhabitants of Wales, and the results of this inquiry were published in 1916.[28] Among the many types noted was one which is of special interest in this connection. He describes it as: "powerfully built, often intensely dark, broad-headed, broad-faced, strong and square jawed men characteristic of the Ardudwy coast, the south Glamorgan coast, the Newquay district (Cardiganshire), Pencaer in north Pembrokeshire, and other places."[29] He states in another place; "We found our dark, stalwart, broad-headed men on certain coastal patches, often curiously associated with megaliths in Wales."[30] Later on he states that a similar type has been noted in Ireland, about Wicklow, in South Devon, and perhaps Cornwall, in the gulf of Saint Brieuc, around Narbonne, in the Asturias and around Oviedo, on the Andalusian coast from Motril to Moguer, in the gulf of Salerno and thence past the gulf of Taranto to Bari, on the Adriatic.[31]

It will thus be seen that this type appears to occur in just those regions in which megaliths and traces of early mining have been found. The inference Fleure has drawn is that in some way these people were connected with the ancient trade we have been discussing.[32] Though I cannot find that he has published the fact, Fleure has told me that he has noted the type in many of our commercial centres, especially in sea-port towns. It is not uncommon in Liverpool, especially in shipping circles.

Some years previous to the publication of Fleure's paper I had noted in Athens, in the restaurant at which I usually lunched, a type which I was unable to place among those described by Ripley. I noted, too, that they looked prosperous and were evidently well-off. Early in 1914 I noted the same type in Alexandria, especially common among

[27] Macalister (1912) 12-20.

[28] Fleure and James (1916).

[29] Fleure and James (1916) 117.

[30] Fleure and James (1916) 137.

[31] Fleure and James (1916) 138.

[32] Fleure and James (1916) 139; Fleure (1918) 1. 16; Fleure (1918) 2. 222, 223.

the successful Greek cotton merchants. Both these occurrences puzzled me until in 1916 Fleure's paper seemed to offer an explanation. I then remembered having noted the same type in Venice and Florence, and among the portraits in both those cities of successful merchants of the renaissance; it also occurred to me that the type could often be seen in London, especially in the city.

When it became clear that here was a type, not recognised or described by any previous anthropologist, and one, moreover, with a rather unusual distribution, it was felt that it should receive a name, which should identify it neither with any people past or present, nor with any language, for such equations would inevitably lead to confusion, nor with any place or country, for its place of origin was uncertain. Since the distribution of the type seemed to be in maritime trading centres, or else in those areas which were connected with ancient mining or trade, it was felt that this type must have been associated with these enterprises. Taking therefore a name, commonly used in America and in our colonies for those who go out to search for gold or other precious metals, we decided to term them "Prospectors," and by this name they will now be called.

Constant observations since made on people of this type have shown us that they are remarkably clever, especially at money making, and that they engage more in trade than in manufacture, and that their trade is commonly in oversea commodities, when it is not in money itself. The type seems intermediate between that of the Mediterranean and of the Alpine, and suggests a cross, but the great stature which is sometimes, though not invariably, found among them suggested that the cross was probably between the Mediterranean and the eastern Alpine or Anatolian type, rather than with the short and stumpy western Alpine. It was felt that they had reached the west and north from somewhere in the eastern Mediterranean region,[33] as had in all probability the cult of megalithic monuments, and certainly the knowledge of metals. Further than this it was not possible to trace them.

Now, as has already been noted, the Prospector type has been noticed not uncommonly in Florence, both among the present population and in the fifteenth century portraits. A glance at some of the pictures on the Etruscan tombs,[34] and the

[33] Fleure and James (1916) 139; Fleure (1918) 1. 16; Fleure (1918) 2. 222, 223.

[34] Dennis (1883) i. 261; ii. 332; Taylor (1874) 94; Lovett-Cameron (1909) 188.

portrait statuettes on the alabaster sarcophagi, shows us a type corresponding very closely to Fleure's description.

The Etruscans are a mysterious people, and various views which have been expressed as to their origin have led to no little confusion of thought. Leaving out of account such evidence as may have come down from the neolithic and early bronze ages, we find, according to tradition, that the Etruscans arrived from Asia Minor, probably in the eleventh century B.C., or perhaps a little later.[35] About 800 B.C. we have archæological evidence of the arrival of another people from the north, who settled near Bologna, where they developed a culture known as that of Villa-Nova. The Etruscans and the Villa-Nova people certainly exchanged products, and may have to some extent amalgamated. Later traditions suggest that the Etruscans extended their empire over the Villa-Nova area and to the south as well,[36] but this, while true in one sense, may give a very wrong impression.

I would suggest that the Etruscans proper, the *Etruscus obesus* of the Latin writers, were the people who so closely resemble our Prospectors, and the fact that they are said to have come from the east, agrees well with this view. The Prospectors, wherever we meet them, are merchants and business men, and not the kind of men to lead warlike expeditions, or to bring all Italy within their empire. On the other hand, as I hope to show in subsequent chapters, the men responsible for the Villa-Nova culture were a warlike, conquering type, given to imperial expansion, and it is far more likely that if one or other were the conqueror it would be the men of Villa-Nova.

That such was the case seems to be indicated by the frescoes in a tomb, a copy of which is on view in the garden of the Etruscan museum at Florence. In these we find depicted a country house, with domestic scenes, and a portrait of the owner, a fair man with a narrow face, blue eyes and brown beard, wearing a fox-skin head-dress. This man is totally unlike the *Etruscus obesus* of most of the other tomb paintings, and seems to be of that fair Nordic type, which, as I hope to show, formed the ruling caste, at any rate, of the Villa-Nova people. It seems probable, too, that the bodies buried in the Regulini-Galassi and other warrior tombs were also of this type.[37] All this seems

[35] Dennis (1883) i. xxxv.; Herodotus i. 94.

[36] Dennis (1883) i. xxviii., who quotes various Latin writers.

[37] Dennis (1883) i. 37, 264-269, 388, 413, 414, 455.

to suggest that the Villa-Nova people at one time conquered Etruria, then extended their empire as far south as Naples and Pompeii. The Etruscan prospectors would not have been averse to this extension of the dominions of their war-lords, as their trade was doubtless increased thereby.

But it may be argued that megalithic monuments are not to be found in Tuscany, though it was once said that this was the case.[38] This, of course, is true, but the Etruscans are believed not to have entered Italy until after 1100 B.C., when such erections were in most places obsolete. Some of the earliest of the Etruscan tombs, however, look as though they had developed from the dolmen form,[39] though they are made of well-wrought stone, rock-cut tombs are of common occurrence, and dry polygonal walling, which, as we have seen, often occurs in megalithic areas, is not uncommon,[40] and there is a very fine example of this work at Fiesole.

Morris Jastrow junior,[41] in studying the religion of Babylonia, was struck with certain resemblances between the religious practices of that country and those in vogue in Etruria. Here I will only mention three points: the Sumerians, like the Etruscans, lived in city states; the Sumerians were governed by priestly magistrates known as Patesi, while the Etruscans had similar officials called Lucumons; lastly both peoples were addicted to the practice of hepatoscopy, or the art of divining by means of sheeps' livers, and made models of the livers to aid their students. Such models have been found in Sumer and Etruria, and nowhere else except at Boghaz Keui, on the Halys, the ancient capital of the Hittites.

Relatively few sculptured figures of the Sumerians have come down to us, but those which have been found show us a sturdy people, not very tall, short in the neck and with broad heads,[42] and some of the Etruscan tomb paintings resemble fairly closely some of the Sumerian reliefs.[43] Besides this some of the small statuettes brought by M. de Morgan from Susa,[44] show us heads which bear a close resemblance to those

[38] Dennis (1883) ii. 458; but see Peet (1912) 76.

[39] Dennis (1883) ii. 275.

[40] Dennis (1883) ii. 116.

[41] Jastrow (1911) 147-206, but specially 192; see also Modestov (1907) 388ff., who quotes Cara (1894-1902) iii. 338.

[42] King (1910) figs. 20, 23, 24, 39. 40, 44, 45; Langdon (1920). Pl. xi. fig. 1; Pl. xii. fig. 9.

[43] Dennis (1883) i. 261, ii. 332.

[44] Morgan (1905) Pl. xv., xvi., xxiii.

found on the Etruscan alabaster sarcophagi. It is a far cry from Etruria to Sumer, but tradition brings the Etruscans from Asia Minor, and Boghaz Keui may have been an intermediate station, though probably not the only one. But we have seen that the Babylonians were engaged in trading for tin in the Mediterranean region in 2800 B.C., so that it is not altogether impossible that the Prospectors may have come in the first instance from the Persian gulf, where they had been known as Sumerians, though it is, of course, possible that the Prospector was not the only element of that population.

A very natural reply to such a suggestion is that megalithic monuments do not occur in Sumer, or, as I should prefer to state it, have not yet been observed near the Persian gulf. Such absence is not, however, fatal to our hypothesis. As we have seen it seems likely that the dolmen is derived from the rock-cut tomb, and such tombs, and dolmens too, occur in Syria. As yet we know little about the tombs of Mesopotamia before 3000 B.C., and still less of their contents ; we may yet find in that region some sepulchre, perhaps built of sun-dried brick, perhaps of slabs of stone, which bears a closer resemblance to the dolmen than does the Egyptian *mastaba*.

The contention is that several lines of evidence point to the Sumerians, or certain groups of them, as being the traders who travelled the Mediterranean and the Atlantic coast of Europe in search of precious metals, and who are somehow responsible for the spread of the megalithic culture. Now, as we have seen, the Prospector is normally a merchant, we do not find him as a rule among miners and sailors, yet sailors must have accompanied these expeditions, and perhaps skilled miners also in some cases. It may be that the cult of the dolmen, or the rock-cut tomb which preceded it, belonged to one or other of these humbler peoples, perhaps recruited from the coast of Syria. Or it may be, again, that the Prospector, being unable to bury his dead after the fashion customary by the Persian Gulf, devised another plan more convenient for use in strange lands. The latter is, I am inclined to think, the more likely solution, since dolmens and other megalithic structures are found all round Sumer, in Syria and Palestine to the west[45], in the Crimea and the Caucasus.[46] Stone circles are found to the east in Seistan[47], while both these and dolmens occur further east in India.

[45] Peet (1912) 115-118 ; Macalister (1912) 17, 18 ; Fergusson (1872) 438-445.

[46] Peet (1912) 114 ; Morgan (1894) i. 261-266.

[47] Pumpelly (1905) 114.

Time will show whether the suggestion, which I have put forward, that the Prospectors, who seem to have been responsible for introducing the use of metal into the west and north, to which they came in search of precious ores, started originally from the Persian Gulf, or whether, indeed they were but sojourners in southern Mesopotamia, having arrived there by sea from some more distant land, bringing with them the seeds of civilisation, as the legends of Oannes, the exalted fish-man, as given by Berosus, seem to indicates.[48]

Be this as it may, there seems to be adequate evidence of a trade, starting in the eastern Mediterranean and going first to Malta and Sicily, and thence to Spain, Brittany, the British Isles and the Baltic. That the prime object of such trade was the procuring of gold, copper, tin and amber, seems equally certain, as does the fact that megalithic monuments are found associated with all the sites whence these commodities could be obtained, as well as upon the land routes connecting them. Further, a certain type of man, whom we term the Prospector, is found living in no small numbers in most of these megalithic areas, as well as becoming a successful merchant at many of the sea-port towns of Europe. Lastly we have seen that this trade, then in the hands of Babylonians, had reached the Mediterranean by 2800 B.C., was in touch with Malta, Sicily and Spain between 2600 and 2300 B.C., and scarcely later had reached Brittany, Ireland and the Baltic.

Thus it seems clear that the Prospectors, in search of metal, reached Celtic lands, where their descendants may yet be found. What language they spoke is uncertain; it may have been allied to Etruscan or to Sumerian. But judging from their cosmopolitan habits, one may surmise that they were polyglot, and adopted the language of the country in which they settled. We can, then, hardly expect to detect any survivals of the Prospector tongue in the modern Celtic languages, unless undeed it be some loan words connected with the metal trade.

[48] King (1910) 53.

Chapter V

THE CELTIC CRADLE

WE have seen that there is good reason for suspecting that it was from the mountain zone of Central Europe, which we have decided to call the Celtic Cradle, that the Celtic tongues spread over the west, and now that we have traced the movements of foreign influences into Celtic lands during the earlier phases of the bronze age, we must inquire what was happening meanwhile in this Alpine cradle.

It was about 6000 B.C. that the Ofnet race had arrived in this region, where they had mingled with some remnants of the Combe Capelle race, thus producing, it is thought, the Alpine type, which we find dominant in the mountains to-day. We have found reason for believing that further waves of Alpines, coming it is believed from the Armenian highlands, had arrived by 4000 B.C., and that these had brought with them domesticated animals, the germs of agriculture, and a few fruits, such as the apple, plum and cherry.[1]

These people settled down in the mountain valleys, by the margins of the lakes, or more often at their heads, where broad expanses of marsh produced luxurious crops of grass; this could be converted into hay, with which to feed their cattle during the long, snow-bound winters. On the harder slopes above they tilled their patches of grain and planted their orchards, while for security from the bears and wolves which infested the forest-clad mountains, they built their dwellings upon piles in the marshes, or in the shallow waters of the lakes. Thus they, and their cattle, which were stalled in the same dwellings,[2] could be safe from the attacks of wild beasts, or the more adventurous and less scrupulous of their neighbours.

[1] Schenk (1912) 188.

[2] Keller (1866) 57, 297.

Remains of such pile-dwellings have been found throughout all the mountain zone, from Geneva and Neuchâtel in Switzerland, and Annecy and Bourget in Savoy,[3] to Laibach in Carniola on the edge of the Hungarian plain.[4] We learn, too, from classical writers that similar pile dwellings existed in Pæonia,[5] probably in Lake Beshika north of Salonika, as well as in Asia Minor.[6] This is additional proof, if that were needed, of the route by which these people had arrived in Europe.

Several anthropologists have made a study of the mental characters of these Alpine people, and, although these studies have been made for the most part in France, the description holds good for the inhabitants of the Alpine region. These have thus been summed up by Ripley:[7]

"A certain passivity, or patience, is characteristic of the Alpine peasantry. This is true all the way from north-western Spain, where Tubino notes its degeneration into morosity in the peasantry, as far as Russia, where the great inert Slavic horde of north-eastern Europe submits with abject resignation to the political despotism of the house of the Romanoffs. . . . As a rule . . . the Alpine type makes a comfortable and contented neighbour, a resigned and peaceful subject. . . . The most persistent attribute to the Alpine Celt is his extreme attachment to the soil, or, perhaps, better, to locality. He seems to be a sedentary type *par excellence;* he seldom migrates, except after great provocation; so that, once settled, he clings to his patrimony through all persecution, climatic or human. If he migrates to the cities, . . . he generally returns home to the country to spend his last days in peace."

Ripley says that they are socially conservative, and this is true in the sense that they dislike change; but an examination of the constitution of their villages leads one to believe that they are very democratic and, in fact, inclined to communism, though this tendency is usually confined to village affairs, and rarely penetrates national politics. It must be remembered, however, that Soviet Russia is mainly Alpine, and that Marx came from the Alpine zone.

3 Keller (1866); Munro (1890); Schenk (1912).

4 Šmid (1908), (1909) 117-126; other authorities are cited in fn. p. 118.

5 Herodotus v. 16.

6 Hippocrates xxxvii.

7 Ripley (1900) 549, 550.

Thus we find that these people were patient, plodding, and hard-working,[8] while the long, snow-bound winters had encouraged habits of thrift, for it was necessary to provide during the summer a sufficient store of food to last through the cold weather. They were not hunters, and in no sense sportsmen, and seem to have been lacking in the spirit of adventure. They feared the waste and its wild inhabitants, and lived in their self-contained villages, with the drawbridge up, and had little contact with their neighbours. As we have seen, they were extremely democratic in their outlook, probably with a strong tendency to communism, and they shared everything in common, perhaps even their wives.[9]

During the early days of these lake-dwellings, in what is known as the Archaic period, there seems to have been little to disturb their peace,[10] for the remnants of Combe Capelle man seem to have become extinct or to have merged with the rest of the population. But towards the close of the second period, that called the Robenhausen, about 3000 B.C., or perhaps rather later, there is evidence of the appearance of intruders into this region.

The newcomers were few in number, and seem to have arrived from the north up the Rhine valley. From the skeletons found in the tombs of this period we find that they were tall, long-headed men, with strongly marked eye-brow ridges, and bear a close resemblance to those tall, fair-headed, grey-eyed men, who are still dominant in the north of Europe, and who are known to anthropologists as the Nordic race.[11]

Such were the people of the mountain zone during neolithic times, and it is possible that the inhabitants of Hungary were similar in type, though the long-headed race seems to have appeared here earlier. It is true that we have few remains from the Hungarian plain which we can attribute with certainty to this period, but the broad skull found at Nagy-sap belongs, in all probability, to this time, though a greater age has been claimed for it.[12] Perhaps the few facts available would be better explained

[8] In this connection compare the thrifty Pæonian maiden mentioned by Herodotus v. 12, 13.

[9] Peake (1922) 1. 30, 31, 54, 55, and for a late survival of communal marriage, Kovalevsky (1891).

[10] Schenk (1912) 191, 544.

[11] Schenk (1912) 460, 461, 544.

[12] Keith (1915) 2. 18.

by supposing that the Alpines occupied the whole mountain zone, and the mountainous regions surrounding the Hungarian plain, and that about 3000 B.C. Nordic intruders entered Switzerland from the Rhine Basin, and the plain of Hungary, perhaps, through the Moravian gate.

As we pass eastwards from the Carpathians the rainfall becomes less and the woodland disappears; we enter the steppe lands which reach far into Asia. This steppe occupies the whole of the Rumanian plain, and north of the Dniester runs in a belt, fifty miles wide, as far west as Lemberg. West of this lie large stretches of glacial sands and gravels, which must have carried an open heath vegetation, and so almost continuous open land stretched at the northern foot of the Carpathians from Odessa by Lemberg and Cracow to Breslau.[13]

In this open region, bounded on the east by the Dnieper and on the north by the Polish forest, we find at the time which we are discussing a very peculiar culture; this has been called the Tripolje culture,[14] from the site near Kief where it was first discovered. The people responsible for this culture lived in pit-dwellings, and set aside certain "areas" for the disposal of their dead. Usually, if not invariably, they burnt their dead and placed the ashes in urns, which they deposited in these areas, but it has been said that they sometimes buried the corpses, though no descriptions of such skeletons have appeared. They made vast quantities of pottery, much of it painted, some of it incised, but they were ignorant of the potter's wheel. They cultivated the land, at any rate during their later phase, for half-cooked corn has been found among their remains.

This culture is found throughout south-western Russia, south of the Pripet marshes, and west of the Dnieper; it is sometimes found extending, too, east of that river in the governments of Chernigov and Poltava. Southward it is found throughout the steppe region of Rumania, while westward it extends through the open country as far as Breslau. Pottery somewhat resembling that of the Tripolje culture has been found in Serbia, Thrace, Thessaly and the north-west corner of Asia Minor.

[13] Vidal de la Blache in Lavisse (1896) I. i. 30-39, map facing p. 54.

[14] Minns (1913) 133-140.

The Tripolje culture is of two types, known as A and B. Judging by the pottery, and the terracotta figures of women, which are fairly common on both types of sites, the B culture is the more advanced. On the other hand no metal has been found on these sites, while copper axes and perforated stone axes are not uncommon on the sites exhibiting A culture.

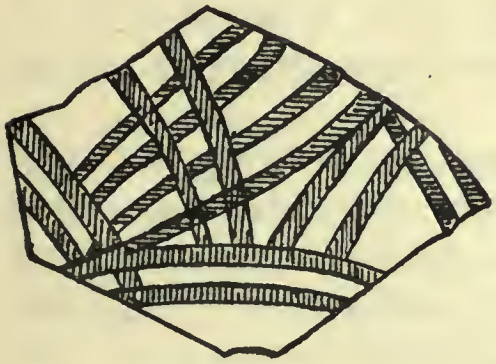


FIG. 2.
POTSHERD FROM KOSZYLOWSCE, GALICIA.

When this culture was first discovered, it was believed by some that here we had the origin of the early painted wares of Greece and Crete,[15] but later on the discoveries at Cnossos showed that at that place painted pottery had developed from plain and incised wares; it was also noticed that the shapes of the pots at these sites were fundamentally different. So all idea of a connection between these two industries was abandoned. There is, however, in the Newbury Museum a potsherd of Tripolje ware, from Koszylowsce in Galicia, which bears a very striking resemblance to another of the second early Minoan period, from the *tholos* at Haghia Triada in Crete, figured by Mosso.[16] It may be, after all, that, while the suggestion that the Tripolje ceramic is ancestral to that of Crete is erroneous, there may have been some connection and mutual borrowing. This resemblance and the presence of copper axes during period A suggests that there had been trade relations, either direct or indirect, between Crete and the north-western shore of the Euxine, between 2600 and 2400 B.C., and this fits in very well with the trade between Egypt and Transylvania, about 3200 B.C., to which reference was made in chapter III. The Tripolje settlements of Type A belong, therefore, to a period which closed certainly as early as 2400 and perhaps as early as 2600 B.C. For some reason, it would appear, this trade came to an end about this time, and the importation of copper axes ceased.

FIG. 3.
BOWL, DECORATED WITH RED LINES, DISCOVERED IN THE GREAT "THOLOS" OF HAGHIA TRIADA.
(From Mosso's "Dawn of Mediterranean Civilisation.")

[15] Stern (1906).

[16] Mosso (1910) 112, fig. 67.

The cause of this interruption is uncertain, but it is perhaps permissible to suggest that the inhabitants of Hissarlik II., like their successors in Hissarlik VI., held the straits and so restricted the traffic through it as to kill it. The disappearance of the type A. culture must certainly be equated approximately with the rise of Hissarlik II., for, as we shall see, the disappearance of Type B. culture practically synchronises with the destruction of that city.

As we have seen this people usually, and perhaps invariably cremated their dead, for the skeletons referred to by M. Chvojka,[17] may not have belonged to this period; in any case they have not been described. We have, therefore, no direct evidence of their physical characters and racial affinities. Some years ago Sir Arthur Keith,[18] discussing the origin of the "Bronze age invaders of Britain," a people which I shall describe in the next chapter by the name of the Beaker-folk, argued with much force that they must have set out from Galicia. As they reached Britain about or perhaps before 2000 B.C., they must have left Galicia still earlier, that is to say about the time that Tripolje settlements of type B. came to an end. For this reason I argued in 1916[19] that the Tripolje culture was due to the Beaker-folk, and I see no reason to-day to change my mind.

Now the Beaker-folk, often called Bronze Age or Round Barrow men, are rather tall, strongly built, and with rather broad heads. They have often been termed Alpine, but as Keith has shown, they differ in many important particulars from the typical Alpines in the mountain zone. The difference lies mainly in this: they are taller, more robust, their cranial index is lower, seldom rising above 84, while the conspicuous flattening of the occiput is absent.[20]

These characters suggest a cross between the Alpine and Nordic types, and this is a possible solution, as they lie midway between the Alpines of the mountain zone and another people, to be described next, who occupied the steppe lands to the east, and who closely resemble the Nordic type. On the other hand the Beaker-folk type seems to have remained fairly uniform, so that, if it is a cross, it is a stable cross, which

[17] Chvojka (1904) 223, quoted by Minns (1913) 140.

[18] Keith (1915) 2. 21.

[19] Peake (1916) 1. 165, 166.

[20] Keith (1915) 2. 13.

suggests that it is one of long standing. It may be, then, that we should consider it rather as a cross between the broad-headed Ofnet type, and some long-headed palæolithic race, such as that of Combe Capelle.

On the steppe lands east of the Dnieper, and stretching thence to the confines of Asia, and apparently beyond into Turkestan, we find evidence of another people, who are of great importance to our problem.[21] Unfortunately we know less of them than we could wish, for many of their remains have come to light as the result of unscientific digging, and the few results of expert exploration have been meagrely published in very unaccessible proceedings. These people buried their dead in barrows, or kurgans, and for this reason they have been called Kurgan people.[22] This name, however, is open to objection, as several other folk at different times have buried in kurgans throughout this region. The chief peculiarity of the people I am dealing with is that they buried their dead in a contracted position, and that skeletons have been found thickly covered with red ochre. For this reason some writers have called them red skeleton men or nomad red men.[23] This again is not quite a satisfactory term, and I have suggested in its place steppe-folk or nomad steppe-folk.[24]

The graves of these men were poorly furnished. They contained usually a few stone or bone implements and a certain type of pot with a hemispherical base. The evidence available a few years ago led to the belief that they were in a neolithic condition and totally ignorant of the use of metal, but some recent discoveries at Maikop, in the Koban basin, disclosed a considerable number of objects of gold and silver. From this and similar finds Rostovtzeff[25] has argued that these steppe-folk were responsible for a considerable civilisation; but, taking into account the poverty displayed by most of their burials, I am disposed to think of them as still living in a neolithic state, but sometimes raiding the richer and more advanced civilisations to the south, which had long reached a chalcolithic stage. Rostovtzeff is probably right in attributing the Maikop discoveries to the early part of the third millenium, which brings them within the period we are discussing.

[21] Minns (1913) 142-145; Zaborowski (1895) 125-130, 134-135; Rostovtzeff (1920) 60, 109-111.
[22] Myres (1906) 541.
[23] Minns (1913) 142.
[24] Peake (1916) 1. 163 fn.
[25] Rostovtzeff (1920) 110.

That these people were nomads seems clear from the little evidence we possess and from the poverty of their tombs and the absence of dwelling sites. We have, in one grave at least, evidence that they possessed the horse,[26] and since the grassy steppe lands are the home of wild cattle, we shall not be far wrong in believing that they were by this time passing from a hunting to a pastoral stage. They were, in fact, owners of large bands of cattle, which, like cow-boys, they drove from pasture to pasture.

Professor Myres has argued for a very wide distribution of these people, in fact from the Elbe to Tobolsk, and southwards to Bosnia and Thrace.[27] Some of these extensions seem, as we shall see, to date from a later period, and during the time which we are discussing, roughly the period of Hissarlik II., the bulk of them seem to have been restricted to the steppe regions east of the Dnieper, though they roamed the belt of parkland lying to the north, and perhaps even penetrated the dense woodland beyond. How far they had extended eastward is uncertain, but, as we shall see in the next chapter, their more distant excursions in this direction may well have been later.

We know something of their physical type. Bogdanov tells us that they were a robust race, with a large and long head, an elongated face, and, according to some examples, with hair more or less fair.[28] The colour of the hair has been disputed, as there is a tendency for hair in graves to become pale. The cranial index is not quite certain. Sergi states that it varies from 65 to 81,[29] but it seems likely that among his collection of kurgan skulls are some of other types. Bogdanov tells us that in the kurgans to the west of the area several broad skulls occur, but with less robust skeletons, and the average index is higher. This may be due to admixture with Alpine or Beaker types. In the north, too, as one approaches the middle valley of the Volga, the broad type appears also; in this case I have suggested that it is due to admixture with a Mongoloid type which was already occupying this region.[30] From the kurgans at Souja,[31] in the government of Kursk, where the steppe lands reach further north than elsewhere, came twenty-three skulls which showed singular uniformity; nineteen

[26] Zaborowski (1895) 310.

[27] Myres (1906) 542.

[28] Bogdanov (1892).

[29] Sergi (1908) 309-316.

[30] Peake (1919) 197.

[31] Bogdanov (1892) 4.

of these were markedly long headed, and the remainder, belonging to three women and a child, only a trifle less so. It is possible that a considerable variation of head-form existed among these people, especially on the outskirts of their region, where they seem to have come into contact with more broad-headed neighbours. But Bogdanov is probably right in concluding that the pure type was a long-headed one, though the skulls seem not to have been so narrow as was frequently the case among the Mediterranean peoples of the west. Normally the length-breadth index seems to have varied from 73 to 76 though both higher and lower indices have sometimes been found.

The most striking feature about this people is the custom of covering the skeleton, or the body, with red ochre.[32] It has been suggested that this arose from the body being buried in clothes and cap of skin, deeply impregnated with this pigment. This custom is widespread, and, as we have seen, was not uncommon in the upper palæolithic age, being found at the beginning of the Aurignacian period in the case of the Grimaldi skeletons found buried in the *Grotte des enfants*. We seem here to be in the presence of the survival of a custom which dates from the times of Aurignac.

It will be remembered that during the closing phases of the Aurignacian period the Combe Capelle type makes its appearance in western Europe, and about the same time arrived the horse, which was hunted for food. A little later, when steppe conditions had become better established in the west, we have the great Solutrean invasion which drove the artistes of the Dordogne to the Pyrenees. The Combe Capelle type seems to have been predominant during this period, and the Brünn skeletons, one of which was of this type, were covered with red ochre.[33] As the climate deteriorated, and tundra conditions prevailed, the Solutrean invaders departed, apparently to the east.

Until a large number of the skulls of our steppe-folk, found in the kurgans, can be compared with the relatively few crania of the Combe Capelle type which have survived from the upper palæolithic age, it would be dangerous to come to any conclusion, but the evidence cited above makes it reasonable to suggest that perhaps the long-headed hunters of the horse, with their fine laurel-leaf spears, may have retreated to the steppe lands of South Russia and Turkestan, and there converted the animal

[32] Minns (1913) 142, 143; Zaborowski (1895) 126; Rostovtzeff (1920) 60, 110.

[33] Osborn (1918) 337.

which they had hunted and ate into a means whereby they could roam with greater ease and rapidity over the grassy plains. The subjugation of the horse would have rendered easier the domestication of cattle, which in turn changed them from hippophagists to beef-eaters. Their robustness and long-headedness, combined with their roaming instincts and devotion to the horse, which will become clearer as we proceed, have convinced me that we are here dealing with that tall, fair, long-headed type, now dominant in northern Europe, which we term the Nordic race.[34]

[34] Peake (1916) 1. 162, 163; (1922) 1. 51.

Chapter VI

MANY INVASIONS

THAT large tracts of Asia have been subject to a gradual process of desiccation has been made clear to us by the reports of the successive explorations of Sir Aurel Stein, who has shown us that regions, which are now uninhabited desert, once held a flourishing population. It has been suggested by Ellsworth Huntington,[1] who accompanied the Pumpelly expedition to Turkestan, that the process of desiccation has been neither continuous nor progressive, but has been subject to intermittent action and the alternation of dry and wet periods. The evidence which he has adduced of the rise and fall of the level of the Caspian sea seems to bear out his thesis, which has been further strengthened by his later observations in Palestine and on the shores of the Dead Sea.[2]

It is part of Ellsworth Huntington's hypothesis that during these periods of drought, or light precipitation, the population of the steppe lands, which had grown in numbers during the previous years of heavier rainfall, have found it difficult to obtain adequate pasturage for their flocks and herds, and have in consequence dispersed to more favoured regions. To this he attributes the great raids from the steppe and desert into the more fertile zones adjoining them, which have been so marked a feature in the history of the Near East. He points out that a relatively small diminution of rainfall may make all the difference between a sufficient and inadequate crop of grass, and should the crop be insufficient, the flocks and herds, the sole means of support for the steppe-folks, would inevitably perish unless driven to moister regions. How serious even one dry year may be has recently been brought home to us by the Russian famine in 1921.

[1] Huntington (1907)

[2] Huntington (1911).

This thesis has been severely attacked, especially by Peisker.[3] Still, though Huntington's conclusions may require modification in detail, his main contention seems to have withstood the attacks made upon it. Mr. Brooks[4] has recently shown us that the climate of Europe has passed through considerable changes since the ice age, and that such changes come down to relatively recent times and may yet be in progress. He attributes these largely to changes in coast line, and to the relative masses of land and water. The Pumpelly reports[5] show that considerable changes of level have taken place in Turkestan, and but small changes are needed to connect the Aralo-Caspian basin, by means of the Obi valley, with the Arctic Ocean. All this tends to show that we may expect considerable variation in the climate of this region, while Huntington's evidence of changes in the level of the Caspian Sea seems to prove that such variations have not been always in the same direction. Mr. Cook is, however, inclined to see in this the destruction of forests and their conversion into grass-lands by the primitive process of cultivation which he terms Milpa agriculture.[6]

It is to periods of light rainfall that Huntington attributes the four great irruptions from the Arabian desert which have been recognised by Semitic scholars,[7] the last of which spread the doctrine of Islam over the Near East ; to the same cause he attributes, too, the various movements of the Huns and Tartars. One may reasonably add to this that even one dry year during the period of light rainfall may be sufficient to account for such an exodus.

Now, as I have endeavoured to show on a previous occasion,[8] such a period of light rainfall seems to have occurred between 2400 and 2200 B.C., though it may have been of somewhat longer duration. I further gave reason for believing that about 2225 B.C., or perhaps a little earlier, an invasion of nomads took place from the Russian steppes. It would seem that about this time the Tripolje culture came suddenly to an end, and from the evidence at Khalepje,[9] Minns was inclined to believe that it had been destroyed by the steppe-folk, who had buried one of their dead on the site formerly occupied by a Tripolje "area." This destruction has recently been questioned, and

3 Peisker (1911) 325-328.
4 Brooks (1921).
5 Pumpelly (1908) i. 32.
6 Cook (1921) 321-323.
7 Myres (1911) 104-119.
8 Peake (1916) 1. 172.
9 Minns (1913) 142.

it has been suggested that the Tripolje people may have abandoned this region, driven out rather by drought than by the attacks of the steppe-folk.

Be this as it may, for further excavations are needed before the question can be determined, there is no doubt that these nomads disappeared from the steppe for a time and were found in the Tripolje region. Further we have evidence that a people resembling them appeared soon afterwards in Thessaly, bringing with them pottery which appears to be derived from that of the Tripolje culture.[10] Others of this type seem to have been responsible for the destruction of Hissarlik II.,[11] while pottery, which also shows affinities with that of Tripolje, occurs later at Hissarlik and at Yortan on the Caicus.[12] Moreover, the kurgans, characteristic of these steppe-folk, have been found all over Thrace and even over Asia Minor from the Hellespont southwards to Lydia and Caria, as well as eastwards up the Sangarius into the plateau of Phrygia.[13] Thus we seem to be dealing with an advance of a steppe people, comparable with the various irruptions from the Arabian desert which did so much to change the course of history in Mesopotamia, and destroyed the Old and Middle Kingdoms in Egypt.

A further corroboration comes from Turkestan, from the mounds of Anau. In the south kurgan, the lower layers belonged to the period known as Anau III., which contained a copper culture and a three-sided seal,[14] which Mrs. Hawes recognised as having Middle Minoan affinities.[15] This settlement, which seems to have been in touch with the Elamite culture of Susa,[16] came suddenly to an end at a date which Pumpelly fixes at about 2200 B.C.[17] Whether the settlement was destroyed or merely abandoned is not quite clear, but what is important for our purpose is that two agricultural communities on the edge of the steppe, those of Tripolje and Anau, came to an end at exactly or almost exactly the same date.

I have also suggested[18] that in this last case we may perhaps see some proof of an hypothesis, advanced many years ago from legendary and linguistic data by Terrien

[10] Wace & Thompson (1912).
[11] Peake (1916) 1.
[12] Minns (1913) 133-140.
[13] Myres (1906) 542.
[14] Pumpelly (1908) i. 43.
[15] Boyd & Hawes (1912) 33.
[16] Pumpelly (1908) i. 48.
[17] Pumpelly (1908) i. 50.
[18] Peake (1916) 1. 171.

de Lacouperie.[19] This ingenious author, who had been dead many years before the discoveries at Anau were made, suggested that certain tribes, settled near the Caspian Sea, whom he called the Bak tribes and who had been under the influence of the kings of Elam, left their settlements about 2200 B.C., and set out on a long trek towards China, into which land they introduced the beginnings of culture and the germs of the Chinese script.

This hypothesis was badly received when it appeared. Few of its critics had taken the trouble to master Lacouperie's argument, which was advanced in a most confused style. Sir Robert Douglas,[20] however, a sinologist of no mean reputation, believed that there was a considerable amount of truth at the bottom of it, though the theory was overlaid by many fanciful conjectures. Recently M. Cordier[21] has dismissed the whole idea as imaginary and based on inaccurate linguistic data. The question, I venture to think, needs re-examination, for at Anau we find a settlement of peasants, in touch with the Elamites, abandoning their village just at the date suggested by Lacouperie.

All this evidence seems to point to the fact that owing to drought, either of a prolonged order or lasting for two or three consecutive summers, our steppe-folk, who buried their dead in a contracted position covered with red ochre, suddenly left the steppe lands between the Dnieper and the Asiatic frontier, and dispersed in search of wetter regions and richer pastures. Two settled agricultural civilisations on their borders, the Tripolje settlements in the Ukraine and those at Anau, disappeared at the same time, driven out either by the drought or by the advancing hordes.

That some went to the east as well as to the west seems probable, for we find not long afterwards, in the reign of Hammurabi, 2123-2061 B.C., bands of steppe-folk on the Iranian plateau, who had already tamed the horse.[22] These entered Mesopotamia and established the Kassite dynasty about 1760 B.C.,[23] and were the first to introduce the horse into the valley of the Tigris.[24] Whether or no other bands passed further to the eastward we have no positive evidence, but, as we have seen, there seem to be reasons

[19] Lacouperie (1887) 113-119; (1894) ch. iv., v.

[20] Douglas (1899) 3.

[21] Cordier (1920) i. 27, 28.

[22] King (1915) 215.

[23] King (1915) 320.

[24] King (1915) 215.

for suspecting that some reached Tobolsk,[25] and there were at one time fair people dwelling in the upper basin of the Yenesei[26]. It seems probable that it is to this period that we must attribute this easterly movement. As it seems probable that the Mitanni barons, who were lording it over eastern Armenia, were of the same stock as the Kassites, we may attribute their arrival south of the Caspian to the same causes. Geographical considerations, too, would lead us to suspect that ample pasturage could have been found also among the hills surrounding Balkh.

The westward movements I have already dealt with elsewhere,[27] and I need do no more than recapitulate them here. As we have seen, the steppe-folk entered the Tripolje region, and probably occupied this district as far as Breslau. Some of them passed southwards along the western shore of the Euxine, and crossing the Danube, settled in Thrace, where numerous kurgans are to be seen.[28] Others seem to have passed on further south, and eventually reached the Thessalian plain, into which they introduced Dhimini ware and the cult of the horse. It may be that it was the appearance of these strange horsemen in this region which gave rise to the stories of the Centaurs.

Some bands of the latter party seem to have separated from the main body and advanced down the Gallipoli peninsula. These, as I have endeavoured to show elsewhere, destroyed Hissarlik II., among the ruins of which two of their skulls were found.[29] It may be that these were responsible for the rude villages of Hissarlik III., but it seems more probable that they would have passed on to the grassy steppes in the interior of the Anatolian peninsula.

Now the bulk of the people of Asia Minor at this date, as at the present day, were of that eastern Alpine, Anatolian or Armenoid type, best represented by the modern Armenians. These people are not by nature warlike, though they will sometimes fight well to defend their homes; but in no case are they aggressive, unless under the command of a more militaristic type. A few centuries after the events which we have been discussing, we find an aggressive, military power growing up in the peninsula, at first under several chiefs or kings,[30] in which, I think, we may see a military

[25] Myres (1906) 541.
[26] Lapouge (1899) 245-249.
[27] Peake (1916) 1.
[28] Myres (1906) 542.
[29] Schliemann (1880) 507-512; Virchow (1882).
[30] Hall (1913) 337-338.

aristocracy. These separate, though perhaps federated, states ultimately coalesced into the great empire of the Khatti or Hittites, who attacked and sacked Babylon in 1746 B.C.[31]

Whether or no any of these steppe-folk entered Hungary at this time is not quite clear, for it would seem that some of the long skulls found at Laibach may be of an earlier date. To these we will return later. It seems probable that the grassy steppes of the Hungarian plain would tempt these wandering horsemen, and we can scarcely believe that they would have avoided such rich pastures, unless, indeed, they were already occupied by their distant relatives, who were powerful enough to keep them out. The balance of evidence seems, however, to suggest that, whether or no any Nordic steppe-folk had arrived here earlier, some of these invaders from the steppes must have entered the fertile plain of the middle Danube.

It has been pointed out by Minns,[32] that "in the far west of Russia, between the Carpathians and Kiev, we find in the neolithic period distinct traces of connection with the coasts of the Baltic," also that there are found "northern types of axes and amber." Zaborowski,[33] also has drawn attention to the resemblance between some of the contents of the kurgans and the culture by the shores of the Baltic. It was for this reason that in 1916 I suggested[34] that at a date prior to that we have been discussing, perhaps about 3000 B.C., some of these steppe-folk had passed to the shores of the Baltic, and were the long-headed men who are found occupying the lowlands of Belgium[35] about that time. I have elaborated the argument since,[36] but it has not met with the approval of some of the Swedish archæologists.[37] With the evidence at present available it is not easy to make a conclusive case one way or the other, but, as we have seen, the neolithic culture of this area resembles in some points that of the Baltic, Nordic types appear in the Baltic region, in Belgium, in the Rhine basin and pass thence to the Swiss lake-dwellings, while other long-headed types, which may however have appeared later, are found in the west of Hungary and the eastern slopes

[31] Hall (1913) 199.

[32] Minns (1913) 132.

[33] Zaborowski (1895) 125.

[34] Peake (1916) 1. 163.

[35] Taylor (1889) 118, 119.

[36] Peake (1919) 201, 202.

[37] Nordman (1922).

of the mountain zone. All these points lead one to suspect that at an earlier date some of these Nordic steppe-folk, driven doubtless by a former period of drought, had migrated north-westwards to the colder regions around the Baltic Sea, where the type, already tall, relatively fair and long-headed, developed later these characters to a more pronounced degree.

We have seen that the Tripolje people had departed from the Ukraine and Galicia, driven away by drought or by the invading steppe-folk. Traces of pottery, bearing some resemblances of that of the Tripolje culture, have been found in various places to the south, just those places where we find that our steppe-folk had settled. This suggests that the steppe-folk had conquered these people, and taken captive some of their women,[38] who in all primitive tribes are the potters.

If Keith is right that our Beaker-folk came from Galicia, we must suppose that on leaving the Ukraine they passed westward and entered Bohemia, for it is from this country, as Lord Abercromby has shown,[39] the northern beaker seems to have been derived.

FIG. 4.
CARINATED VASE FROM SPAIN.

But Leeds has lately suggested,[40] and this suggestion was also made some years ago by Sir Arthur Evans,[41] that the beaker developed originally in Spain. Leeds has published a map, showing that beakers of the earliest type are found most abundantly in Andalusia, and he traces their distribution thence throughout west Europe. One of his lines of migration carried them to north Italy, where it points to the Brenner Pass.

Now the Spanish and western beakers differ in many important respects from the northern type, though it is characteristic of both to be decorated with parallel and horizontal bands of ornament. Leeds thinks that the beaker developed in Spain from a type of pot, which he terms carinated, and which is found associated with megalithic

[38] Peake (1916) 1. 166.

[39] Abercromby (1912) i, 15.

[40] Leeds (1922); see also Abercromby (1912) i. 10.

[41] In the discussion following Crawford (1912) 1. 198; see also Abercromby (1912) i. 11.

monuments at such distant points as Denmark, the Isle of Arran, Guernsey and Brittany, the Pyrenees, Spain, Algeria, Taranto, Sicily and Malta. This type of pot is distinguished by having a hemispherical base, while the sides, half way up, have a knee or angle, above which they are concave.

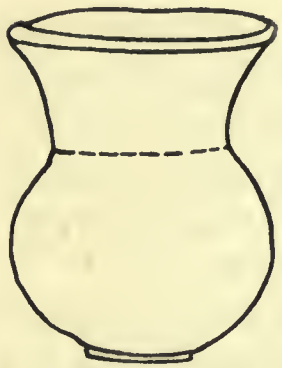


FIG. 5.—SILVER VASE FROM HISSARLIK ii.

Now it is of course possible that the bell-beaker of Spain may be derived from this carinated vase, though intermediate forms seem to be lacking. I am inclined to think, however, that this beaker has a double parentage, and has been influenced, too, by certain types of ware not uncommon at Hissarlik II., the form of which is best shown by a silver vase found in that city.[42]

However this may be, the bell-beaker, which has invariably a convex base, seems to have been evolved in Andalusia, and to have been carried, amongst other places, to North Italy, and thence northward to Bohemia, where it is localised in the western part of that province. Here another type of pottery, called cord vases, which had developed in the plain of North Germany, had been already introduced, and the northern type of beaker, which has a flat base, seems to have been derived from a combination of both types.

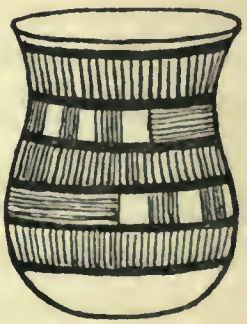


FIG. 6. BELL BEAKER.

Some years ago Dr. O. Reche[43] described a people, very closely resembling the Beaker-folk, as inhabiting Silesia and especially Bohemia during the closing phases of the megalithic period in the Baltic, that is to say about the time we are considering. Into this population there intruded invaders of the Nordic type, exterminating the men but marrying the women and adopting their customs. These invaders entered Silesia in force, but only penetrated into Bohemia in small numbers.

This seems to point to the fact that some of our Tripolje people were, as we have seen before, occupying Silesia, while others had settled in Bohemia. Here they were using,

[42] Schliemann (1880) figs. 254, 255, 300, pp. 357-367; fig. 781, p. 468; see also Abercromby (1912) i. 10, where he quotes Montelius (1900) 119.

[43] Reche (1908) 220.

and had perhaps taken over from an earlier people, a type of beaker, which had been developed from the cord pottery of northern Europe, influenced by a few imported specimens of the bell-beaker, which had come ultimately from Spain. Soon the steppe-folk, passing through Galicia and southern Silesia, entered Bohemia, and some, at any rate, of the Beaker-folk moved northwards. Lord Abercromby[44] has shown how they left through the Elbe gap and passed northwards between the valleys of the Weser and the Rhine. Some went further north to Jutland, where we find them introducing the single grave culture, characterised by the presence of beakers and those perforated stone axes, which we have met with before in the Tripolje area.

FIG. 7.
NORTHERN BEAKER.

Others passed into the low countries, where they occupied the region lying between Utrecht and Gelderland in the south and Drenthe in the north.[45] Thence some passed to this country. Lord Abercromby believes that they crossed the channel at the narrowest point, and passed westward and northward by land.[46] It seems more likely, however, that though the crossing may actually have been made by the Straits of Dover, the Beaker-folk coasted along the southern and eastern shores of Great Britain, for maritime traffic was no new thing in these parts. Some, who landed near the Moray Frith, seem to have been accompanied by a few pure Alpines,[47] whose blood has left a marked effect on the present population of Aberdeenshire.[48] While they settled in the upland regions of England and Scotland, especially on the open downs and limestone hills, they penetrated very little to the west, which was dominated by the Prospectors. Few signs of their presence appear in Wales, and none that can be depended upon in Ireland.[49]

It has been thought by some that they spoke some form of Aryan or Indo-European tongue, and it has been conjectured that it was they who introduced

[44] Abercromby (1912) i. 16, 66; Crawford (1912) 1. 190.
[45] Aberg (1916) map 1.
[46] Abercromby (1912) i. 67, 68.
[47] Lowe (1902-1904).
[48] Grey & Tocher (1900).
[49] Crawford (1912) 1. 188, 189; Abercromby (1912) i. 38, 39.

into these isles the Goidelic or Gaelic dialects. This opinion has recently been restated by M. Loth.[50] This view has been well answered by Rice Holmes,[51] and his arguments are as valid to-day as when they were written. We are forced to admit that we are in total ignorance of the language spoken by the Beaker-folk.

It was at one time believed that they introduced into this country the knowledge of bronze, and graphic pictures were drawn of the way in which, with their superior weapons, they conquered the stone-using aborigines. Few, however, of their graves, either here or in Jutland, contain objects of metal, and those which have been met with seem to conform more to south-western than to Central European types.[52] It must not, however, be assumed too hastily that they were in complete ignorance of metal, though they did not possess implements of that material on their arrival; for, as we have seen, the Tripolje people, in their period A, had used copper axes, doubtless carried thither by Ægean traders, and the perforated axes, used in the Ukraine, as in Jutland and Britain, seem as though copied from metal originals. It would be more accurate to say that a tradition of the former use of metal may have lingered among them, as of an article once possessed but long since lost.

[50] Loth (1920) 259-288.

[51] Holmes (1907) 195, 428-440.

[52] Abercromby (1912) i. 54.

Chapter VII

THE EVOLUTION OF THE LEAF-SHAPED SWORD

WE have seen that the Alpine people were the earliest inhabitants of the mountain zone, west of the Hungarian plain, and that they had arrived there at an early date, bringing with them from the east the custom of living in pile-dwellings and the germs of agriculture. Whether they were living also in Hungary seems uncertain, though it is possible that they dwelt in the ring of mountain land that surrounds the plain.

Nordic folk had arrived in both areas by 3000 B.C., coming, it has been suggested, from the Russian steppes. It is also more than probable that fresh invaders from the steppes arrived about 2200 B.C., especially in the Hungarian plain. Thus, though the population of the whole of the area, which we have termed the Celtic cradle, was to some extent alike, there were considerable differences, both in the proportion of racial elements and in the methods of life, between the people of the mountain zone and the inhabitants of the plain.

Though members of both the Alpine and Nordic races inhabited the mountain zone, and are found living together in the same villages, they appear not to have intermarried, at any rate to any considerable extent, for at a much later date we find skulls both of the long-headed and the broad-headed types, but few if any which show evidence of mixed ancestry.[1] The evidence obtained from the cemetery at Hallstatt, which dates from 1000 years or more later, seems to point to the same conclusion.[2]

Now the Alpine people, as we have seen, are thrifty, steady, hard-working tillers of the soil, patient but lacking in the spirit of adventure. The Nordics, on the other hand, are strong, active, courageous and adventurous, devoted to the horse and

[1] Schenk (1912) 191, 536-539, 544.

[2] Peake (1922) 1. 70.

accustomed on its back to drive bands of cattle over the grassy steppes. If we may judge from the views of many of their modern representatives, they despise menial work, such as ploughing the land or digging the soil, just as they prefer cattle and beef to sheep or mutton, and have a contempt for fish-eaters and vegetarians. The Nordic also has a natural instinct for governing and administration.

As I have shown elsewhere,[3] if two such peoples come into contact, and settle down together, there can be but one result: the Nordic becomes a lord and his people a privileged nobility, while the Alpine becomes eventually a serf. With a strong racial exclusiveness, or, as we call it to-day, colour prejudice, the Nordics decline to take wives from the subject class, and, though irregular unions may in time take place, marriage is strictly forbidden. In this we have the germs of the caste system so well known in India. Similar objections to such inter-marriages are a marked feature of the Briton throughout the empire. This custom has given rise to the strict marriage regulations, which existed until lately among all royal and many noble families in Europe, and among the descendants of the Visigoths in Spain. The marriage laws of Athens and Rome seem to imply a similar point of view. Another steppe-folk, entering a mountain zone filled with an eastern Alpine population, issued a similar edict, which they credited to their tribal god.[4] Thus in the mountain zone Nordic and Alpine lived together, apparently in harmony, as lord and serf, never intermarrying and rarely, if ever, mating with one another.

In the plain, however, the Alpines seem to have been absent, or at any rate few in number. Here we may well imagine the Nordics continued their nomadic existence, driving their cattle from one pasture to another. Thus the population tended to divide into two groups, the people of the mountains and the people of the plain.

When the first group of Nordics arrived in this region, both they and their Alpine predecessors were ignorant of metal, but a few centuries later implements of copper began slowly to penetrate the whole area. Perhaps these arrived from the east, up the Danube valley, either from Hissarlik II. or from those Ægean merchants, who, as we have seen, were trading for Transylvanian gold, or taking copper axes to the Tripolje folk. Or it may be that other Ægean folk had by this time reached the head

3 Peake (1922) **1.** 70-72.

4 Deuteronomy vii. 3.

of the Adriatic, and were making their way thence to the mines of the Erz-gebirge and the amber coasts of the Baltic. It is probable that both lines of trade began fairly early in the third millenium, and the general course of the latter route can be traced in outline from Fiume, along the eastern foothills of the mountain zone towards Linz, where the Danube must have been crossed in dug-out canoes; thence it continued through the Elbe gap, and on by various routes, indicated by the distribution of flat celts, to the amber coast.[5]

One thing is clear, and that is that metal reached the mountain zone from the east and not from the west. It was at one time believed that when metal first appeared in the western Mediterranean, the Rhone valley was the main line of approach into Central Europe.[6] This we now know was not the case,[7] for that valley was thickly wooded, and the inhabitants of most of it remained in a neolithic state until many centuries after metal had become known in Switzerland.

After the destruction of Hissarlik II. communications from the east seem to have ceased for a time; the irruption of the steppe-folk appears to have interfered with trade, especially by land, over the north Ægean and Euxine areas. Perhaps, too, after the arrival of fresh hordes of steppe-folk into Hungary trade by the other route may also have ceased for a time. There is some evidence that this was the case, but in due course it was resumed, and was at any rate in full swing again long before 1600 B.C., though, judging by the type of weapons found, this trade was rather with Italy and the west than with the Ægean and the eastern Mediterranean.

FIG. 8.
GROOVED ITALIAN DAGGER FROM CASTELLANO, NEAR RIPATRANSONE.

We have seen in an earlier chapter that the people of the Mediterranean had developed a type of dagger of a somewhat triangular form, made first of all of copper and subsequently of bronze. This dagger, as we have seen, frequently had concave sides, perhaps at first as the result of constant grinding, and thus attained an

5 Lissauer (1904) map.

6 Mackenzie (1907-8) 351.

7 Peake (1914).

ogival form. We have noted also that the breadth of the butt diminished as the length of the blade increased. Sometimes, especially in North Italy, the sides remained straight, and grooves were cut in the blade parallel to the sides. The object of these grooves, which were three, five or even more in number, was not in the first instance a question of ornament, though in time it became the *motif* of an elaborate decoration. In the first instance it had a severely practical value, for a dagger so grooved, thrust into the body of an enemy, could be more readily extracted than one of which the whole surface was smooth. This grooving began with the straight-sided daggers, but was afterwards applied to those of ogival form.

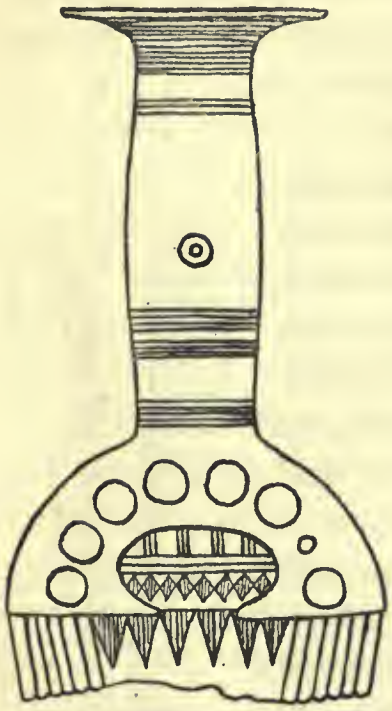


FIG. 9.—RIVETED DAGGER-HILT FROM FOSSOMBRONE.

The people of the Mediterranean race were, as we have seen, rather short and of slight build, and their daggers were relatively small. They were not used very frequently, we may imagine, in open warfare, but were more usually employed to stab an enemy in the back, a custom not yet obsolete in some Mediterranean lands. The handle was of bronze, often handsomely chased, and sometimes decorated with thin plates of gold. Such handles were riveted on to the blades, and so long as the butt of the latter was wide and the blade not too long, this method of attachment proved satisfactory. But, as we have seen, the tendency was for the butt to diminish in breadth and the blade to increase in length, which suggests that open combat was becoming more fashionable or more necessary, and that a greater reach was needed. The narrowing of the area of attachment, and the lengthening of the blade, threw an ever increasing strain on the riveted joint, which must have become more and more ineffective. Still, the Mediterranean peoples up to the last, except in the Ægean area, continued to use this long dirk, or rapier, with riveted handle.

FIG. 10. LEAF-SHAPED SWORD.

But the trade with Hungary carried these daggers from Italy into Central Europe,

and the Nordic inhabitants, both of the plain and of the mountains, were good customers. But being big men, with large hands and accustomed to meet their foes face to face, they demanded larger and larger daggers, and this demand was met, as such a demand always is, by an adequate supply. Thus we find these weapons, closely resembling those in use in the Mediterranean basin, especially in its western half, becoming increasingly common in Hungary, and growing to greater and greater dimensions. Plate IV. shows five daggers found in Hungary: the two first can be matched both in Greece and Italy and elsewhere in the Mediterranean region, the third in Italy only, the fourth in the northern part of that peninsula, while the fifth is rare outside Hungary, and I have only been able to find one parallel, from Bondo in the Grisons.[8]

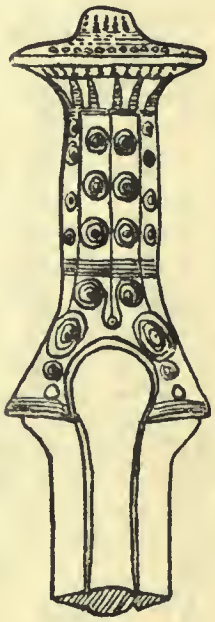


FIG. II.
BRONZE HILT OF LEAF-SHAPED SWORD.

The increased size of the daggers, which in some cases had grown to enormous proportions, as may be seen in Plate V., made the weakness at the riveted joint more apparent. The Nordics, fighters above all else, paid much attention to their weapons, and they set themselves to discover some way to overcome this difficulty. This led, as we shall see, to the evolution of the leaf-shaped sword.

During the bronze age there were several types of sword in use in various parts of the Old World. We have seen how the typical Mediterranean sword or long dirk developed by slow degrees in the west from the triangular copper daggers of Crete. In the Ægean and in Greek lands we find other types, which seem to be derived from swords of Asiatic origin, and which had an independent development in Mesopotamia or Egypt; some, too, may have been derived from the copper daggers of Cyprus.

But there is one type or group which stands apart from the others. In many examples the blade narrows rapidly near the butt, then expands slowly till it reaches its greatest breadth about two-thirds of the way down the blade; then it narrows more rapidly, then very quickly to the point. This gives a shape not unlike the leaf of the lanceolate plantain, a form not uncommon in other leaves; hence the name

[8] B.P. Pl. VII.a. fig. 13 in Trento Museum.

leaf-shaped sword. But many examples from this group, in other respects indistinguishable from those described, have sides which are nearly parallel, sometimes quite so. To these cases the term leaf-shaped is not so applicable. But the name is hallowed by a long tradition, and so it will be well to retain it for the whole group.

Leaf-shaped swords may be divided into two sub-groups: those with bronze hilts or pommels, and those without. Owing to the beauty of their decoration, the types with bronze hilts have hitherto received the greatest amount of attention, and several archæologists have devoted pages to describing them and tracing out their evolution.[9] They are not, however, very common outside Hungary, and in all cases are much rarer than the other types. The details of their form lead us to believe that they are contemporary with some, in fact with most of the other types, and the elaborate decoration present in most cases shows us that they were an expensive and ornate form, used probably by the greater chieftains, while the other types were the cheap and plain weapons used either by the lesser nobles or by the rank and file.

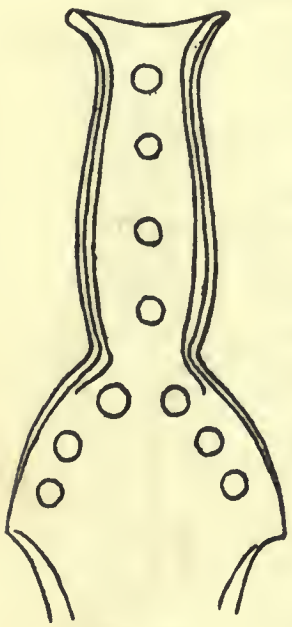


FIG. 12.
TANG, WITH FLANGED EDGES, SHAPED TO FIT THE HAND.

The simpler type of sword has no bronze hilt, but in its place a long tang, usually but not invariably with flanged edges, and shaped to fit the hand. This tang is pierced by several rivet holes, in which the rivets are sometimes found adhering, and these rivets were used to secure on either side of the tang pieces of wood, bone or horn, which with it formed the hilt. In some cases such swords have been found with wood or horn still attached. These are obviously a cheaper form of hilt, and it is not surprising that such swords are more commonly found and more widely distributed than those with bronze hilts or pommels, notwithstanding that the latter have been more eagerly sought after by collectors.

It is partly because these types, which are all included in the Type II. of Naue,[10] are commoner and more widely distributed that I have selected them for special study in preference to the more ornate forms, but also for another reason. It has hitherto

[9] Naue (1903) 43-75.

[10] Naue (1903) 12-25.

been usual to classify swords mainly by the shapes of their blades or their sections; for reasons which will become apparent as I proceed, I am proposing a new classification, based upon the shape of the butt of the blade, the portion, that is to say, which immediately adjoins the handle-shaped tang.

Now if we examine a large number of swords of these types, we shall find that these butts vary in form, some being convex and others concave. In Plate VI. I have placed them in a series of seven, and it would, perhaps, be possible to sub-divide them more minutely, and to give several variants of most of the types. For reasons, which will,

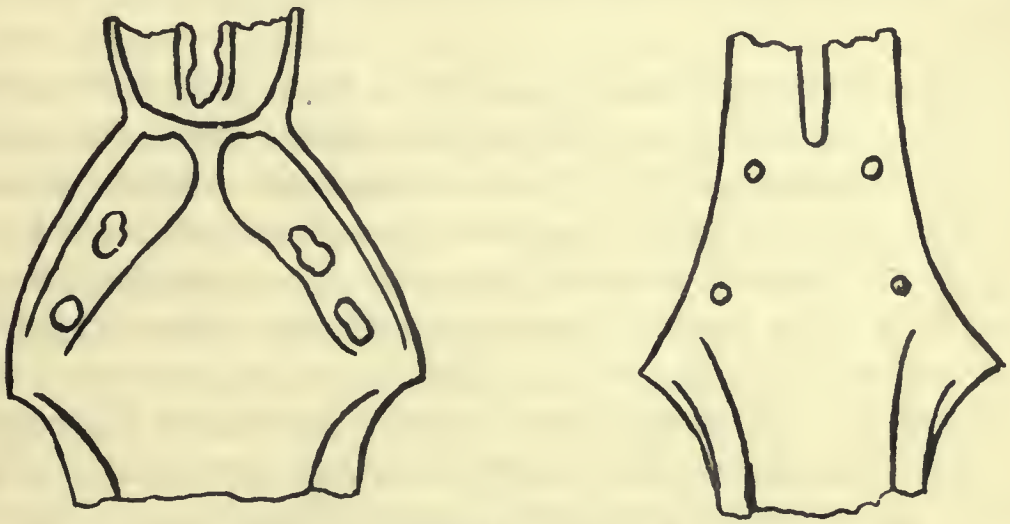


FIG. 13.—CONVEX AND CONCAVE BUTTS.

I think, be apparent to anyone consulting the Plate, and which I give more fully below, I believe Type A to be the earliest of the series; Type G, on the other hand, occurs in the famous cemetery at Hallstatt, in the Salzkammergut, and as iron swords and implements were found in most of the graves there, we may consider these bronze swords as belonging to the very last phase of the bronze age in Central Europe. As the butts of the blades show a gradual transition from the form usual in the daggers with riveted handles shown in Plate IV. to the Hallstatt type, we may, I think, feel satisfied that we have placed our series in strict chronological sequence.

A glance at Type A, especially as seen in full length in Plate VII., shows us at once that it is a transitional form, and that it has grown out of an ogival dagger, similar to those given on Plate V. The butt is of the same shape, being a flattened semicircle,

with the horizontal radii considerably longer than the vertical. The upper part of the blade, too, is of the same form, and the parallel incised lines are survivals of the grooves already described. These show that the prototype was of ogival shape. In two points only does it differ from the ancestral form: the blade has been lengthened considerably, till its form is of rather an unnatural shape, while at the other end a tang, shaped to fit the hand, and with flanged edges, has been cast in one piece with the blade. Here we have a leaf-shaped sword, it is true, but with the greatest breadth relatively near to the butt, and the tang flanged and with rivet holes to enable the wooden or horn sides to be attached to form the hilt. The section is somewhat rhomboidal.

Now it has long been realised that swords of these types had been evolved somewhere in the Danube basin, and it has been suggested that this had taken place in the south Danubian region.[11] It becomes important, therefore, to determine whereabouts in the Celtic cradle these types originated. Details of the distribution of this and of other types will be discussed in the next chapter; here it will be sufficient to summarise. As far as I have been able to ascertain, six specimens only of this type are known, and one of these is so unlike the others that we must look upon it as a later variant. Of the five, one was found in the Friuli, at the head of the Adriatic, one in a tomb in Schleswig-Holstein, while the other three were found somewhere in Hungary. Of these the exact sites at which two were found are unknown, but the third is said to have been dredged out of the Danube near Buda-Pest.[12]

We may, I think, conclude from this that it was in the plain of Hungary, where the Nordic steppe-folk were living in relative purity, still leading, perhaps, a nomadic life, that these swords were developed. The origin seems to have been in the plain rather than in the mountain zone, though subsequent types have been found frequently in the latter. It is the Hungarian plain, then, we must consider as the centre of dispersal, and, as far as possible, Hungarian rather than other examples will be taken as the true types, of which others will be considered as variants.

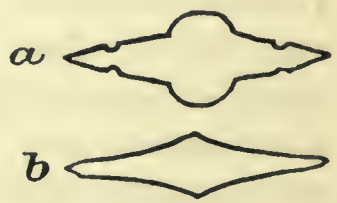


FIG. 14.

a. A SECTION NOT UNLIKE THAT OF A SPEAR-HEAD.

b. A RHOMBOID SECTION WITH CONCAVE SIDES.

[11] Peet (1909) 348.

[12] For details see next chapter.

Now that the tang for the hilt had been cast in one piece with the blade, and the attachment of the hilt no longer depended solely on the row of rivets at the butt of the blade, there was no necessity for this butt to be of so great a breadth. As a result we find in Type B the butt has become approximately semi-circular, with the horizontal and vertical radii equal. The flange on the sides of the tang remained, though in some cases it became lighter and not so sharply modelled. The blades of this type usually diminish gradually from below the butt to the point, but occasionally we find a slight broadening of the blade into the true leaf-shaped form. The numerous parallel grooves of Type A disappear, and in their place appear a few, generally three, narrow grooves, very close together, parallel to both sides of the blade, and dividing it into three almost equal strips. Towards the butt these grooves bend outwards to the edge, forming an almost perfect quadrant. Sometimes these grooves are combined into one, and result in sharp lines dividing the blade into three; in these cases the central third is much thicker than the two sides, and the section is not unlike that of a spear-head. Occasionally we find these parallel lines entirely absent, and the blade sloping to a median ridge, thus forming in section a rhomboid with concave sides; this variant is more common in the north, and seems to be a later local development.

Types C and D are at first sight very much alike, but a close examination of the critical part will explain the difference. We have seen how in passing from Type A to Type B the horizontal radii diminish until they equal the vertical; in Type C the vertical has increased until it exceeds the horizontal, and an oval butt has developed. The curves in this case seem to be nearly if not exactly those of an ellipse. The flanges on the tang are still present, but tend to disappear before reaching the point at which the butt passes into the blade. The blades of this type sometimes retain their parallel sides, but more often the breadth expands, usually about halfway between the butt and the point. The lines of parallel grooving are tending to disappear; they have been reduced as a rule to a single line on either side, and although these are sometimes found in the same position as in Type B, dividing the blade vertically into three equal strips, it is more often the case that these lines have been moved nearer to the edge, which in some cases they approach as close as fifty millimetres. The blades in this type are relatively flat and thin, but the thickness diminishes considerably outside the parallel lines. These lines, in fact, are only indications of the place

where the diminished thickness begins abruptly. In other cases the section is spindle-shaped.

FIG. 15. SPINDLE-SHAPED SECTION.

Type D, as has been noted, closely resembles Type C, but the curves of the oval, which were fairly true in Type C, have been much flattened. In other respects it differs little from the more developed examples of Type C. The spindle-shaped section appears to be more common.

In Type E the convexity of the butt has almost disappeared; the tang and the butt blend more thoroughly, which makes the junction a larger hollow curve than in the previous types. The sides of the butt are almost if not quite straight, and the only trace of the original convexity is to be found in the lower part of the butt, which terminates in a beak or nose. The flanges of the tang are tending to disappear, and in many cases are nothing but an irregular thickening of the parts nearest to the outside. This type, as we shall see, is widely distributed, and has developed many local variants, which can readily be recognised but not easily described. The blade in this type, especially in the west, usually displays the characteristic widening two thirds of the way down the blade, which has given rise to the term leaf-shaped sword. The lines parallel to the edge are always relatively near to it, in most cases very near, and the blades are usually flatter and narrower, though the spindle-shaped section still occurs.

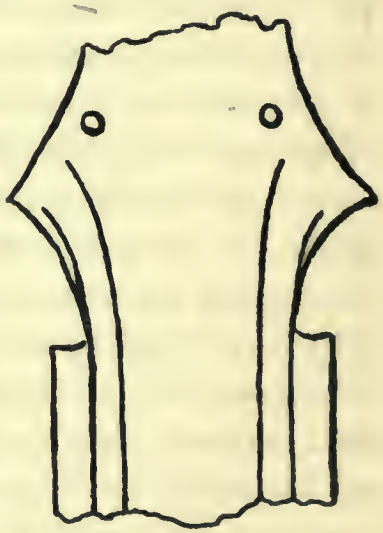


FIG. 16. THE CUTTING EDGE OF THE BLADE BEGINS AN INCH OR TWO BELOW THE BUTT.

Type F is that described by Déchelette as Proto-Hallstatt, and in many respects resembles Type G. The sides of the butt are straight or slightly concave, and the head of the tang expands into a T-shaped form. The flange has entirely disappeared and the rivet-holes in the centre of the tang are frequently, though not invariably replaced by a long slot. The conspicuous feature of this type and of Type G, though it may occasionally be absent from Type F, is that the cutting edge of the blade does not begin for an inch or two below the butt. The illustrations will explain this better than any words can do, but the point to note is that this portion, between the butt and

the true edge of the blade, has a blunt edge, and gives the impression that something has been tied round it. It may be that at this spot leather bands have been attached, like the sword-knots of the modern swords and the leather loops of policemen's batons; by holding this leather loop the weapon is less likely to be snatched from the hand or lost.

Type G is the well-known Hallstatt type. In this the lines of the butt have become definitely concave, the tang is thinner and always without flanges, and terminates in a semi-hexagonal finial; the rivets, which are usually found attached to the tang, are much smaller. The blade is rather narrower than in most of the preceding types, but the widest part is characteristically two-thirds of the way down the blade. The parallel groove is close to the edge, and the edge ceases before reaching the butt, as in the case of Type F. The section is spindle-shaped, with a decided modification at the edge.

FIG. 17. SPINDLE-SHAPED SECTION WITH MODIFIED EDGE.

Some examples of Type G found in the west, especially in the British Isles, vary in some details from the specimens found in Hallstatt. This is especially the case with regard to the shape of the finial. But speaking generally this type must have survived for a long time with relatively little change, since it appears first in the oldest graves at Hallstatt, while it is believed to have remained in use in this country until the introduction of iron swords in the fifth century.

There are certain local variants of all or most of these types, and it would be an interesting task to trace these out in all their ramifications. To do so here would lead us too far away from the main lines of our thesis, nor would it be easy to draw correct deductions until drawings of all such swords found throughout Europe were available. Here I must content myself with tracing out the broad lines of the evolution of the leaf-shaped swords, and leave it to others to work out the local varieties.

Chapter VIII

THE DISTRIBUTION OF THE LEAF-SHAPED SWORDS.

WE have seen how the leaf-shaped sword was evolved from the ogival dagger in the plain of Hungary, and passed through a series of forms until it reached the Hallstatt type, which gave way to the iron sword. We must now consider the distribution of each type, which presents certain peculiarities which are very instructive, and then consider how it was that leaf-shaped swords, of one type or other, became dispersed throughout the greater part of Europe, and reached, in some cases, beyond the confines of that continent.

Let us first deal with Type A, the distribution of which was summarised in the last chapter. A very fine example of this type is in the Museum of Archæology and Ethnology at Cambridge; nothing is known, unfortunately, of its provenance beyond the fact that it came from Hungary. Another, almost identical, is in the National Museum at Buda-Pest, and has been figured more than once,[1] but the published illustrations are not very accurate, and in Plate VII. I give one taken from a drawing made from the original for this work. In this case, too, the exact site is unknown, The third Hungarian specimen, a photograph of which is in existence, was sold in London on 25th June, 1891. It was the property of the late Dr. S. Egger, of Vienna, and the catalogue states that it had been dredged from the Danube near Buda-Pest.[2] These are the only examples which I have met with which have been found in Hungary, and I have been unable so far to trace the present ownership of Dr. Egger's specimen.

Much more recently a very similar specimen, but with some slight differences in the decoration, was found in the Friuli. It was dug up in 1909 by Antonio Tommassin, near Castions di Strada, in the district of Palmanova, in the province of Udine, at a place

[1] Hampel (1886) Pl. xx. 4, 6; Naue (1903) Pl. ix. 3.

[2] Catalogue (1891) 8, Pl. viii. 45.

called Selve, at the depth of about one metre. It is, or was, in the Museum at Cividale.[3] Another, very unlike the others in decoration, and varying somewhat in outline, was found in the neighbourhood of Treviso, north of Venice, and is now in the Treviso Museum.[4]

Lastly we have one found in a grave somewhere in Schleswig-Holstein. Splieth, who has recorded it, does not state exactly where it was found, nor in what collection it was deposited at the time he was writing.[5] He compares it with the second Hungarian specimen, but in reality it more closely resembles that in the Museum at Cividale.

All these specimens, except that from Treviso, resemble one another so closely that we may well believe that they were contemporary, and the products of the same region; the type must have continued in use for some little time in the Friuli, where it developed local variants like the Treviso specimen.

Type B is rare in Hungary, or at any rate very few specimens occur in the museums of that country. So far I have been able to find record of only one, and this has been much damaged. It was found in 1884 in a hoard at Orezi, in the county of Somogy.[6] A somewhat unusual form of this type is in the Vienna museum, but its provenance seems unknown. In Italy one has been found at Ascoli Piceno,[7] south of Ancona, and Naue figures another from an unknown site. He mentions a third, in his own collection, which is said to have come from Calabria, but as he does not figure it one cannot be certain that this belongs to Type B.[8] I can find no instances of the occurrence of this type in France, and though three specimens have been found in Britain which bear a superficial resemblance to it, a more careful inspection convinces me that they are local variants of a later type, perhaps C or D. This type does not appear to occur in southern Germany, but the swords of this region have not yet been catalogued with thoroughness. It has been found, however, in the Baltic region, and specimens have been recorded from Brandenburg, Pomerania and East Prussia.[9] A type closely resembling this occurs in Schleswig-Holstein and Denmark, but most of the specimens

3 B.P. xxxvi. (1912) 22, fig. c.p. 33.

4 Montelius (1895-1904) I.B. Pl. 34.

5 Splieth (1900) 12, Pl. i. 9b.

6 Hampel (1886) Pl. cxvii. 21.

7 Montelius (1895-1904) II. ii. B. Pl. 131.

8 Naue (1903) 17 fn. 3, Pl. viii. 1.

9 Naue (1903) ix. 8; x. 4; xi. 2.

show certain local features, some of which, like the T-shaped finials, suggest a later date. In Schleswig-Holstein Splieth mentions four examples,[10] all isolated finds, which he dates considerably later than his example of Type A.

Type C, with the oval butt, is relatively common in Hungary. I have been able to trace at least eight specimens. Three of these are from unknown sites,[11] two from Kis-köszey (Battina) in Baranza county,[12] one from Sajo-Gömör,[13] one from Hajdu-böszörmény in Hajdu county, which was found with a hoard containing three of Type D,[14] and one was dredged up out of the Danube at St. Margaret's island in Buda-Pest.[15] Two have been found in Lower Austria, one at Petronell,[16] east of Vienna and the other, which was found in a barrow with a skeleton, a long pin and two bracelets, at Winklarn.[17] One has also been figured by Dr. Šmid as having been found in Carniola, though its discovery is not described in the text.[18] In Italy one specimen has been found near Lake Trasimene,[19] a neighbourhood which has produced several examples of Type D, but this type does not seem to have been found in France, and only one very doubtful specimen is recorded for the British Isles. This type seems also to be rare or absent from Germany, except in the extreme north, for the only specimens which I can find recorded are from Mecklenburg and Brandenburg.[20] One or two have been recorded from Denmark.[21]

Type D, as we have seen, does not differ much from Type C. It is one of the commonest types found in Hungary, and I have been able to trace seventeen examples. Of these two are from unknown sites,[22] three from the Hajdu-böszörmény hoard,[23] two

[10] Splieth (1900) 60.
[11] Naue (1903) xi. 3; viii. 6; viii. 8.
[12] These are in the Vienna Museum, Nos. 37811, 39807.
[13] Hampel (1886) cxv. 3; Naue (1903) viii. 3.
[14] In the Buda-Pest Museum 1883/131 (6).
[15] Hampel (1886) cxcvii. 6; Buda-Pest Museum 1893/18 (1).
[16] Naue (1903) viii. 5; Catalogue (1891) vii. 40; 7.
[17] Vienna Museum No. 9295; Heger (1903) 133, Fig. 3.
[18] Šmid (1909) Fig. 18; 119.
[19] Montelius (1895-1904) II. ii. B. Pl. 126; Naue (1903) vii. 4.
[20] Naue (1903) ix. 6, 7.
[21] Müller (1908-9) Figs. 48-50.
[22] Naue (1903) viii. 4; viii. 7.
[23] Buda-Pest Museum 1883/131.

from the hoard at Podhering in the county of Bereg,[24] two from Sajo-Gömör in the county of Gömör,[25] two from Munkacs in Upper Hungary,[26] one, found with two of Type E, at Rima-Szombat in the county of Gömör,[27] one from Endrod in the county of Békés,[28] one, found with four others, from Magyarorszag,[29] one from Gross-Steffelsdorf near Sajo-Gömör,[30] one, found with a sword of Type E, from near Plattensee or Lake Balaton,[31] and one from the Danube near Buda-Pest.[32]

One has been found at Bürkanow in Galicia,[33] one in Upper Austria, one near Linz,[34] five in Lower Austria, two at unknown sites, one at Mannersdorf,[35] one with a hoard including Type E swords at Wollersdorf,[36] and one in a wood near Wimpasting. One comes from Grübegg near Aussee in Styria,[37] and two from Carniola, one of which is from Mihovo near St. Barthelmä, and the other from an uncertain site.[38] Szombathy figures two fragments from a swallow-hole near St. Kanzian, not far from Trieste.[39]

In Italy the type is of common occurrence, but in a definitely restricted area. One has been found on the bank of the Chiano by the bridge of Frassineto near Arezzo and is in the Arezzo museum,[40] two near Lake Trasimene,[41] where a specimen of Type C was found, one of slightly aberrant form at Alerona, in the commune of Ficulle, near Orvieto, and which is now in the Prehistoric Museum at Rome,[42] and another, which also presents unusual features, in Rome itself.[43] Two specimens have been found at Lake Fucino,[44] and a third close by at Dintorni del Fucino,[45] one a little to the east at Sulmona,[46] and one rather further afield at Apulia.[47] Thus all these specimens, ten of Type D and one of Type C, have been found in a very restricted area, almost all of them

[24] Hampel (1886) xc. 1, 5.
[25] Hampel (1886) cxv. 1, 2.
[26] Vienna Museum, Nos. 1928, 1929.
[27] Hampel (1886) cxiii.
[28] Buda-Pest Museum 1888/33.
[29] Buda-Pest Museum.
[30] Vienna Museum No. 18024.
[31] Vienna Museum No. 50506.
[32] Linz Museum No. A 691.
[33] Vienna Museum No. 33100.
[34] Linz Museum No. A 605.
[35] Vienna Museum Nos. 18020, 35617, 37584.
[36] In the Museum of Vienna Neüstadt.
[37] Vienna Museum No. 45721.
[38] Šmid (1909) Figs. 20, 19, p. 119.
[39] Szombathy (1913) Figs. 79, 92.
[40] Montelius (1895-1904), II. ii. B. Pl. 126.
[41] Naue (1903) vii. 2, 3.
[42] Montelius (1895-1904) II. ii. B. Pl. 126.
[43] Naue (1903) vii. 5.
[44] Montelius (1895-1904) II. ii. B. Pl. 142.
[45] B.P. xxxv. (1910) Pl. xiv. 1.
[46] Naue (1903) vii. 1.
[47] Naue (1903) vii. 6.

lying in a valley or rather a fold of the Apennines between the lakes of Trasimene and Fucino. This distribution is of great importance for our thesis and will be referred to again in a later chapter.

This type has been found, though very rarely in France, and six specimens have been recorded in Britain, all from the mouth of the Thames, or from the south and east coasts. I can find no records of its occurrence in Germany or Denmark.

But if Type D occurs rarely if at all in the west and north, we find it not uncommonly in the south-east. Two swords of this type have been found at Mycenæ, one by Schliemann[48] and the other by Tsountas,[49] one has occurred at Levadia in Boeotia, a few miles south of Orchomenos, while two more have been discovered in a grave at Muliana in Crete.[50] The upper half of a sword, which has probably been influenced by this type, though the butt and tang are different, comes from Cyprus, where it was rifled from a tomb some thirty years ago.[51] Lastly, we have records of two swords of this type from Egypt, both from the Delta.[52] One of these, found at Zag-a-zig, is certainly of this type, the other, found at Tell Firaun in the Delta, appears to be so also, but the butt seems to have been slightly damaged. This sword bears upon it the cartouch of Seti II., which seems to have been engraved upon it in or about 1205 B.C. These occurrences of Type D swords in the south-east are specially interesting, and will be referred to again, as they give us some basis on which to establish a chronological scheme. They may also help us to bring our archæological evidence into line with historical and legendary matter.

Type E is also common in Hungary, from which eleven specimens have been recorded. These usually attain to very great dimensions. One is from an unknown site,[53] three from Podhering, found with swords of Type D,[54] two from Rima-Szombat, also with swords of Type D,[55] one from Magyarorbzag,[56] one from Gyula-fehérvar in

[48] Schliemann (1878) 144, No. 221.

[49] Tsountas Ἐφ. Ἀρχ. (1891) 25.

[50] Peet (1911-12) 282; Ἐφ. Ἀρχ. (1904) 21-50.

[51] In the possession of Professor Patrick Geddes.

[52] Petrie (1917) Pl. xxxii. 6, 7; Z.f.Æ.S. 161, ff. Pl. v.; Peet (1911-12) 282.

[53] Catalogue (1891) 7. vii. 41; Naue (1903) ix. 1.

[54] Hampel (1886) xc. 3.

[55] Hampel (1886) cxiii.

[56] Buda-Pest Museum 1865/83.

the county of Fejér,[57] one from the Schatze near Hajdu-böszörmény,[58] one from Oreszka in the county of Zemplén,[59] and one, also found with swords of Type D, from near the Plattensee or Lake Balaton.[60] Three come from Bohemia, from Gross-Tschernitz, Siebenburgen and Wodnian;[61] one from Salza-Bach, near the Grübegg saw-mills in Styria,[62] and one from a hoard, which contained swords of Type D, found at Wollersdorf in Lower Austria.[63] One comes from Zuojuica in Herzegovina and one was found in a lake-dwelling at Auvernier on Lake Neuchâtel.[64] The type also occurs in Germany, though, I believe, not plentifully. In Greece two specimens only have been discovered, in a hoard outside the city of Tiryns.[65]

None have been found in Italy, but in France they occur abundantly, and there are thirty-one specimens of this type in the museum at St. Germain-en-Laye. They occur more abundantly still in these islands; fifty-eight have been found in the Thames basin, fifteen in the Fens, many of these in the famous Wilburton hoard, while fourteen others come from other counties washed by the North Sea; from the rest of England and Wales only eleven have so far been noted. In Ireland this type has not been found, but there are a considerable number of swords, found in that island, which are intermediate between this type and Type F, and will be dealt with under that heading.

It seems likely that some swords of this type have been found in the Rhine Valley, but so far I have failed to find any recorded, while elsewhere in Germany, in Schleswig-Holstein and in Denmark, they seem to be absent. This type, as we have seen, is found mainly in the west, so that it is extremely interesting to find a single example from an eastern site. This was found at the village of Zavadyntse, near Gorodak, in the government of Podolia in South-west Russia.[66] The occurrence of this sword so far east is strange, but taken in conjunction with the distribution of a certain type of pin, with which I shall deal in a later chapter, it will help to provide an important link in the chain of our argument.

[57] Buda-Pest Museum 1901/27.

[58] Hampel (1886) xx. 2; Naue (1903) ix. 1.

[59] Hampel (1886) xx. 1, 3.

[60] Vienna Museum No. 50505.

[61] Vienna Museum Nos. 4143, 37579, 34860.

[62] Vienna Museum No. 45721.

[63] In the Museum of Vienna Neüstadt.

[64] Vienna Museum Nos. 38951, 6284.

[65] Karo (1916) 143; Athens Museum No. 6228.

[66] C.I.A.P.A. 11th sess. Aug. 1892. I. ii. 343, fig. 2.

The most striking feature of the distribution of Type E is its sudden appearance in Celtic lands, and in very great numbers. Up to this date swords of these types have not been met with in the west, except a few instances of Type D. As we must allow for a certain amount of overlapping of successive types we may well believe that the few examples of swords of Type D, found in Celtic lands, arrived there during the time when Type E was the prevailing fashion.

Type F may be called the Proto-Hallstatt type. This has been found in France, though not very commonly, and as far as I have been able to test it mainly in the eastern departments, there are only two specimens of this type in the St. Germain's museum. It occurs more commonly in Switzerland, and it seems probable that it originated in that country, or at least in the mountain zone of Central Europe. From this centre it seems to have spread in various directions, though it is not possible at present to trace its distribution with precision. One has been found in Italy, at Povegliano, S.W. of Verona, which seems to have come from the mountains over the Brenner pass,[67] and one comes from Donja-Dolina in Bosnia.[68] It seems to occur occasionally in the mountain regions of Austria and south Germany, though I can find no evidence of its further extension northwards.

It is not uncommon in the British Isles; seven have been found in the Thames estuary, four come from the east coast of England, and two from Scotland; 110 have been found in Ireland, of which forty-two are in English collections and sixty-eight in the National Museum in Dublin. The Irish specimens seem, as we have seen, to be of a very early form, as in some features they closely resemble Type E.

The distribution of this type is somewhat curious, since it occurs plentifully in the British Isles and especially in Ireland, while it is rare or non-existent in the intervening regions. Since the British examples, especially those found in Ireland, appear to be early examples of the type, we may surmise that they belong to late waves of the movement which carried Type E over the west.

Type G, the Hallstatt type, is so called because a few specimens were found in the famous cemetery at this place.[69] It would be a mistake, however, to consider it as

[67] Montelius (1895-1904) I.B. 37.

[68] Truhelka (1904).

[69] Déchelette (1908-1914) ii. 601-6; Sacken (1868).

having evolved in that region or dispersed from that centre. It seems more probable that, like the previous type, it developed in the mountain zone, and the evidence available at present suggests for its centre the upper reaches of the Danube, between Ulm and Sigmaringen ;[70] but detailed work on the spot is needed before this can be determined with accuracy. Déchelette says that this type is generally distributed throughout Central Europe,[71] and this is true if we confine that term to the mountain zone, for it does not occur in Hungary. It is relatively rare in North Germany, two occur in Schleswig-Holstein,[72] a few in Scandinavia,[73] and one in Finland.[74]

In France the greater number occur in Burgundy, in the valley of the Saone and down the Rhone Valley ; also in the department of Lot on the upper waters of the Dordogne and in the departments of Indre and Cher. Several examples have been found in the Seine valley, in the neighbourhood of Paris,[75] a point to which I shall have to refer in a later chapter. In the British Isles nineteen have been found in the valley of the Thames below and including Reading, and six elsewhere near the east coast ; twenty-four have been recorded from Ireland, of which twenty are in the National Museum in Dublin. This type is, then, found distributed fairly generally throughout the mountain zone of the Celtic cradle, and over many areas in Celtic lands, though it only occurs sparsely elsewhere. In the Mediterranean region it is entirely absent.[76]

I have dealt at some length with these distributions, for there is no better way of interpreting archæological evidence and making it disclose, in broad outline at least, its historical content. Unfortunately no accurate catalogue of the swords discovered in most countries is in existence, though owing to the smallness of their numbers the lists are fairly complete for Italy and Greece. It would not be a very great undertaking to make an equally complete illustrated catalogue for the area included in the former empire of Austro-Hungary. In other regions the numbers are greater,

[70] Tröltsch (1884) maps 1 and 2.

[71] Déchelette (1908-1914) ii. 724.

[72] Splieth (1900) Pl. ix. 171 ; p. 76.

[73] One from Sweden is figured by Lubbock (1865) 161 fig. 15.

[74] Vorgeschichtliche (1900) Pl. xxxii. fig. 4 ; Crawford (1921) 136 (b.).

[75] Déchelette (1908-1914) ii. 725.

[76] There is a broken hilt of a sword resembling this type in the museum at Florence ; its provenance is unknown. Montelius (1895-1904) II. ii. B. Pl. 131.

and little has been done to catalogue them. The formation of an illustrated card catalogue of all the metal objects of the bronze age in the museums and private collections in the British Isles is in progress, under the auspices of a research committee appointed by the British Association for the advancement of Science. The specimens deposited in English collections have, for the most part, been already included in this catalogue, and it is from this that the bulk of the statistical matter relating to the British Isles has been derived.

As we have seen in some earlier chapters, distribution of certain types of bronze implements may be taken as evidence of trade, and we have to consider whether it was some form of commerce which carried the leaf-shaped swords to Ireland, Finland, Podolia and Egypt, or whether this wide distribution betokens some other form of movement. Before the days of fairly large ships and highly organised industry it is not uncommon to find implements, whether of flint or obsidian, copper or bronze, carried from country to country, without apparently any general movement of the population. On the other hand, when pottery and heavier or more easily damaged goods pass from one centre to another, it usually betokens migration. We have seen how this was so when the beakers were carried from Bohemia towards Jutland and Britain. Of course Roman pottery was shipped extensively for trade purposes, as were red figure vases and other types of Greek ceramic wares. The same is true, though to a less extent, of Mycenean and some Minoan wares, for the Ægean traders exported oil and wine. But such export of pottery betokens a relatively high civilisation and a well-organised commerce. Under more primitive conditions we may, I think, postulate that where metal implements or small cult objects alone were carried, these are evidence only of trade, while when pottery is found, as it were, on the move, this indicates a movement of the potters, hence a migration of people. When pottery and weapons are both found moving together, especially if the weapons are of a more advanced type than those hitherto found in the land into which they are being introduced, we may suspect, if indeed we cannot be sure, that we are dealing with a hostile invasion and the arrival of conquerors.

It will be necessary for us, therefore, to determine whether these swords, which have penetrated nearly the whole of Europe except the Iberian peninsula, were carried by trade, by some other form of peaceful penetration, or by conquest. The great

suddenness with which some of the types spread, apparently within the space of a few years, for there is little if any modification of form, from the central region to places many hundreds of miles distant, precludes the second of these alternatives, for peaceful penetration by land is a slow process, and we should expect progressive variation of type the farther we pass from the centre. It seems, on the face of it, unlikely that a people, especially a sporting and warlike people like our steppe-folk, would engage in a trade which would provide their neighbours with a weapon, superior to all others available, which they had produced for themselves after generations of experiment; nor is it likely that they would permit their Alpine subjects to do so, even if the fear of the unknown and the dislike of adventure had not been sufficient to prevent these home-loving people from setting out on so adventurous a task, involving, as it sometimes did, the passage across northern seas. Such a practice, then, seems at first sight unlikely, but if the other alternative, the hostile invasion, were true, we should expect to find evidence of the arrival of fresh people in the presence of new types of pottery and fresh burial customs.

If we examine the British evidence, we shall find reason to believe that the leaf-shaped swords arrived with a new culture and a fresh element in the population. In a recent paper Mr. O. G. S. Crawford has dealt with this subject, and pointed out that the leaf-shaped bronze swords of the Hallstatt period, our Type G, arrived with an invasion of people who came from Central Europe.[77] Crawford seems to include in this movement all bronze leaf-shaped swords of whatever type, but the evidence on which he depends is only applicable to Type G. It will be well, therefore, for the moment to postpone consideration of the arrival of the Type E swords.

Crawford has shown that not only did these swords arrive in considerable numbers, but with them came a number of other objects, such as razors, sickles, and other tools, which have been found at various occupied sites, such as Llyn Fawr, South Lodge Camp, and "Old England" at Brentford. Near the last-named site were found some skulls which Sir Arthur Keith[78] has pronounced to be typical Alpines of the Swiss lake-dwelling type. Now at most of the sites where this lake-dwelling culture has been found, there occurs also, as Crawford has shown, a type of pottery, which he calls

[77] Crawford (1922). [78] In a letter to Crawford; no description has yet been published.

"finger-tip ware," that is to say pottery ornamented with raised ribs of clay and finger-tip impressions. Now such pottery is found, it is true, in the neolithic age in this country, but it died out about the time of the arrival of the Beaker-folk, when cord-ornamented pottery came into fashion. On the other hand in Central Europe, and especially in the region where the mountain zone blends with the plain, such pottery remained in use continuously from the neolithic, through the bronze, to the early iron age.

FIG. 18.—DEVEREL-RIMBURY URNS.

That such pottery came to this country with a fresh people is clear from the foregoing evidence, and that they entered armed and by force is equally clear from the presence of the numerous swords of this date which have been found. That they came in considerable numbers and came to stay is also shown from the number of settlements, and from the later occurrence of this finger-tip ware at such sites as All Cannings Cross[79] in Wiltshire, where this culture lasted until well after 500 B.C.

Some of the best examples of this finger-tip pottery are the urns found in Wessex, which are called the Deverel-Rimbury type, and which are dated by Lord Abercromby[80] as lasting from 950 to 650 B.C. Crawford, following Déchelette, brings in his invasion about 800 B.C., or rather later, and, though we may find grounds for believing that their arrival may have been earlier it looks as though the finger-tip pottery of the Deverel-Rimbury type may have been here before the coming of the people with the Type G Swords. Be that as it may, we learn from Lord Abercromby that in the south of England several types of pottery preceded the Deverel-Rimbury type, the one immediately preceding it being his Type 3, which he believes to have been in use between 1150 and 950 B.C., if not earlier.[81] Many of these, such as those from Wiltshire, Nos. 373, 374

FIG. 19.—URN OF TYPE 3.

[79] Cunnington (1922).

[80] Abercromby (1912) ii. 40-48, 107.

[81] Abercromby (1912) ii. 38-40, 47, 107.

and 379, exhibit the characteristic ornament of this finger-tip ware. If Lord Abercromby's chronology is even approximately correct, and it is in these cases vouched for by a series of excellent synchronisms, the pottery characteristic of Central Europe had been introduced into the south of England some centuries before the arrival of the people who introduced the Type G swords. This leads us to suspect that the Type E swords were also brought by an invading people, fairly early in the Type E period, as a certain number of Type D swords have also occurred.

It is unnecessary to pursue this argument through other countries, or to point out that some of our cinerary urns are in shape exactly like the bronze buckets used in Central Europe at the dawn of the iron age. We shall have occasion to discuss the special conditions in other countries in later chapters. Here it will be sufficient to suggest that all the British evidence tends to show that the spread of these swords was accompanied by a movement of pottery and other elements of culture, that at Brentford by the existence of skulls and elsewhere by inference we may conclude that there was a corresponding movement of people, and that in the British Isles, at any rate, the presence of this considerable number of leaf-shaped swords betokens an invasion. There seems to be no sufficient reason for believing that the circumstances were materially different in the other regions in which these swords have been found.

Chapter IX

GREEK LANDS AND THE BASIS OF CHRONOLOGY

WE have seen in the last chapter that different types of leaf-shaped swords have been disseminated throughout various quarters of Europe, and we have found reason for believing that in Celtic lands at least their appearance signified a hostile invasion. If, as may well be the case, the same is true of other parts of Europe, we are dealing with a series of invasions, all starting from somewhere within the Celtic cradle, and affecting almost every part of the continent. Our purpose in this work is not so much to record evidence as to interpret it, to restore the main features of early history rather than to describe archæological remains. Now the backbone of history is chronology, and we cannot interpret our evidence satisfactorily unless we can place it in its true chronological setting. In discussing the seven types of swords an endeavour was made to arrange them in an orderly sequence, and thus to set up a relative chronology. In this chapter a positive system of dating will be attempted.

It is clear that it is to the south-east that we must first look for help, for in Greek lands documentary evidence reaches back some centuries further than it does elsewhere in Europe, and is preceded by an immense mass of tradition, much of which clearly belongs more to legend than to myth. These legends, moreover, have received intensive study, and their contents have been brought into line with archæological data.[1] Further than this we have the two swords found in Egypt, one of them engraved with a monarch's name, so that a study of these south-eastern specimens should enable us to obtain one point, at least, in our system of dates.

Now it has been pointed out by Sir William Ridgeway[2] that certain people, whom he calls "Achæans," entered Greece from the north, bringing with them certain

[1] Dörpfeld (1902); Dussaud (1910 and 1914); Leaf (1912 and 1915).

[2] Ridgeway (1901).

elements of culture, which can best be matched in the Danube basin. These, according to the traditions preserved in the Iliad, were the immediate ancestors of the heroes of the Trojan War. Recently Dr. Wace,[3] who has made a careful study of the pre-Hellenic remains of the mainland of Greece, especially of the pottery, has pointed out that there is but one break in the ceramic evolution of that region, the introduction of geometric ware. This is, he believes, best explained by equating it with the Dorian invasion, which took place some generations after the siege of Troy. Dr. Wace has certainly made out a strong case, and we must accept his view that no invasion, in the strict sense of the term, preceded that of the Dorians; but while he would have us scrap the "Achæan" hypothesis in its entirety, we must, I think, consider awhile before dismissing all the evidence that Sir William Ridgeway has accumulated.

Much of Ridgeway's archæological evidence is Hallstatt in type and, apparently at least, Hallstatt in date, and may well equate better with the Dorian than the "Achæan" movement, but the legends are not to be lightly swept aside, and we have the swords, which are admittedly pre-geometric, and so pre-Dorian, and may well antedate also the Trojan War. There is also the introduction into southern Greece of a type of palace, which seems to have developed in a more northerly clime.[4] We have, therefore, evidence for some intrusive elements entering Greek lands from the Danube basin, bringing with them swords of Central European type, a new type of domestic architecture, and, we may well believe, certain deities and beliefs of more northern origin,[5] yet the continuity of the ceramic culture shows that there had been no general displacement of the population.

Before attempting to decide between these conflicting views, it may be wise to consider the term "Achæan." By this I mean only those people, who are the subject of Sir William Ridgeway's hypothesis, and who organised the attack upon Priam's Troy. They may, for all we know, be a people or merely a class, and their connection with the Achæans of the Peloponnese, discussed by Herodotus,[6] may be very remote. It seems clear, in fact, that the term as used by Herodotus connoted something very different from what the term meant to Homer, and what it signifies in the pages of Ridgeway.

[3] Wace (1916) 29, 30; (1920) 398.

[4] Hall (1913) 63; Mackenzie (1908-8).

[5] Harrison (1908) 312n, 318, 319; Hall (1913) 520 fn.

[6] Herodotus viii. 73.

Now the presence of these leaf-shaped swords in pre-Dorian Greece seems to postulate the presence of intruders from the Danube basin; the paucity of their number, all the more striking when we consider the extent of the excavations carried out in Greek lands, seems to indicate that these intruders were few. These swords had been, as we have seen, invented by the Nordic steppe-folk in Central Europe, and may sometimes have been used by their Alpine subjects. But for a few strangers to intrude into a foreign land needs on their part considerable courage and the spirit of adventure, features which we have found characteristic of the Nordic steppe-folk, and conspicuously lacking among the Alpines. We may, therefore, take it for granted that these intruders, who introduced the leaf-shaped swords into Greek lands, were of Nordic type and temperament.

The heroes of the Trojan War, as Ridgeway has pointed out, were newcomers to the land.[7] In most cases their grandfathers are mentioned, seldom a great-grandfather, unless it is to state that he was a god. Sometimes even the grandfather was a deity, as in the case of Polypoites, but usually when this is so we have reason for believing that the hero, like Nestor, the grandson of Poseidon, was an old man. The earliest ancestor was sometimes Zeus, but usually the pedigree is not actually traced to the divine forefather. In a large number of cases, especially of the minor heroes, they are said to be of the stock of Ares. Dr. Hall has suggested that Ares and his mistress Hera were the chief deities of these northern invaders.[8]

We hear very little in the Iliad of these first human ancestors of the "Achæans," nor has later Greek legend much more to say about most of them. We have, however, various stories of heroes, arriving alone like Theseus, Perseus, Herakles, and Peleus, or perhaps accompanied by one friend like Amphitryon, at some Greek city. The hero is well received by the king of the city, and often relieves him of some difficulty, whether it be the repulse of a hostile attack, as in the case of Theseus and the Pallantids, or Amphitryon and the Telebœans, the punishment of robbers, such as Periphates, Sinis, Sciron, Cercyon or Damastes, or the slaying of wild beasts like the Cromyon sow the Marathon bull, the Cadmeian fox, or the various monsters slain by Herakles. The king honours the visitor, the princess, like Ariadne, Comœtho or Polymela, falls in love

[7] Ridgeway (1901) 339.

[8] Hall (1913) 520 fn.

with him, then some unfortunate accident occurs, as was the case with Ægeus, Acrisius, and Eurytion, and the king is slain. The hero then ascends the throne, marries the princess, and, as the fairy tales say, they lived happily ever after. Such is the almost universal burden of Greek legend, as it is of the *märchen*, which grew up in the northern forests.

It has been usual to interpret the stories of these heroes as referring to invading peoples, and to believe that the name of the chief only has survived, whereas the memory of the people has perished. That such was often the case is likely, but when dealing with the first "Achæan" intruders we must guard ourselves against taking this for granted. Dr. Wace's arguments are all against the arrival of a fresh people at this time, for there is no introduction of new styles of pottery; on the other hand, there is nothing in his evidence antagonistic to the view that a few northern heroes, coming unaccompanied by men-at-arms, succeeded in making themselves masters of the cities of pre-Hellenic Greece. It is possible that in this case, as in many others, nineteenth century scholarship has been too clever and too critical, and that the legends as they have come down to us are nearer to the truth than the amendments which have been suggested.[9]

We shall be able to judge better if we look at the actions of Nordics in later times. At the downfall of the Roman empire it was not unusual for quite small bands of Nordics to become masters of even large territories; some of the Norsemen made themselves, single-handed, kings of the cities in South Russia. Later Rollo, with but a handful of men, became Duke of Normandy and defied the power of the Carolingian monarch; later still small groups of Normans conquered Sicily, and set up their rule in many places in the Mediterranean region. Lastly, how often have Englishmen, sometimes quite alone, gained great influence in large communities of aliens, and been in a position to make themselves kings had they not preferred to annex the community to the British Empire? Thus has much of the Empire been built up. But by far the best parallel is the case of the first Rajah of Sarawak.

When such events have taken place in historical times, even in our own day, we cannot consider it as impossible that wandering Nordic heroes from the Danube basin,

[9] Ure (1922) 297-99.

accompanied perhaps by a faithful henchman, should have found it possible to establish themselves as kings over the trading cities of Mycenean Greece.

But let us glance for a moment at these trading cities and their inhabitants. The original people of the Greek mainland, like the bulk of the present population, seem to have been of that eastern Alpine or Dinaric type, scarcely distinguishable from the bulk of the population of Asia Minor. These are tall dark people, with small but broad heads, which are very high and somewhat conical at the top, though sometimes the excessively flattened occiput gives the impression that the head has been sliced from the top of the forehead to the back of the neck. As far as one can judge from the available evidence, these were the only inhabitants of the bulk of the peninsula, until coastal settlements were made by the Cretans, some in the second Middle Minoan period, but most of them at the beginning of the Late Minoan.[10]

The original inhabitants of Crete seem to have been typical members of the Mediterranean race, but during Early Minoan times we find a few broad-headed people arriving in the east of the island, and gradually speading over the eastern half.[11] It has been taken for granted, quite naturally, that this broad-headed infusion came from Asia Minor, the population of which at that time must have been exclusively broad-headed. But about the time that these broad-heads appear in Crete we find evidence in the island of the development of the copper mines at Gournia,[12] and of the accumulation of gold ornaments, such as the treasure of Mochlos.[13] There are also signs of the existence of an oversea commerce and of a trade in olive oil with Egypt.[14]

This leads us to wonder whether these broad-heads belonged to wanderers from Anatolia, or whether it is not more probable that here we have evidence of the arrival of the Prospectors, who seem always to be the organisers of oversea trade and of mining operations. We must remember too, that by 2800 B.C., not long after the beginning of the Early Minoan period, the Sumerians were trading in the Mediterranean, and knew, if they had not already settled in, Crete.[15]

[10] Peake (1916) 1. 158, 159.

[11] Hawes (1909) 23-25.

[12] Boyd and Hawes (1912).

[13] Seager (1912) 104-106.

[14] Gardiner (1909) 32; (1914) 32.

[15] Vid. supr. p. 22.

These are details of which we cannot speak with certainty at present, but all the isolated data available are best explained by believing that the great activities of the trade in the Ægean and especially in Crete were organised by and were in the hands of Prospectors, who had come originally, though not necessarily directly, from the Persian Gulf, and who were employing the Mediterranean aborigines as mariners, miners and craftsmen. When in Middle and Late Minoan times these Cretans made settlements on the mainland, in the Argolid, in Bœotia, and at Pylos, settlements which are recorded in the legends of Danaus, Cadmus and Neleus, we can well believe that, while some of their subjects were of the Mediterranean race, and others, perhaps, drawn from the Alpine aborigines of the mainland, the rulers were in all cases Prospectors.

Professor Ure[16] has recently shown us that in Greek lands, as well as in renaissance Italy, we find two types of rulers, who may be described as Kings and Tyrants. The king is a military chief, of aristocratic bearing and origin, and one more often interested in the territory than in the city. The tyrant, on the other hand, is essentially a merchant or a business man, his outlook bourgeois, and he rules over a city and its trading connections, rather than over a wide expanse of land. In Greece, Ure believes, the introduction of metal currency caused the earlier kings to be replaced by these tyrants or merchant princes. He has supported his thesis by a vast mass of evidence, which we need not repeat here, but in his conclusions I think we may see the supplanting of the Nordic lord by the Prospector, as times became more settled and trade, rather than fighting, became the more important occupation.

Many of Ure's arguments would apply equally to the Minoan age, when piracy had been put down and oversea trade was booming. The rise of the Greek tyrants was due, he thinks, to the rise of a coinage, just as the modern plutocrat has risen to power on the development of paper currency; the Minoan tyrant comes to the front as metal, an easily portable and exchangeable commodity, succeeds flint or obsidian. It was into these trading cities, each governed by a Prospector tyrant, that I believe these Nordic "Achæan" adventurers to have arrived from the Danube basin with their leaf-shaped swords.

[16] Ure (1922).

Now there are two classes of men, both of them wielding large powers over others, whose characters have been sharply contrasted by many writers. The kingly type is found in noblemen, at any rate of the old school, mediæval knights, landed proprietors and officers of the army and navy; the same traditions hold good in the upper ranks, at least, of the civil service and among the professional classes. The relations between these lords and the people committed to their charge, whether subjects, tenants or employés, are usually good, and friction rarely arises unless the subject class is of an alien race. These kings or lords have usually been able to retain for generations the respect of their subjects, often to inspire very great love and devotion.

On the other hand the leader, whose claim to his position rests only upon wealth or the power to create wealth, is often even extravagantly generous, and has usually ingratiating manners, which are in sharp distinction from the *hauteur* which is more characteristic of the lord; yet he rarely makes himself loved or even liked by those dependent on him, even though his actions be kind and his judgments just. This contrast has furnished a theme to many writers, and has been ably summarised by Ure,[17] who quotes in support pregnant passages from the works of H. G. Wells[18] and William James.[19] Such differences, Ure thinks, distinguished the king from the tyrant, and the same contrast, I would suggest, held good between the "Achæan" heroes and the rulers of the Minoan cities.

We have seen reason for believing that the population of the Minoan cities of Greece consisted of Mediterraneans and perhaps some few Alpines, under the rule of a Prospector tyrant. The latter's rule was possibly just, he made money for his city, but most of all for himself, and, in spite of occasional fits of lavish generosity, he would not have been popular. He was engaged in exploiting the proletariat, and they were fully conscious of the fact. Though his manner was outwardly ingratiating, he was distrusted by his subjects, who felt that they were but pawns in his game. Thus the sword swayed over his head as over that of Damocles, held only by a slender thread; revolutions or rumours of revolutions were of constant occurrence, and the tyrant, intent on money making, had little leisure or inclination, even if he had the capacity, for maintaining order or of inspiring loyalty in the hearts of his subjects.

[17] Ure (1922) 306.

[18] Wells (1902) 156, 157; (1909) 486.

[19] James (1902) 318, 319.

We can well imagine that the arrival in such a community of one or two northern barbarians, rough and rude, but strong and honest, would have been like a breath of fresh air entering a stuffy room. The tyrant would have welcomed a man who could put down highwaymen or lead his mercenaries to battle. He would, perhaps, have made him chief of his police or generalissimo of the town forces, and, as the hero restored law and order and kept the populace quiet, he would have promised him much reward, including perhaps his daughter's hand. All would have gone well until the tyrant, with the instinct of the Prospector to make a bargain and to get something for nothing, endeavoured, like Laomedon of Troy, to cheat his Nordic ally or to offer him a base substitute for promises made.

The Nordic, as incapable of understanding such double-dealing as of thus acting himself, would quite naturally have been incensed. We can picture him accusing the tyrant of dishonesty and ejecting him from his palace, when he would have fallen a speedy victim to the anger of his subjects. The hero would have placed himself upon the vacant throne with the help and goodwill of the people, who had admired his strength, courage and fair dealing. Lastly, he would, perhaps, have married the daughter of his predecessor, not so much from romantic motives as to establish more completely his right to the throne, for, despite what has been written to the contrary, some form of matrilinear succession seems to have obtained in Minoan Greece.[20]

The Greek legends referring to the early heroes are full of such details, and the above imaginary sketch may be taken as a composite picture of the kind of events which took place, in all probability, in many a city of pre-Hellenic Greece, as the leaf-shaped swords first made their appearance.

We have, hitherto, taken it for granted that these "Achæan" intruders were Nordic, and our reasons have been mainly the presence of the swords, the northern character of their palaces and the fact that such enterprises are in keeping with the subsequent behaviour of Nordic adventurers. But the identification, perhaps, requires further proof. The Nordics as we know were tall, fair and long-headed; how does this agree with what we know of the "Achæan" heroes and their forbears?

The whole tenour of the legends, attributing to them deeds requiring strength and endurance, certainly suggests that the heroes were considered in later days to have

[20] App. II.

been above the average in stature. That they were fair-haired has been taken for granted by many writers.[21] It has been suggested, however, that the fact that Menelaus was called fair, signifies that he was in this respect an exception to the rule, and that the others were as dark as the majority of modern Greeks. Moreover, it has been pointed out that ξανθός may only mean brown, and that Menelaus had brown hair.[22]

The first argument certainly carries some weight, and does seem to imply that there was something exceptional in Menelaus' fair hair. But the Atreidae, according to fifth century legend, were Pelopids, and this is hinted, though not expressly stated, in the Iliad. Now other legends bring Pelops from Phrygia, though, of course, this may only signify that he was a Phrygian, who left the Briges before their departure for Asia. But the Pelopidæ, in their customs, differed from the other "Achæans." Later legend attributes to them a type of endogamy, interpreted afterwards as incest, infant sacrifice, and cannibalistic habits. Æschylus[23] looks upon these customs as crimes, and attributes them to a curse upon the House of Tantalus. I think, however, we may see in the Pelopids, and perhaps in other groups of *op* peoples, some non-Nordic type, most probably Alpines of some kind, who had accompanied the "Achæan" heroes southwards. That one of these should be fair-haired would be unusual, though by no means impossible if he had had a Nordic ancestress. If ξανθός ever meant brown it must have meant light brown or auburn, and its force would be equally as great as if it meant flaxen; the Mediterraneans and eastern Alpines never have light brown hair; it is not uncommon among Nordics.

Lastly we may take the case of the Thracians, who, as we have seen, were almost certainly the stock from which the "Achæans" were derived. According to Ridgeway[24] some of these were fair and some dark, that is to say a fair Nordic strain had entered a land peopled with dark Alpines, and the result was a red-haired strain (πυρρός), as is often the case when fair and dark strains have mixed.[25]

We have no right to expect from Homer, or any other Greek writer, an account of the head-form of the "Achæan" heroes. Nevertheless we find in the Iliad a word

[21] Hall (1913) 67; Ridgeway (1901) 351.

[22] Giles, P., in a recent lecture.

[23] Aeschylus *Agamemnon*, 1178-1245, 1468-1474.

[24] Ridgeway (1901) 400.

[25] Deniker (1900) 49, 50.

which gives us some indication on this point.[26] It is noticeable that all the people mentioned by name are captains of hosts, or members of the nobility; the Iliad only records the doings of the "Achæan" heroes. One exception only is there to this rule. At one moment the host, composed no doubt of Alpines and Mediterraneans, thinks of revolting. Their leader is a mob-orator, fond of arguing as is the way with Alpines, and we can have little doubt as to the racial affinities of Thersites. If we had any, one epithet used of him would satisfy us, for his head is described as φοξός. The exact meaning of this term has been a matter of dispute, but it is usually rendered "tapering to a point," and the expression φοξὸς ἦην κεφαλήν means that he "had a sugar-loaf head." What better description could we have of the ordinary head-form of the eastern Alpine inhabitants of the Balkan peninsula and Anatolia? If this had been the usual type of head of the "Achæan" heroes, the epithet would not have been used as distinctive of the rebellious soldier; it can only have been so used to imply how different he was in this respect from the noble "Achæan." This seems to me to indicate, exceptionally clearly, that the Homeric heroes were long-headed.

Thus the heroes are found to be tall, fair and long-headed, and so possessing the three chief physical characteristics of the Nordic race. The resemblances between their mental characters and those of the Vikings have often been noted before and need not be repeated.[27]

It will be remembered that I have suggested that the Nordic "Achæans" were an offshoot of the body, who as Thracians and Phrygians moved eastward into Thrace and Asia Minor. I have also suggested that they came to the south down the Vardar valley. Usually they have been brought straight from Thrace, which is, of course, possible, but Ridgeway, on the other hand, brings them from Epirus, and points out that they held in veneration the Zeus of Dodona.[28] If their arrival was, as I have suggested, in small bands or by ones and twos, there is no reason to postulate that they all arrived by the same route; all that matters is that they should have come eventually from the Danube basin. As I have already mentioned, some of the Homeric heroes were Zeus-born, and may have come *via* Epirus, while others, the majority, were of the stock

[26] Homer, *Iliad* ii. 219.

[27] Chadwick (1912) ch. xv.

[28] Ridgeway (1901) ch. iv.

of Ares. Now Ares was the god of the Thracians, or of some group of people inhabiting Thrace.[29] It would seem then that some, probably most, of the "Achæans" came from the Thraco-Phrygian stock, though whether they started on their way from Thrace, or left the main body before it had reached that country, is a matter of relatively small importance. When the archæology of Macedonia and Thrace is better understood, we shall doubtless be able to clear up this point.

It is unfortunately not possible to date these swords with precision from their associations, as there are difficulties in ascertaining the exact position in which they were found, or in identifying the potsherds and other objects found with them. They are believed to date from the third Late Minoan period, that is to say, sometime after 1400 or 1350 B.C. It is here that our Egyptian evidence helps us.

We learn from the Egyptian records that[30] in the fifth year of Merneptah, 1220 B.C., the Delta was attacked by Meryey, king of the Libyans, who brought with him a host of Tehenu, who had been living in the country behind Alexandria. He had also numerous oversea allies, pirates and traders, who came in search of loot. These were the Sherden, Shekelesh, Teresh and the Ekwesh. If the three first have been rightly identified, they were the people of Sardinia and Sicily and the Tyrsenians, who we know later as the Etruscans; whether these identifications are correct has been much disputed, but it is significant that all three represent areas or peoples which we have already identified with Prospector activities. On the fourth the Ekwesh, there is more general agreement, and I believe all authorities unite in seeing in this name the word "Achæan." If this be so, our Nordic intruders, who had made themselves lords of the trading cities in Greece, had taken to the sea, like their fellows in the Baltic, and were, with Prospector allies, attacking and plundering the rich lands of the Delta.

It is to this expedition that I attribute the two swords already described, as indeed was suggested some years ago by Professor Peet.[31] One is unquestionably of Type D, the type which has been most commonly found in Greek lands, while the other seems, as far as can be judged from its damaged hilt, to be also of the same type. The latter is engraved with the name of Seti II., who reigned from 1209 to 1205 B.C., and

[29] Ridgeway (1901) 339, 380.

[30] Breasted (1912) 467; Hall (1913) 70, 377, he gives the date as 1230 B.C.

[31] Peet (1911-12) 282.

so cannot be later than the latter date. It is probable that it was a *souvenir* of the raid of 1220 B.C., upon which Seti placed his name some ten to fifteen years later.

Thus Type D was in use in 1220 B.C., and must have developed earlier, for we must allow some years to have elapsed since the "Achæans" left the Danube basin for Greek lands, a few more before many of them had established themselves as kings, and a further interval before they can have organised a piratical expedition on a sufficiently extensive scale to threaten the safety of Egypt. Fifteen years would be the shortest possible time for such a succession of events, thirty years more likely. So we may consider that some of these intruders left the Danube basin about 1250 B.C. Now it must have been about this time, or rather earlier, that the Briges, from the north of Macedonia, crossed the Hellespont into Asia Minor, where they became known as Phrygians. This movement appears to have been one of a succession of similar raids, which carried the Thraco-Phrygian people from the Danube basin eastwards. It seems probable that our "Achæan" intruders were part of this body, who, instead of moving on to the east, had passed southwards in search of adventure.

Type G, as we have seen, has been found at the famous cemetery at Hallstatt, in some of the older graves. This cemetery is believed to date, at the earliest, from 900 B.C., but iron was found in most of the graves, and the bronze swords were few in number, and from graves in which no iron was found. We may safely conclude that these swords belong to the very beginning of this period, and had been in use for some time previously.

It is always a difficult matter to determine how long a given type of implement or weapon remained in use. Besides this we must allow for overlapping, that is to say for the period during which a type still survived in use after its successor, which was doubtless in many ways its superior, had been designed. I am inclined to believe that about twenty-five years is sufficient to allow for this overlap, though possibly on rare occasions an obsolete weapon may have been preserved longer, especially as a trophy or memento.

If we allow a period of one hundred years between the introduction of one type and the first use of its successor, we shall be able to fit the two ascertained dates, and this period seems on the whole reasonable. Types A and B are, however, scarce in Central Europe, though Type B seems, in a modified form, to have persisted longer in the Baltic region. I propose, therefore, to reduce the hundred years to fifty in each of these cases.

Such a chronological scheme is, of necessity, provisional, and must be susceptible of modification as further synchronisms are worked out, but on the evidence at present available, I am inclined to think that it is not far from the truth, and that any amendments which may have to be made in the future will scarcely exceed fifty years either way. This scheme is for Central Europe only, and may be true also for Italy and Greece. Various modifications may, however, have to be made in applying it to more distant regions, especially in the north and west, such as Brittany, the British Isles and the Scandinavian countries.

Type A	Transitional	1500—1425
Type B	Semi-circular	1450—1375
Type C	Oval	1400—1275
Type D	Mycenæ, Fucino	1300—1175
Type E	Wilburton	1200—1075
Type F	Proto-Hallstatt, Dowris	1100— 975
Type G	Hallstatt	1000— 875

Chapter X

THE IRON SWORD

WE have seen that every type of sword, from Type A to Type E, has been found in the Hungarian plain, though Type B is not common there. On the other hand, Types F and G are entirely absent. It is unreasonable to suppose that, while the people of the mountain zone were developing more useful types of swords, the men of the plain were continuing for some centuries to use swords of Type E. Even were this the case we should expect to find that the swords of this type were vastly more numerous than those previously in use. But we have seen that only ten have been recorded for Hungary, whereas we have nineteen of Type D. There remain only two possibilities: either the people left the plain uninhabited, or they had found some weapon more useful than the bronze sword.

It is true, as we have seen, that steppe-lands may be deserted in times of excessive drought, and there is some reason for believing that such a dry period occurred somewhere about this time, for it was in 1350 or 1300 B.C. that we must place the Aramean invasion from the Arabian steppe, which was such a serious menace to Shalmaneser I.[1] But this drought, even could we be sure that it affected a small upland steppe like that of Hungary, occurred somewhat too early for our purpose. There is also the alternative theory that too heavy a rainfall in the mountain regions might have made life unpleasant.[2] But this would have left a more marked effect upon the mountain zone than on the plain. There may, indeed, have been an exodus, in fact, we shall find reason for believing that this was so, but it is unlikely that the rich Hungarian plain was left long uninhabited. There remains the alternative explanation, the discovery of a new weapon, and I hope to give reasons for believing that this is the true solution, and that the new weapon was the iron sword.

[1] Peake (1916) 1. 170; Myres (1911) 117.

[2] Myres (1913) 534, 535.

Some years ago M. Chantre investigated a large series of tombs in the basin of the Koban, just north of the Caucasus mountains. Here he found a culture, closely resembling in many details the remains found in the cemetery at Hallstatt. The earlier weapons were of bronze, but in most cases the swords, while retaining hilts of that metal, had blades of iron or steel.[3] It has been much disputed which of these two cemeteries, Hallstatt and the Koban, is the earlier, but I hope to show that the Koban graves must antedate those in Austria.

M. Chantre extended his investigations to the other side of the mountains, and on the southern slope of the Caucasus found evidence of the culture of a humble, mountain folk, with rude pots, but, what is important for our purpose, he found in these graves spear-heads and small objects of iron.[4]

Now Professor Gowland has told us that "In Western Asia there are two important districts where iron ores are of very extensive occurrence, and in which remains of early iron manufacture are found." He adds, "from a metallurgical point of view, deduced from the extent and character of the ancient remains, there are strong reasons for believing that the first-mentioned region was the first in which the metal was regularly produced." This first-mentioned region he describes as "on the south-east of the Euxine (ancient Paphlagonia and Pontus) extending from the modern Yeshil Irmak to Batum, and comprising a series of mountain ranges, not far from the coast, along the lower slopes and foot hills of which the iron deposits are scattered."[5] The graves with the iron spear-heads described by Chantre are just at the north-eastern end of this region, while in the south-western lived later the Chalybes, who were renowned workers in iron in the sixth century.[6]

Chantre has shown that the two cultures which he described were existing at the same time, for the graves of one people sometimes contained objects belonging to the culture of the other ;[7] not only, then, did the cultures synchronise, but the peoples had come into contact. There is no reason for believing that the Koban folk, militarist though they were, had conquered their humble neighbours. That the reverse had taken place is unthinkable. The evidence suggests that the contact had been peaceful,

3 Chantre (1886) ii.

4 Chantre (1886) ii. 101-8.

5 Gowland (1912) 281.

6 Æschylus. *Pr. vinc.* 734.

7 Chantre (1886) ii. 107.

that trade relations had been established, and perhaps the Koban folk, who appear to have been new-comers in this region, may have taken wives from their neighbours. All this points to the fact that it was in the Koban region that the steppe-folk first learned the use of iron, and that they carried the knowledge of it thence to the Danube basin, rather than that the reverse process took place.

But, it may be asked, how can be we sure that our Koban people are the steppe-folk, who have been the heroes of the last few chapters? Their culture closely resembles that of Hallstatt, which is but a development of the later bronze age culture of Central Europe, and even their earlier graves clearly belong to the same series. This is so obvious that Rostovtzeff is content merely to state that they had come from the west.[8]

It may be well, however, to submit more precise proofs of this origin. During the later bronze age a certain type of pin had been used in Hungary, possibly, as some think, as a hair-pin, but used more probably, as Lissauer has suggested, to fasten the *chlamys*, *toga* or plaid, which these steppe-folk appear to have worn. These pins are known to the Germans as *Rudernadln*[9] and to the French as *épingles à raquette*.[10] Lissauer recognises five types, which we will distinguish by the letter A to E. A developes into B, and this again into alternative forms, C and E. A also developes by stages, which are at present missing, into D.

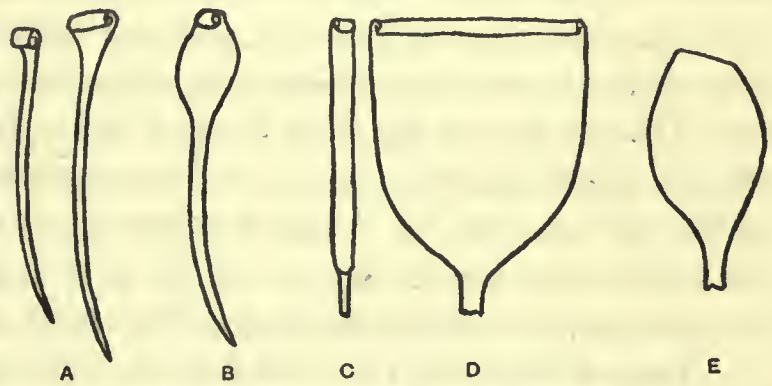


FIG. 20.—FIVE TYPES OF RACQUET PINS.

Now Types A and B have been found in North Italy, Switzerland, Wurtemberg and on the Rhine. They have also been found in Hungary, at Tökés, Gata, Versecz and Butta. Two have been found in Bohemia, at Noutonic and Krendorf, and one at Gaya in Moravia. Thus these two types are fairly well distributed over both halves of the Celtic cradle. Type D has been found at Andrasfalva in Hungary, and at Alt-Bydzow

[8] Rostovtzeff (1920) 111.

[9] Lissauer (1904) 573-580.

[10] Chantre (1886) ii. Pl. xix. 1, 2,

in Bohemia. Besides these several have been found further afield, one at Dexheim in Rhenish Hesse, one at Greisheim in Hesse-Darmstadt and one at Fritzen in East Prussia. Lastly several have been found in the Koban graves,[11] and these are larger and more developed than the others.

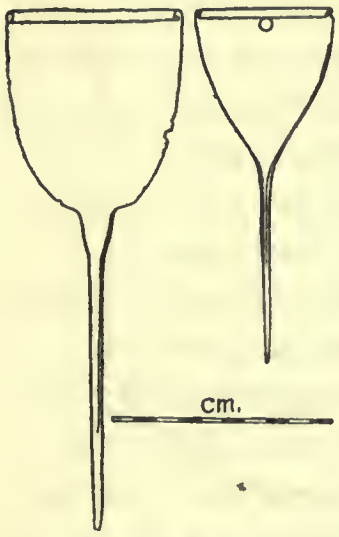


FIG. 21.
RACQUET PINS FROM KOBAN.

This evidence seems to show us that this type of pin was at first well distributed throughout the Celtic cradle, and that the dimensions of the head increased in Hungary and Bohemia. About the time that this later form was in use some kind of exodus took place to various distant places. That one of these expeditions passed to the east, in the direction of south Russia, is clear from the occurrence of this type, in its most developed form, in the Koban graveyards. We can well believe that these emigrants left the Celtic cradle by the Moravian gate, and passed along the more or less open spaces at the northern foot of the Carpathians, to which reference has already been made, and so into the plain of Russia and finally to the foot of the Caucasus. The journey would have been made on horseback, and need not have occupied many weeks so there is no need to expect much evidence from objects lost *en route*; but, as they must have crossed Podolia on their way to the Koban, it seems probable that it was these emigrants who left at Zavadyntse the sword which was mentioned in a previous chapter, as this is the only example of a Central European sword recorded from the eastern plain. The Podolian sword was of Type E, and this gives us a clue to the date, and will enable us to put together in their proper order these various items of evidence.

The evidence which I have cited in the foregoing pages can best be explained by believing that about 1150 B.C. some of the steppe-folk from the Hungarian plain departed, probably through the Moravian gate, to seek fresh pastures. While some may have gone northwards, the majority passed along the open sandy heaths of Galicia, across Podolia, where a sword was lost at Zavadyntse, and so on to the grassy plains by the banks of the Koban river. Here they settled for a time, and during their wanderings

[11] Lissauer (1904) 578-580; Chantre (1886) ii Pl. xix. 1, 2.

some came into contact with the humble iron-using people on the southern slopes of the Caucasus. Whether they approached these people to trade or to acquire some commodity in which they themselves were lacking, or whether they sought them to obtain their daughters for wives, we know not; all we can be sure is that some intercourse took place. It seems clear, too, that it was from their humble neighbours that the Koban-folk learned of the existence of iron or steel, and how to work that metal. It was not small knives they needed, but better blades for their trusty swords. Thus, I believe, the use of iron was first learned by the peoples of Europe.

FIG. 22. SWORD FROM ZAVADYNTSE.

This discovery must have been made by 1100 B.C. at the latest probably some years earlier. The Koban-folk realised that steel blades were far superior to those of bronze, and doubtless were anxious to show off their new acquisition before the old folks at home. They may, too, have remembered that the stone from which their neighbours extracted the metal was plentiful in some parts of the old country. Whatever the cause, I believe that some of them returned to Hungary with their new discovery, before bronze swords of Type F had been evolved or at any rate had come into general use.

Iron ore, which could easily be worked by primitive methods, occurs in Transylvania, at Gyalar,[12] and it seems likely that it was in this neighbourhood that they first settled. It is also possible that about this time some of them occupied Thrace, for in early days Thracian swords had a great reputation.[13] By degrees they pushed up the Danube, at any rate as far as its junction with the Save. Before 1000 B.C. a large number of them advanced up the Morava and down the Vardar and soon afterwards entered Thessaly, whence they started on that series of conquests known as the return of the Heraclids, or the Dorian invasion of Greece.[14]

Many of these Koban-folk settled on the southern bank of the Danube and the Save, and in the hill country behind; various cemeteries of this time have been

[12] Gowland (1899) 319; cf. J.I.S.I. (1897) lii. 205.

[13] Homer, *Il.* xiii. 576; xxiii. 808.

[14] Casson (1921) 1, 2.

discovered in this region, the most famous of which is that at Glasinatz in Bosnia.[15] Others pushed up the Save, which runs through mountains of an easily worked iron ore; evidence of early workings have been found on the banks of the Mur in Styria and on the upper Drave in Carinthia.[16]

A little later, between 1000 and 900 B.C., some of these people passed over into Italy. They may have crossed the Adriatic, as did in all probability the men of the leaf-shaped sword, but it is tempting to think that they crossed the Predil pass and settled at Santa Lucia Tolmino, near the head waters of the Isonzo. Here a cemetery was found in 1885,[17] much of the grave furniture from which is, or was in 1914 in the Trieste Museum, while the remainder is in Vienna. More than 1000 graves were found and the cemetery must have been in existence for several centuries; but it is usually believed that the earliest graves date only from the eighth century. Others of the same party crossed the mountains into the rich Friuli plain and settled at Dernazacco, near Cividale,[18] and gradually spread thence over the Veneto.

We come across further evidence of their advance at Este,[19] and as they crossed the Po valley they destroyed the *terremare*, which had existed there since early in the bronze age and dispersed their inhabitants.[20] There is evidence that about this time some of the *terramara*-folk arrived in Etruria,[21] others are found settling in the neighbourhood of Taranto,[22] while Dr. Hooton has shown that there are strong reasons for believing that the earliest settlement on the Palatine Hill at Rome was due to these people.[23] The invaders seem to have occupied all the plain of Italy north-east of the Apeninnes, the area known later as Ombrice[24] or Etruria Circumpadana,[25] but

[15] Déchelette (1908-14) ii. 591, 592, where all authorities are cited.

[16] Gowland (1899) 49, 50.

[17] Déchelette (1908-14) ii. 592, where all authorities are cited.

[18] B.P. 4th ser. v. (1910) 154; N.S. (1909) 75, 76.

[19] Déchelette (1908-14) ii. 536, 539, 540.

[20] Modestov (1907) 217.

[21] Modestov (1907) 224.

[22] Peet (1909) 421; N.S. (1900) 411; Modestov (1907) 219.

[23] Hooton (1913); see also Modestov 1907) 226.

[24] Herodotus i. 43; iv. 49.

[25] Livy v. 33; quoted by Dennis (1883) i. xxix.

FIG. 23.—MAP SHOWING DISTRIBUTION OF TYPE G SWORDS IN FRANCE.

the most important spots at which their remains have been found are in and around Bologna. From one of the best-known sites in that city their culture has been called that of Villanova.[26] That at one time they conquered Etruria has been suggested

[26] Déchelette (1908-14) ii. 536-539.

FIG. 24.—MAP SHOWING DISTRIBUTION OF IRON SWORDS IN FRANCE.

in chapter IV., and doubtless it was they who extended the Etruscan rule from the Alps to the south of Naples; but, as has already been explained, it would be a mistake to confuse them with the real Etruscans.

We have seen that in the mountain zone the pile-dwelling civilisation continued throughout the bronze age. This type of culture, introduced by the early Alpines from Asia Minor, was adopted in Central Europe by the Nordic intruders, who had made themselves lords over the Alpine peasants. That they were still retaining their race exclusiveness is clear from the fact that long and broad-headed skulls are still found side by side.[27] In the plain, however, where we have no evidence of Alpine settlement, all signs of pile-dwellings are absent.

It is a striking fact that with the arrival of iron swords into the mountain zone this pile-dwelling culture, which had existed from early neolithic days till the close of the bronze age, came suddenly to an end. This cannot be merely an accident, for the same thing occurred all over Central Europe.[28] It is also significant that some centuries later it was revived.[29] Some important revolution must have taken place to end so abruptly a custom which had lasted for thousands of years, and to end it with equal suddenness in all parts of the mountain zone. I can only account for it in one way, by supposing that the men of the plain, who had never occupied this type of dwelling, had swept over the mountain zone, carrying fire and the iron sword throughout the villages of their neighbours.

This I am inclined to think must have been the case, and such an invasion would account for the widespread exodus of people with the Type G swords, which we have found scattered over many areas in France, over parts of North Germany, and stretching even to Scandinavia and Finland, and which reached the British Isles, with much other culture belonging to the Swiss lake-dwellings, as Crawford has recently shown us.[30] These people with the Type G swords must have been refugees from the invasion of the iron sword people. Déchelette has given us a map showing their progress in France, and on the same map he indicates the progress of the iron sword men.[31] The latter followed the refugees in almost every direction, and it was only in the Seine valley that the exiles escaped pursuit. This is a point to which I shall have to refer in a later chapter.

[27] Déchelette (1908-14) ii. 114.
[28] Déchelette (1908-14) ii. 114.
[29] Déchelette (1908-14) ii. 935-941.
[30] Crawford (1922) 33, 34.
[31] Déchelette (1908-14) map ii., in ii. pt. 2.

Chapter XI

A RECAPITULATION

WE are now in a position to interpret the meaning of the evolution and distribution of these leaf-shaped swords, though there are many details, which we would gladly know, but of which we must remain in ignorance, perhaps for ever. We can, however, form some general idea of the events which were taking place in Europe during the centuries under review, and it will, perhaps, make for lucidity if they are here recapitulated as a continuous story.

Since 4000 B.C. some Alpine people, coming originally from Asia Minor, had occupied the mountain zone, where they had erected their pile-dwellings and had cultivated their strips of cornlands. Meanwhile on the Russian steppes, east of the Dnieper, Nordic steppe-folk mounted on horses, were driving cattle from one pasture to another, sometimes dwelling in the open steppe, at others pasturing their beasts in the park-lands and woods to the north. Between these two peoples were the Tripolje-folk, living in pit-dwellings, cultivating the soil, and later on importing copper axes from Ægean traders.

About 3000 B.C., or perhaps rather earlier, a drought caused some of the steppe-folk to emigrate. It was perhaps at this time, though probably later, that some passed through the woodland to the middle Volga valley, where, mixing with communities of Mongoloid fishers, they developed the Fatjanovo culture and became ancestors of the red Finns.[1] Others in small numbers certainly advanced towards the Baltic, and passing along its southern shore, appeared later at Furfooz, in Belgium.[2] The majority of these moved slowly up the Rhine valley, whence some entered Switzerland from the north, and made themselves lords of the lake-dwelling villages.

[1] Peake (1919) 200-202.

[2] See ch. vi.

Other steppe-folk seem also to have entered Hungary, probably through the Moravian gate, and settled on the plain and the eastern foothills of the mountain zone.

Meanwhile the knowledge of copper had been introduced by traders, who had sailed up the Adriatic, and travelled inland from Fiume. This copper culture reached the Swiss lake-dwellings, and eventually passed down the Rhone as far as Lyons. It was followed by a bronze culture, which was imported from Italy and the western Mediterranean.

About 2250 B.C. another drought caused a dispersal of the steppe-folk on a greater scale. Some went east, into the remotest fastnesses of Turkestan, some perhaps as far as the head waters of the Yenesei and the region around Minutsinsk, while others passed on to the Iranian plateau. This last group we hear of about 2100 B.C. as Kassites, and a few centuries later they conquered Mesopotamia.

Those who went westward seem to have destroyed the Tripolje culture and driven off its people, unless, indeed, they had already been driven away by the drought. The bands of steppe-folk divided, some passing north of the Carpathians and some going south by the shores of the Euxine. This last group crossed the Danube, and skirting the Balkan mountains arrived at the east end of Thrace. Here they divided, one band passing to the west by the shores of the Ægean and then southwards to Thessaly, where they frightened the inhabitants, who termed them Centaurs. The other band crossed the Hellespont, destroyed Hissarlik II, and passed on into the Anatolian plain, where in due course they organised the native Alpine population into the Hittite empire.

It is not so easy to follow the group which passed north of the Carpathians, but they seem to have followed the line of sandy heaths across Galicia into Silesia, then some, probably, entered Hungary through the Moravian gate, while others pushed into Bohemia. These last found there people who were either refugees from the Tripolje area or folk closely allied to them. These people, who had been accustomed to a type of cord vase, had found in Bohemia bell-beakers, which had arrived there via Italy from Spain. From a combination of both types of ware they had evolved the northern beaker. When the Nordic steppe-folk arrived from Silesia these Beaker-folk left, and passed northwards between the Rhine and the Weser, some going to Jutland and some to Holland. A few of the latter found a refuge in Great Britain.

In Central Europe, in the district we have called the Celtic cradle, we find two cultures growing up, one consisting of Alpine peasants under Nordic lords, which prevailed in the mountain zone; the other, more truly Nordic, and still pastoral and perhaps nomadic, was limited to the Hungarian plain. After a short interval of interruption, trading was resumed with their Italian neighbours by way of Fiume.

It is about this time that the Nordic steppe-folk of Hungary demanded larger and larger daggers, until at length the earliest leaf-shaped sword was evolved about 1500 B.C. During the following years a few adventurers passed into the Friuli and the Venetian lands, perhaps to trade, or perhaps to settle. Others, few in number, seem to have visited the amber coast of the Baltic, and one, at least, died there and was buried in Schleswig-Holstein. About 1450 B.C. Type B was evolved and spread over the mountain zone. It was carried by traders or invaders towards the Baltic, especially to Denmark. Since this type is found in considerable numbers in the north, and there continued its own local development for many years, we must admit that these swords were not taken there by mere adventurers, but by invaders, few in number, perhaps, who had gone north to Denmark, and perhaps further still, and settled, perhaps as a governing class, among the people they found there.

From 1400 to 1300 B.C., while Type C was dominant, there appears to have been little movement. The exodus of fifty years earlier had perhaps given ample elbow room to those who were left behind. But soon after 1300 B.C. we find two movements, more or less simultaneous, but going in opposite directions.

The first of these movements seems to have started from the valley of the Save, perhaps over the Predil pass into the Friuli, but more probably, as Peet[3] has suggested, through Bosnia and Herzegovina, and across the Adriatic into Italy. If the latter course were taken, the invaders landed not far from Ascoli Piceno, and most of them passed up the valley of the Trento, by the pass through which the Via Salaria afterwards ran, to the valley of the Velino. Here they settled in that fold of the Apennines between lakes Trasimene and Fucino, through which run, in opposite directions, the Velino and the upper waters of the Tiber. This band of invaders must have been a relatively small one, as the area they occupied is not extensive and was very sharply defined.

3 Peet (1909) 431.

The other movement went to the east, and was probably that great emigration from Europe to Asia of which dim recollections survived among the Greeks, and which took the Briges into Asia Minor, where they became Phrygians.[4] It also carried to Thrace some, at any rate, of its red-haired people.[5] It was probably some stragglers from this group who passed southwards, like knight-errants destroying monsters and punishing evil doers, and who eventually became kings over the towns of Mycenean Greece. These were known later as Achæans, and may possibly have included also stragglers from the group which had passed over to Italy.

It was between 1200 and 1175 B.C. that the next movement began, and this was mainly to the west and north. Some of these invaders left the Danube basin, crossed the Rhine, and passing through the Belfort gap, entered France, and over-ran the greater part of that country. Until the swords of this type have been catalogued and mapped, it will be impossible to trace their line of advance, or to determine how far they went. Some of these seem to have passed either down the Rhine or up the east of France, for they crossed over to Britain, landing for the most part in the Thames and by the Wash, or else at some intermediate points. They seem to have settled in the east of England, and subsequently in Wessex, but later waves of them evidently set out for Ireland, crossing Wales by the upper Severn valley and the Bala cleft. A considerable number of these seem to have settled in Ireland.

It was about this time that others set out from Hungary through the Moravian gate, and while some went northwards, the majority passed along Galicia, across the Bukovina and Podolia, and arrived at length by the banks of the Koban. Here they settled for a time, and entered into trade relations with a humble tribe, living on the southern slopes of the Caucasus, from whom they learned the knowledge of iron. Armed with swords with iron blades, they returned to the Danube basin about 1100 B.C., and perhaps worked the iron mines at Gyalar, in Transylvania. Then they settled in the Hungarian plain and in the north of the Balkan peninsula. About 1050 B.C. a large body of these people from the Koban passed southwards and descended the Vardar valley. By degrees they passed thence to Thessaly. Then they began that slow but steady conquest of the Greek states, which is known as the Dorian invasion.

4 Herodotus vii. 73.

5 Xenophanes, quoted by Clement of Alexandria: *Stromateis* vii. 711b.

A little later, about 1000 B.C., the Koban folk, with their iron swords, began pushing up the Danube, the Drave and the Save. In the valley of the last they found whole mountains of iron, which they began to work, and by 900 B.C., if not earlier, they had reached Styria and the Salzkammergut, and were working the salt mines at Hallstatt. It was, perhaps, earlier than this that they moved up the Danube valley as far as Ulm and Sigmaringen, and soon after their arrival there quarrels arose between them and the lords of the mountain zone. It must have been before 900 B.C. that the newcomers destroyed the lake-dwellings and expelled their inhabitants, who fled from them to the north and west.

FIG. 25. TYPE G SWORD FROM FINLAND.

The refugees who went northwards were few in number, though some of them seem to have fled a long way, perhaps even to Finland. Large numbers escaped to France, and spread over most of that land except Brittany and the extreme west. But here they were followed by the men of the iron sword, who pursued them in every direction, except down the valley of the Seine.

A great number of these refugees reached Britain, landing mostly at the mouth of the Thames, and sailing up it as far as Reading. An important settlement was made at "Old England," at the mouth of the Brent, and doubtless elsewhere by the Thames. They advanced across the south of England, where, as we have seen, some of their predecessors were living, and settled at All Cannings and doubtless other places in Wiltshire. They pushed on into South Wales, making settlements on the open hills above Cardiff. Some of these, too, reached Ireland.

Meanwhile the men of the iron sword, pursuing these refugees, followed them in every direction across France, except down the valley of the Seine. They went northwards down the valleys of the Meuse and Moselle, entered Belgium,[6] and perhaps even entered Denmark. There seems no evidence, however, that they crossed to Britain.

One further raid was made by the men of the iron sword, and this was on an extensive scale. Some time after 900 B.C. a number of them, coming from the Save

[6] Déchelette (1908-14) ii. 796.

valley, crossed the Predil pass. Some of these stayed for a time at Santa Lucia Tolmino, in the Isonzo valley, while the majority proceeded to Cividale in the Friuli plain. They passed on rapidly to the Po valley, and destroyed the villages of the Terramara-folk who lived there, expelling the inhabitants as seems to have been the invariable custom of these men of blood and iron.[7] The Terramara-folk fled, some to Etruria, others to Taranto and others again to Rome, where they built a dry terramara on the Palatine Hill.[8] The iron sword people passed on and settled at the foot of the Apennines, with their centre at Bologna, introducing into all the region north-east of the mountains the culture known to archæologists as that of Villa-nova.[9]

As we have seen in Chapter IV., the Etruscans had been for some little time settled in Tuscany, where they had established their trading cities governed by religious magistrates. Before long these Etruscan Prospectors found themselves face to face with this newly-arrived war-like people. I have already given my reasons for thinking that the Villa-nova folk conquered the Etruscans, and that together they extended their empire, which is said to have reached to Pompeii. They perhaps succeeded in pressing back the leaf-shaped sword people from the neighbourhood of Lake Trasimene, but did not apparently succeed at first in dislodging them from the valley of the Velino.

Thus we see that the leaf-shaped sword folk, mainly the people of the mountain zone, have at one time or another invaded and in some way or another conquered nearly all Europe except the Iberian peninsula, while at the close of the bronze age they arrived as refugees in Celtic lands. The iron sword folk, the people of the plain, who had learned the use of iron in the Koban, followed them, making a complete conquest of Greece, of Italy north of the Apennines, of France all but the west and the Seine valley, Belgium and perhaps other regions further north. These people did not conquer Scandinavia, nor did they reach Britain, at any rate until several more centuries had elapsed.

7 Modestov (1907) 217; Déchelette (1908-14) ii. 529-540.

8 Hooton (1913).

9 Déchelette (1908-14) ii. 529-540; Modestov (1907) ch. viii.

Chapter XII

THE ARYAN CRADLE

DURING the middle half of the nineteenth century the minds of many European savants were focussed upon what was termed the Aryan hypothesis, which was investigated with more enthusiasm than discretion by comparative philologists in England and France, and with still greater vigour in Germany. Since then the general conclusions of these mid-nineteenth century speculations have been current among politicians and journalists, who talk glibly about Teutons and Celts and Slavs, and that medley of races and peoples, who still continue to use in a modified form the speech imposed upon them by their Roman conquerors, and are therefore called the Latin race. Such terms, meaningless though they are as applied to nations, have become popular during the last half century, with disastrous results, since they have been used to emphasise certain divisions which were growing up among European peoples, and which in their turn did much to give rise to the European war, and are still retarding the Peace for which everyone is longing.

The idea was first put forward in 1786, when Sir William Jones,[1] in a communication to the Royal Asiatic Society of Bengal, pointed out the similarities between the Sanskrit, Greek, Latin, German and Celtic languages, but little progress was made until in 1833-5 Bopp[2] published his comparative grammar. For the next fifty years the hypothesis grew at a great pace. The world was anxious for a scientific classification of its peoples, especially of the peoples of Europe. Men were also enquiring what had happened in this continent before early Greek legend and literature began to lift the veil. The sciences of anthropology and prehistoric archæology were in their infancy, and unable to provide answers to these questions, and the comparative

[1] Jones (1788).

[2] Bopp (1833), (1845-50), (1866-74).

philologists, from the evidence of language alone, were prepared to give full and most detailed explanations.

Thus arose the Aryan hypothesis, forced upon an eagerly inquiring public with great enthusiasm and complete, or almost complete, agreement. But during the eighties rifts appeared to disturb this harmony, anthropology and archæology began to claim a hearing, and to disagree with the conclusions of philology. By 1890 the philological enthusiasm died out, at least in this country and in France, though for a time it lingered on in Germany. All those acquainted with the subject felt that the question needed reconsideration, partly in the light of more accurate philological study, and especially having regard to the newer evidence being produced in such quantities by the sciences of anthropology and prehistoric archæology. The general public, however, continued to talk and to write, with more confidence than before, of Teutons, Celts, Slavs and the Latin races.

A word as to the term Aryan. When it was found that Sanskrit was allied to most of the European languages, it was felt that a term was needed to describe the group. Bopp, thinking that the German or Teutonic group was the most westerly, as the Indian dialects were the most easterly, used the term Indo-Germanic, which had previously been suggested by Klaproth in 1823.[3] But when it was fully realised that the Celtic tongues were also included in the group, French and Italian scholars, who felt that the term German was receiving too much prominence, suggested the name Indo-European. Neither of these terms is quite accurate and both are clumsy, so to avoid the latter defect Professor Max-Müller suggested the term Aryan. This, too, is misleading, for the Aryas were the noble caste among the Vedic Indians and the early Persians. The name, however, is convenient, and is still used by many people, especially in this country. Recently Dr. Giles[4] has suggested for the original people who spoke these tongues the name of *Wiros*, as words similar to this, meaning *men*, occur in most of these languages. The term has much to recommend it, and it will be used in the following pages for the first users of this speech.

When the connection between these languages was first realised, it was felt that all the tongues had been derived from a primitive mother speech, and that this primitive

3 Klaproth (1823).

4 Giles (1910-11); 1922, 66.

speech must have been spoken originally by a small group of people, the primitive Aryans, or, as we shall call them, the Wiros. But owing to loose thinking all the people who speak these languages to-day, as well as those who have spoken them in the past, were considered Aryans, and it was assumed that because their languages were related they were racially identical. As long as this applied only to European peoples no one raised any protest, but when Max-Müller asserted that the same blood runs in the veins of English soldiers as in the veins of the darkest Bengalese,[5] the Nordic spirit in this country, which, as we have seen, is prone to race exclusiveness, rose in its wrath, and the whole generalisation was questioned.

It was then shown that languages could be imposed by conquerors upon their subjects, and that there were instances on record of the reverse process taking place, as in the case of the Frankish invaders of Gaul and the Viking settlers in Normandy. People then, with equal lack of lucid thinking, ran to the opposite extreme and said, "there is now no Aryan race, and there never has been one." To Penka[6] is due the credit of making the matter clear. He pointed out that Aryan blood is not co-extensive with Aryan speech. He showed that those who use the latter are of several distinct anthropological types, but he argued that the primitive Aryans or Wiros must have been of one type.

Penka's contention seems eminently reasonable and, one would think, incontrovertible, for a group of languages, so closely resembling one another, must have grown up in a somewhat restricted area, among a people who had, during the formative period of the language, little intercourse with the outside world. The very conditions which would produce a specialised type of language, would, we may feel sure, have produced an equally specialised type of men, that is to say, a race in the anthropological meaning of the term.

The failure of Penka's views to carry widespread conviction was, I am inclined to think, due to the fact that his theory involved the identification of the primitive Wiros with the Nordic race. There is really no valid objection to this view, and, as will be seen later, the evidence which I am adducing points to a similar conclusion. But, unfortunately, this theory became associated with certain political opinions, and so became distasteful to those with a different outlook.

5 Max-Müller (1855) 29.

6 Penka (1883, 1886).

The original supporters of the Aryan hypothesis fell so in love with the languages and with the people who originally developed them, that they grew to believe that these Wiros were superior creatures, with a superior tongue, which they had imposed upon an inferior world. All good things found in the civilisation of Europe were attributed to them, and they became the super-men. As far as we can ascertain from the linguistic evidence available they had, it is true, evolved a language which, owing to its flexibility, was capable of great things, but it is by no means clear that the higher developments, which some of the tongues have reached, would have been attained had not the Wiros mixed with people possessing other ideas and other idioms. The evidence of linguistic palæontology shows that in material culture they were very backward, and, as we shall see later on, all the archæological evidence tends to show that in these respects they were far behind the peoples whom they conquered, and on whom they imposed their tongue. Their one important characteristic seems to have been their incapacity for learning other languages, and so insisting that other folk should adopt theirs. This may have been due to lack of linguistic ability, or to an overbearing conceit. Probably it was due to both. The original Wiros, then, as judged by linguistic evidence, were far from being super-men.

Another fallacy has been the belief that the Nordic is the superior person, the "white man" *par excellence*. The Nordic is strong, robust and courageous, and possesses certain manly qualities which are much admired; also he has taken care for some thousands of years to impress upon his neighbours that these are admirable qualities. The Nordic has also other good points, such as honesty and a genius for administration, but he is far from possessing a monopoly of the virtues, and in many respects falls behind members of the other European races. The works of Gobineau[7] and later of Madison Grant[8] have enumerated his virtues without defining his limitations, and no one, so far as I know, has yet written to extol the excellencies of the Alpine or Mediterranean races, who have contributed and still contribute much of what is good in the make-up of modern Europe.

During the latter part of the nineteenth century the Germans were engaged in making and consolidating their empire, and to do this they wished to encourage their

[7] Gobineau (1853-55).

[8] Grant (1916), (1921).

nationals to believe that Germans, *qua* Germans, were the inheritors of many, in fact of most admirable qualities. As a matter of fact such "patriotic" ideas were current in most countries, as can be seen by an examination of the school text-books, especially history books, in use at that time, and sometimes, too, at the present day. Only in this, as is their wont, the Germans were very thorough, and they pressed every science and every hypothesis into their service.

What was read into the hypothesis of Penka, though it does not follow that he wished it, was that these Wiros or Aryan super-men were the same as the Nordic super-men, and that their home was in Germany, as could easily be proved from the pages of Tacitus. It was implied that from Germany had come all that was Aryan or Nordic or really valuable in the population of other countries, and that, therefore, the Aryan Nordic Germans were the salt of the earth. This view, which grew up insensibly from the hypothesis of Penka and others, was caught hold of by those who were wishing to transform the peaceful Alpine German into an aggressive militarist, and in its full absurdity was given to the world by a renegade Englishman, Herr Houston Chamberlain.[9]

Now, as we have seen, the original Wiros, though they had their good points, had by no means a monopoly of the virtues, and were enabled to spread their tongues largely by their incapacity and unwillingness to learn the speech of others. The Nordic is a picturesque and romantic figure, with many admirable qualities, but is seldom clever, skilful with his hands or patient in research. Lastly, an examination of the physical types, as they exist to-day in Germany, shows us that outside the former kingdom of Hanover, the Nordic type is rare.[10] There are probably as many pure Nordics in France, distributed over the northern departments from Dunkirk almost to the west of Brittany, as will be found in the German empire. There is this difference only between the populations of the two countries. In Germany the fair colouring of the Nordic element seems to be a dominant character over the relatively dark pigmentation of the Alpine; so we meet with a majority of people having broad Alpine heads but fair Nordic colouration. In France, on the other hand, there is a large Mediterranean element, surviving from neolithic days, and the brunette colouring of this race is more dominant than the blondness of the Nordic. As all three types have mingled in France, fair hair is less frequently found among those with broad heads.

[9] Chamberlain (1911).

[10] Ripley (1900) 217, 218; Parsons (1919).

The use made of the Aryan Nordic equation by German political propagandists has inclined, French and, to some extent, English writers, to reject this view. This objection has been in a large measure due to misunderstandings, and in any case it is unscientific to allow national and political prejudices to influence our opinions on such questions.

If, then, we agree with Penka that there must have been an original Aryan race, or, as we shall call them, Wiros, it is important to ascertain what part of the world it was, from which these languages spread to Ireland and Bengal. This is the problem of the Aryan cradle.

In the early days of the hypothesis students noted that Sanskrit was the most archaic of the languages, and forgetting that the Vedic hymns were composed 1000 or 1500 B.C., while the earliest Greek literature dated from 800 or 900 B.C., there was a tendency to derive the whole group from North India.[11] Subsequently, when the close connection between Sanskrit and Zend, the ancient Persian tongue, was recognised, and it was realised that the Vedic folk were recent arrivals in the Punjab when the Vedic hymns were being composed, the Aryan cradle was removed to the region watered by the Oxus and the Jaxartes, and the slopes of the Hindu Kush.[12]

Here the cradle remained for a long time. Pott, hypnotised by his aphorism *ex oriente lux*, drew a wonderful picture of the westward advance of the Wiros from their eastern home. Others filled in, largely from their own imaginations, the remaining details. And so we get the mid-nineteenth century view of these Aryan super-men, with a language containing potentialities of all that is fine in literature, with a social organisation and morality which was to reform benighted Europe, worshipping deities which were the products either of solar or chthonic myths or of diseases of language, setting forth from the western slopes of the Himalayan *massif*, urged on "by an irresistible impulse" towards the setting sun, migrating westward and ever westward, carrying their wives and families in the famous Aryan cart provided for them by a distinguished anthropologist.[13] Such was the view unanimously held by all Europe, and which figures still in too many text-books. One man only was left crying in the wilderness, or at least in the steppe, and he was an Englishman. As Hehn[14] wrote in 1874,

[11] Adelung (1806-17) ii. 6.

[12] Pott (1840) 19.

[13] Tylor (1881) 79-82.

[14] Hehn (1874) quoted by Taylor (1889) 23.

" so it came to pass that in England, the native land of fads, there chanced to enter into the head of an eccentric individual the notion of placing the cradle of the Aryan race in Europe."

Those of us who live " in that land of fads" may well be proud of Dr. Latham, who advanced these views in 1851, and subsequently enlarged upon them.[15] In due course nearly all other philologists followed suit, and Max-Müller alone was unrepentent, and as late as 1887 wrote " I should still say, as I said forty years ago, ' Somewhere in Asia,' and no more."[16] But by then the Asiatic cradle had gone to the limbo of exploded hypotheses.

In 1868 Benfey, in a preface to Fick's work,[17] acknowledged the value of Latham's protests, and, arguing for the first time from the type of evidence known as linguistic palæontology, advocated a European as distinguished from an Asiatic cradle, and suggested, as Latham had done earlier, the region north of the Black Sea. He was followed in 1871 by Geiger,[18] who with national pride wished to prove that the super-man had always lived in the plain of North Germany, to which, some years later, Piètrement[19] retorted by suggesting that Geiger's arguments would apply equally well to the neighbourhood of Lake Balkash and the Ala-tau mountains.

In the same year in which Geiger's work appeared Cuno made a notable contribution to the hypothesis.[20] He contended that the original undivided Wiros were not a small clan, but must have been a numerous, nomad pastoral people, inhabiting an extensive steppe region. For the evolution of the parent tongue with its elaborate grammar a long period, several thousands of years, must have been needed, and during this time the Wiros must have moved freely over the area of the cradle, having frequent intercourse with one another, but little or none with outsiders. These conditions, he thought, could only be obtained on a vast plain, undivided by lofty mountain barriers or impassable forests; this cradle must have been in a temperate climate, tolerably uniform in character, where there would have been ample room for the growth of a numerous people. Such an area can only be found in the great plain of Northern Europe, stretching from the north of France to the Ural mountains.

[15] Latham (1851) cxlii., (1854) 197, 198, (1859) ii. 503.

[16] Max-Müller (1888) 127.

[17] Fick (1868).

[18] Geiger (1871) 113-150.

[19] Piètrement (1879).

[20] Cuno (1871).

Further investigation has shown that much of this plain was filled with dense forests and impassable morasses, but that the open steppe begins in Russia, and extends uninterruptedly to the slopes of the Hindu Kush, with certain westward prolongations, especially the sandy heaths to the north of the Carpathians, stretching from the Russian steppe, across Galicia, to the neighbourhood of Breslau. North of this, too, is a belt of parkland, opening on to the steppe, where nomad herdsmen could drive their cattle when the grass of the steppe became burnt up. Here, it would seem, was an area which would meet the needs of the linguistic palæontologist, and it was in this region that the Aryan cradle was placed by Dr. Schrader in 1883,[21] and here it has remained without opposition until quite recently.

During the last few months there has appeared the first volume of the Cambridge History of India, to which Dr. Peter Giles had contributed a chapter on the Aryans.[22] In this, in which he has repeated his suggestion that these people should in future be called Wiros, he has put forward views which differ in material respects from those hitherto held. His suggestion is, in fact, that the Aryan cradle is to be sought for in the plain of Hungary.

In contradistinction to views previously advanced, he believes that the original Wiros were settled agriculturists and not nomad herdsmen.[23] He bases this conclusion, apparently, on the fact that they knew of corn. A careful study of all the evidence on this subject collected by Schrader[24] convinces me, however, that it is far from certain that the undivided Wiros were acquainted with cultivated grain, for the terms used, few if any of which run through all the languages, may well apply to wild grain, and oats grow wild on the Russian steppe,[25] and may well have been used as food for man and beast. Moreover it is not an unknown thing for nomad people to grow scratch crops of grain. Such crops of barley I have myself seen grown by nomad Bedawin in the clay deserts behind Alexandria. The steppe-folk, too, like most nomads, were probably in the habit of making occasional raids on the settled lands on their margin, and we have actual evidence that this occurred. We know also that settled cultivators were living both at Tripolje and at Anau on the edge of the steppe. The original Wiro word for

[21] Schrader (1890) 438.

[22] Giles (1922).

[23] Giles (1922) 67, 68.

[24] Schrader (1890) ch. v.

[25] Obermaier (1912) i. 439-464; Hoops (1904); (1911-19) ii. 354.

grain might well be the name they used for this kind of booty, nor need we exclude the possibility that when times were hard they acquired grain by trade from their settled neighbours, as Abraham, a nomad steppe-man, purchased corn from Egypt. The argument from the words for grain seems indecisive, and the balance of the evidence cited by Schrader seems in favour of a nomad existence.

Dr. Giles feels that " the close similarity between the various languages spoken by them would lead us to infer that they must have lived for long in a severely circumscribed area, so that their peculiarities developed for many generations in common."[26] This, as we have seen, was Cuno's idea, and is an eminently sound conclusion. But Dr. Giles would see in this circumscribed area one surrounded with a ring of mountains, while Cuno thought that it demanded an extensive steppe. The difference between the two views seems to depend upon whether the Wiros were nomad or settled, and I have already given reasons for believing them to have been nomads.

Dr. Giles objects to the steppe-cradle. He gives as his reason that this region has not on the whole the characteristics required by the conclusions drawn from linguistic palæontology;[27] on the other hand Schrader, who has studied this side of philology more exhaustively than most inquirers, believes that the conditions are fulfilled.[28] Neither argument is perhaps conclusive, and both deserve serious attention ; the decision must rest upon evidence drawn from those other sciences which deal with the far past.

We have found reason for believing that in neolithic days the Russian steppe east of the Dnieper was inhabited by a nomad steppe-folk, who had domesticated horses and cattle, and perhaps sheep. As they lived on a plain they had probably not met with the goat, which is a mountain beast, and it is to be noted that the name for goat varies in nearly all the Wiro languages.[29] These nomad steppe-folk, who buried their dead in a contracted position covered with red ochre under kurgans or barrows, were, we believe, Nordic or proto-Nordic in type, and some, at least, of their skeletons remind us of the Brünn-Brux-Combe-Capelle type,[30] who hunted horses in late Aurignacian and Solutrean times.

[26] Giles (1922) 66.

[27] Giles (1922) 69.

[28] Schrader (1890) 438.

[29] Giles (1922) 67.

[30] Fleure (1922) 13.

The state of civilisation and the area of distribution of those nomad steppe-folk exactly corresponds with the requirements of the early Wiros as postulated by Schrader, though it differs in some respects from those demanded by Giles. On the other hand, in Magdalenian and Azilian times, and perhaps during the earlier phases of the neolithic age, the ancestors of these people may well have lived in the Hungarian plain, and we have seen how some of them survived in Switzerland, at Chamblandes, well into neolithic times.[31]

It is possible, then, that the circumscribed area, though not the settled agricultural condition, demanded by Dr. Giles, may have been true in the later phases of the upper palæolithic age. This, however, he will not agree to, for he is persuaded that the *hiatus*, assumed by the earlier archæologists, still exists, and that the upper palæolithic age, as well as the lower, preceded the last ice age and belongs to a very remote past.

Some archæologists, it is true, still hold to these views, and this inflated chronology has not yet been abandoned by all. During the last few years, however, the shorter dating[32] has become more generally accepted, and this brings the whole of the neanthropic period into relatively recent times, and gives us a continuous history from the Aurignacian period to the present day. If Dr. Giles could be persuaded to accept these more modern views on palæolithic chronology, many of his difficulties would be removed, and he might agree to place the Hungarian cradle of the Wiros in the latter part of the upper palæolithic age.

Dr. Giles raises objections also to the continuity of the Russio-Turkestan steppe, and maintains that a connection between South Russia and the east, north of the Black Sea, would have been impossible.[33] He is, therefore, disposed to take the Wiros to Persia and India by way of Asia Minor.

The great objection which he cites to the northern passage is the existence of the barren Ust Urt desert. Also the fact that the Caspian has steadily been becoming more shallow and contracting in area. These two points, if true, to some extent contradict one another. It is true, doubtless, that at one time the Caspian had covered

[31] Schenk (1912) 176.

[32] App. I.

[33] Giles (1922) 69, 70.

a greatly extended area, but it is not so clear that its contraction has been a steady progress. We have already seen, from the evidence cited by Ellsworth Huntington,[34] that this contraction and expansion has probably been intermittent. In any case, the contraction has been due to light rainfall, and it is this light rainfall which has produced the desert condition of the Ust Urt. When the Caspian expanded, it was because of increased precipitation, when such parts of the Ust Urt as were not inundated would have been a grassy steppe.

Dr. Giles suggests that at one time the Caspian and Aral seas were one great inland sea, and that such was at one time the case is implied by extracts from the writings of Herodotus.[35] But though this was almost certainly the case during periods of relatively heavy rainfall, the level would have to have risen well above the 200 metre contour to have obstructed the passage between the Russian and Turkestan steppes. Such a rise is quite unthinkable during the last 6000 years, for had the surface been raised 220 feet above the present sea level the Caspio-Aral Sea would have been connected with the Euxine.[36] Even had the impossible occurred and the 200 metre contour been reached it would have been quite easy to pass from one steppe area to another, by crossing the southern slopes of the Urals, which are raised very little above the plain and would form no obstacle to nomad tribes.

The Anatolian passage was by no means an easy route to the east, for had the Wiros kept to the north they would have found difficulty in crossing the Armenian mountains; further south they would have come into contact with the peoples of Mesopotamia, and we should have found evidence of their presence. That some of them passed this way about 2200 B.C. we have already seen, but others had passed eastwards earlier, apparently by a different route, for otherwise it is difficult to account for the presence of the Kassites on the Iranian plateau in the time of Hammurabi. The complete absence of any evidence of a movement eastward from the Hungarian plain in neolithic days, and the fact that any such movement would have been compelled to cross the area occupied by the settled Tripolje-folk, seem to be fatal to the literal acceptance of this hypothesis.

[34] Huntington (1907), (1911).

[35] Herodotus i. 203, 204; iv. 40; Casson (1918-19) 175-183.

[36] Casson (1918-19) 178.

Taking all factors, anthropological and archæological, geographical and linguistic, into consideration, and in spite of the difference in opinion expressed by Dr. Giles, whose authority to pronounce on the linguistic data all must acknowledge, I am venturing to identify the nomad steppe-folk with the primitive Wiros, while admitting the possibility that the beginnings of their language may date back to Magdalenian and Azilian times, when they may have been living surrounded by the Carpathian ring.

Chapter XIII

P'S AND Q'S

WE have seen that with one notable exception, little attempt has been made to explain the early history of the Wiros since 1889, and the position of the Aryan hypothesis has remained stationary.[1] It is true that fresh evidences of such languages have been discovered in the uplands of Asia, and a new group, known as Tocharian,[2] have been identified. Certain affinities to the group have also been noted in the Hittite language, which has been claimed by some writers to be a true Wiro tongue.[3] But this view has not received general acceptance. Little use, however, has been made of this fresh evidence towards solving the problem of the Aryan cradle.

But early in 1891 an important communication was made to the Philological Society by Professor, afterwards Sir, John Rhys.[4] This paper raised a storm of hostile criticism, especially in Germany,[5] and its conclusions have not found favour in philological circles. As, however, some of Sir John's conclusions coincide in certain particulars with the reconstruction offered in the previous pages, based on other evidence, the thesis demands reconsideration.

To summarise briefly, Rhys pointed out that the Celtic languages, now confined to the north-western fringe of Europe, fell naturally into two well-defined groups. One of these, the Gaelic, or as he preferred to call it the Goidelic, was spoken in Ireland, North-West Scotland and the Isle of Man. The other, formerly called Cymric, but by Rhys styled Brythonic, was spoken in Wales, Cornwall and Brittany. There are several marked differences between these two groups of languages, the most important being

1 The best summaries up to this date are Taylor (1889) and Reinach (1892).

2 Sieg and Siegling (1921)

3 Hrozný (1917).

4 Rhys (1894).

5 Zimmer (1912); Meyer (1895-6) 55-86.

that the C in the Goidelic, which represents an earlier Q or Qu, is replaced in Brythonic by a P or perhaps a B. Thus the Celtic languages fall into two well-defined groups which may be called the Q and P dialects.

Rhys pointed out, too, that in the Italian peninsula the same phenomenon appeared. In Latin, and the dialects most closely allied to it, Q or Qu was found, while in the Umbrian forms of speech, used over the greater part of the peninsula this sound was replaced by P. Thus there were Q and P dialects in Italy also.

He further pointed out that the Greek language, with certain exceptions, was a true P dialect, for the Latin *equus* corresponded to the Greek ἵππος. He suggested, however, that the Ionic dialect used by Herodotus and Hippocrates, which frequently had a κ where the standard Greek had a π,[6] was a descendant of a form of Q speech, but that the Qu had degenerated into κ, as it had into C in Goidelic.

Further, he pointed out that the Q dialects, Goidelic, Latin and Ionic Greek, formed so to speak an outer ring, while Brythonic, Umbrian and standard Greek lay within them. He argued from this that these tongues had spread in two waves from a common centre, which he fixed in the mountain zone of Central Europe, and thence the Q tongues had spread by invasion, to be followed some few centuries later by a second invasion of P people, who had driven the Q people further from the original home.

He suggested that the change of Q into P had been effected by a conquering group of aliens, who had adopted the Wiro tongue from their subjects, but retained some details of the phonological laws of their original language, which accounted for this labialisation. He further suggested that these alien invaders were the Alpine inhabitants of the Swiss lake-dwellings.[7]

This paper was received with hostile criticism and derision, especially by some German students of Celtic tongues.[8] It had little better reception in France, and the British and Irish Celtic scholars, with a few exceptions, treated the idea with contempt. The theory has never received the consideration and fair criticism which a paper from so eminent an authority on Celtic languages deserved.

The main facts as to the Celtic and Italic dialects are not in dispute. There can be no question that in both of those areas both Q and P groups are or were in existence,

[6] Rhys (1894) 119.

[7] Rhys (1894) 122, 130.

[8] Zimmer (1912); Meyer (1895-6) 55-86.

and that the Q are in the outer and the P in the inner ring. With regard to Greek however, the case is different, and it is generally considered that the dialect of Herodotus and Hippocrates is purely local and not necessarily primitive, and it has been pointed out that had the original Ionic dialect been a Q tongue, signs of this would have been apparent in Homer. It is also becoming more common to consider Greek as having closer affinities with Persian than with Italic or Celtic, though one wonders whether this connection is not being exaggerated as the pendulum swings from the over-estimated resemblance formerly recognised between the two languages of the Classical world.

We must, however, agree that the Greek part of Rhys' hypothesis will not stand, at least without considerable emendation, nor have we found from our archæological investigations any reasons for believing that the Alpine inhabitants of the Swiss lake-dwellings over-ran as conquerors the surrounding regions. The evidence, in fact, points in an opposite direction. The deletion of these two points is not fatal to the hypothesis, and we may still consider that there is, on philological evidence, a *prima-facie* reason for believing that from somewhere in Central Europe, from the area which we have termed the Celtic cradle, two waves of invaders, of Wiro speech if not of Wiro race, set out in various directions, that the Q was the earlier and the P the later, and that both entered Italy and the Celtic lands.

We may further admit the possibility or even the probability, that an alien element, not necessarily non-Wiro, had entered the Celtic cradle before the departure of the second wave, and that it was to this alien element that the labialisation was due. Lastly, we may admit that, though evidence of the Q wave into Greece is non-proven, there is no doubt of the arrival of the P people, but these P people spoke a tongue showing greater affinities with Iranian speech, especially in their names for weapons and other warlike paraphernalia,[9] than is to be recognised in the other P tongues.

Now we have seen from the study of archæological evidence that the men of the leaf-shaped sword passed at one time into Italy, where they settled near Lake Fucino, and a little later some entered the Celtic lands of the west, while earlier a few adventurers reached Greek lands. Later some refugees from the mountain zone reached many parts

9 Schrader (1890) 225-228.

of France and the British Isles. All these seem to have come from the same Celtic cradle and to have been of the same racial type or, to speak more accurately, types. Later still, we have seen that the Koban folk, who had learned the use of iron in the neighbourhood of the Caucasus, returned to the Danube valley, after which some of them entered Greece as Dorians, while others entered Italy with the Villa-nova culture and a third group pursued their predecessors over all parts of France except the Seine valley. It seems possible, if not probable, that these two waves of invasions may have been those which brought Q and P speech respectively into these different parts of Europe. If this equation be accepted, the main features of Sir John Rhys' hypothesis have been proved. But it will not be wise to jump too hastily to a conclusion, for the fact that there were two waves of invaders and two of Wiro dialects may be only a coincidence. We must attempt to apply a confirmatory test.

In Greece we have seen that Casson has shown good cause why we should believe that the advance of the men with the iron sword should be equated with the Dorian invasion. The Dorians spoke a P dialect and may well have been the first to introduce such a tongue into Greece. We have seen how Rhys' view that Q dialects survive in the writings of Herodotus and Hippocrates is open to question, but we have also noted that Wace had equally questioned the "Achæan" invasion proposed by Ridgeway. I have already put forward an amended scheme for the latter, and suggested the arrival of only a few Nordic adventurers. Had these been Wiros of Q speech, they could not, owing to the paucity of their numbers, have imposed their tongue upon their subjects. If, therefore, we accept the equation for Greek lands, we need not expect to find evidence of the survival of Q speech in Greece in the fifth century.

But I have suggested that these "Achæan" adventurers were stragglers from the band of Nordics who were responsible for the Phrygian invasion of Asia Minor. If the equation, which we are endeavouring to prove, were true, we should expect that the Phrygian language was of the Q form. Unfortunately we know little of the Phrygian tongue even in the palmy days of Athens, still less of its form in the thirteenth century.

All philologists are agreed that with the language of Thrace it formed the Thraco-Phrygian group, from which, according to some philologists, modern Albanian is derived. Dacian is also believed to have belonged to the same group. Some years

ago Dr. Tomaschek collected together, from Greek and Latin sources, all the words which might be considered as belonging to this group, but most of these are place-names or names of plants. This is not very satisfactory material for our purpose, for place-names may have been inherited from the previous inhabitants, while names of plants may be loan words. Further than this most of the words have been preserved by Greek writers, and there is no Q in the Greek language. Still I have thought it well to search through the lists compiled by Tomaschek, and though the result is, perhaps, not very convincing, the presence of such words as καναρος, κενθος, Quimedava or κουιμε-δαβα, Coila or Cuila, κερκινη, and several others certainly hints that the Thraco-Phrygian tongues may have been Q dialects.[10]

The arguments from the east, while they do not in any way contradict our equation, and may even be said to give it some support, are not quite decisive; at any rate something more conclusive is desirable. It is useless to look for this in the west, in Celtic lands, for our documentary evidence scarcely antedates the time of Julius Cæsar, or, at any rate, such earlier evidence as we possess is both meagre and uncertain. Finally all the evidence has been the subject of dispute, on almost every item differences of opinion have been expressed, and we have no sure or unquestioned data on which to depend. The controversy has also, unhappily, become associated with other differences of opinion.

It will be well, then, to leave for a time the consideration of the Celtic evidence, and to endeavour to test our equation without reference to the linguistic data of the west. There remains, then, only one other area in which to search for our confirmatory test, the Italian peninsula.

Professor Conway[11] has given us to understand that the Osco-Umbrian dialects, which were P languages, were spoken throughout Italy from Umbria southwards, and doubtless, if we may judge from the statement of Herodotus already quoted, as far north as the foot-hills of the Alps, before the Gauls had invaded the valley of the Po. The only exceptions to this spread of these dialects were Etruria, or the greater portion of it, and a part of Latium, in which Latin dialects of the Q type were spoken. These Latin dialects, Conway tells us, were spoken by the Latini, the Marsi, the Æqui, the Hernici,

[10] Tomaschek (1894).

[11] Conway (1897).

the Falisci, who dwelt within the borders of Etruria, and to some extent by the Sabini.[12]

The linguistic position of the Sabines seems uncertain. In the passage quoted Conway enumerates them among the tribes who spoke Q dialects, but later on, when mentioning some of those who had P speech, he adds in a footnote that perhaps Sabine should be included among these. The position of the Sabine tongue is then uncertain. If this were so, the same uncertainty may apply to the Faliscans, for little if anything is known directly of their dialect, but Conway states that it is "certain that they were akin to the Sabines across the Tiber, and that their city was subdued and governed by the Etruscans."[13]

This leaves us with four tribes, who undoubtedly spoke Q languages, the Latini, Marsi, Æqui, and Hernici. The area occupied by them is only roughly indicated by Conway, but I gather that he agrees with the boundaries delineated by Kiepert.[14] The map given in Fig. 26 gives these bounds, and it will be seen that in many respects the region they occupy agrees with the area in which all the Italian leaf-shaped swords have been found. There are, however, certain marked differences.

Out of nine swords of Type D, four are found within the area of Q speech, and one at Sulmona, only just outside and within the area of Sabine speech. One is a stray, found somewhere in Apulia, and three, together with one of Type C, have been found not far from Lake Trasimene. The solitary sword of Type B, found at Ascoli, seems only to indicate that the line of approach was from the east.

Thus it seems that there is a fair equation between the swords and Q speech, but the latter must have been driven from the Trasimene region, and pushed westward in the Sabine area. Of the former presence and subsequent disappearances of the Q speech from the Trasimene region we have no evidence, but we have seen that the Etruscans arrived later than the leaf-shaped sword people and with a superior culture. We have also found reason for suspecting that the Villa-nova folk, who arrived still later, had made themselves a military aristocracy over the Etruscans, and the conquest or expulsion may have been due to them. We have seen that the Falisci, a tribe with Sabine affinities, were absorbed by the Etruscans. There is nothing inherently

[12] Conway (1897) i. 287.

[13] Conway (1897) i. 370.

[14] Kiepert (1882) Tab. viii.

impossible in the same fate having overtaken the leaf-shaped sword people who had settled in the region around Lake Trasimene.

But with regard to the westward move of the Q peoples, and to the suggestion that they were driven from what was later Sabine territory, we are not dependent

FIG. 26.—MAP SHOWING DISTRIBUTION OF SWORDS AND DIALECTS IN ITALY.

wholly upon conjecture, for Dionysius of Halicarnassus tells us that the tribes who occupied the region around Rome, after the barbarian Siculi, were the Aborigines.[15] Whether this term conveyed to Dionysius the same meaning as it does to us, or whether

[15] Dion. Halic. ix. xiv.

it was a corruption of a tribal name as some have thought,[16] does not concern us here. It is sufficient for our purpose that he mentions that their original home lay to the east, in the valley of the Velino and its tributary the Salto, which drains Lake Fucino. He mentions by name many of their cities, and describes the position of most of them. The sites of the majority have been identified, though some yet remain unknown. Judging by what can be ascertained of their position, we gather that the Aborigines occupied the Salto valley from Marruvium, on the shores of Lake Fucino, as far as Reatæ, where it joins the Velino, and thence to the junction of the latter with the Nera. One of their cities, Batia, lay considerably to the north, across the Apennines, in the direction of Ascoli, where the Type B. sword was found. How far the territory of the Aborigines stretched towards Lake Trasimene is uncertain, as the sites of some of their towns remain unidentified, but several of them lay in that direction, outside the later area of Q speech, but in Sabine territory.

Dionysius tells us that one night the Sabines issued from Amiternum and seized Liste, the capital of the Aborigines, who retired to Reatæ, whence they endeavoured to recapture it.[17] They appear to have been successful eventually in recovering the land around Lake Fucino, but would seem to have lost the territory to the north-west around Reatæ. About the same time many of them migrated south-westwards to the lands around Rome.[18] As one of their original cities had been called Palatium it seems likely that it was they who gave its name to the Palatine Hill.

The general agreement between the area in which we find the leaf-shaped swords, the area occupied by the Aborigines before the Sabine expedition, and the area of Q speech, suggests that these three are one especially as there is a progressive abandonment of the north-western portion and a movement towards the south-west near the mouth of the Tiber. My suggestion is that the Aborigines were the descendants of the leaf-shaped sword people and the ancestors of the Q speaking Latin peoples of later days.

Umbrian speech, though it extended towards the south-east and surrounded the Latin tongues, is found mainly on the north-east of the Apennines, and seems to have come from that direction; before the advent of the Gauls it reached, as we have seen, to the foot of the Alps. This is the region in which we find the chief remains of

[16] Niebuhr (1827) i. 80.

[17] Dion. Halic. xiv.

[18] Dion. Halic. xvi.

the Villa-nova culture, which is not unlike that of the Dorians, so that it seems reasonable to equate this culture with the Osco-Umbrian or P dialects.

The Sabines, as we have seen, are said to have come from Amiternum, which is on the north-eastern slope of the Apennines, or rather in a valley which opens out on that side. We should, therefore, expect them to have been a P people. But, according to Dionysius, they over-ran a region peopled by the Aborigines, who we have found reason for thinking were a Q people, and, though doubtless they expelled the fighting men, a good number are likely to have remained behind. It is not surprising, therefore, that there should be some uncertainty as to whether the original Sabines spoke a P or a Q dialect.

All the Italian evidence is consistent with the view that the men of the leaf-shaped sword were Q speaking, while the men with the iron sword spoke P tongues, but before we come finally to a decision, it might be well to make a further test elsewhere. We have seen that the refugees from the mountain zone, armed with Type G swords, fled down the Rhone, the Loire, and the Seine, and that, while the men with the iron swords pursued them down the two former valleys, they left the Seine valley alone. Sir John Rhys and his supporters have suggested that Q speech was at one time spoken in Gaul, and have cited certain place-names in support of their case.[19] The value of this evidence has been disputed, but there is one name, in two forms, which so obviously belongs to Q speech, that its value cannot well be denied, and this is *Sequana*, the ancient name for the Seine, and *Sequani*, the tribe who lived by its banks. It cannot be merely a coincidence that the best attested Q names have been noted just where Type G swords are found not followed by iron swords, and this case, bearing out as it does the general tenour of the Italian evidence, seems to me to be conclusive.

I would submit, therefore, that the archæological evidence, which I have given in this and in previous chapters, proves, as conclusively as the circumstances of the case are likely to admit, that the thesis of Sir John Rhys that two waves of people left Central Europe for Italy and the west, the first speaking a Q and the second a P tongue, is absolutely correct, though modifications need to be made in the application of this theory to Greek lands. His view that the P Folk were the people of the Swiss lake-dwellings we have seen good reason to reject.

[19] Rhys (1894) 112.

Chapter XIV

THE WANDERINGS OF THE WIROS

I HAVE now cited almost all the evidence which I have collected to solve the question of the Aryan cradle and the dispersal of the Wiros from Central Europe, especially of their raids into the Celtic lands of the west. Except for a few details I have found myself in agreement with other writers, sometimes with this, at others with that authority. This is not surprising, for so many shots have been made, often at random, and without sufficient evidence, that it would be strange if some of them had not hit the mark.

Thus with Penka I have argued for an Aryan race, which was Nordic in type, with Cuno that the primitive Wiro language developed on an open plain, which, with Latham and Schrader, I have placed on the Russian steppe. I have found myself in agreement with Sir John Rhys on the main features of his thesis that the Q and P Wiros left Central Europe in two successive waves, and I have argued that the Q Wiros were armed with bronze leaf-shaped swords. This last suggestion has already been hazarded in this country by Crawford,[1] though backed up with inadequate evidence, and in France by M. Hubert,[2] with whose evidence I am unacquainted, as his work dealing with the subject has not appeared as I write.

But in all these cases I have endeavoured to support my argument, not merely with philological data, as has been the case with most of my predecessors, but with evidence drawn from anthropology and archæology. The evidence from the Italian

[1] Crawford (1922) 34, 35.

[2] A. xxx. (1920) 575, 576; where there is an abstract of a paper read 19th May, 1920, before the Institut français d'Anthropologie, entitled L'établissement des Celtes dans les Isles Britanniques et de ses indices archéologiques à propos de la diffusion des épées de bronze à soie-plate rivetée.
M. Hubert informs me that his work on the Celts will be published shortly.

swords, backed up as it is by the absence of Hallstatt iron swords from the Seine valley, seems so decisive that I feel that the equation of the Q peoples with the spread of the bronze swords is beyond dispute.

But if this general reconstruction of the early history of the Wiro movements is to be considered correct, in outline at least, it must be shown that it will fit in with all the linguistic evidence available; at any rate that it is not incompatible with it. For that reason I propose in this chapter to summarise briefly, as I conceive them, the wanderings of the Wiros over Europe and Asia, from their first departure from south-east Europe.

We have found reason for believing that before 3000 B.C., and probably for long before that date, the Wiros had been occupying the Russian steppes east of the Dnieper, and had perhaps wandered across the Volga into Turkestan. They were a nomad people, living, perhaps, partly by hunting, but mainly by herding cattle on the grassy steppes, and the parklands which fringed them on the north. They had tamed the horse, and held this animal in great veneration. Its name constantly occurs as part of their own names,[3] they rode it like cow-boys "punching" their cattle, and if we may judge from the habits of their descendants, it was what may be described as a cult animal.

We have seen that they seem to have been of the Nordic type, but this statement needs qualification. We are accustomed to speak of Nordics, Alpines and Mediterraneans, and to describe their physical characters in considerable detail. We are well aware that the population of every country in Europe is mixed, and contains many examples of at least two of these types and a larger number of individuals who resemble one type in this feature and another in that; there are also many who display intermediate characters. But from this mass of heterogeneous material we believe that we have isolated these types, which we consider pure, and we treat the bulk of the population as a mixture of these, varying in its components and their proportions in each region. This postulates that there was a time, the race-making period of some writers,[4] when each of these races was living, pure and unmixed, in some area of isolation.

That this position has led to clear thinking and has advanced the science of physical anthropology is undoubted, but we have to consider whether it represents

[3] King (1915) 215 fn.

[4] McDougall (1920) ch. xv.

a condition which has actually occurred. That such a pure and homogeneous type would evolve if a community were isolated from all others for a sufficient length of time is probable, but we have no clear evidence that such a state of isolation has been preserved for a sufficient period in any part of Europe, or for that matter in the world. The Andamanese have for long kept themselves in fairly complete isolation in a small group of islands, yet their type seems to show evidence of admixture. The same is more true of the Australian aborigines, although the island continent has almost succeeded in keeping out other placental animals. It is true that as we go back into the past, especially into early neolithic times, the skulls in any given region appear more homogeneous than is the case at later periods. After the forests had appeared in Magdalenian times, and until the metal trade arose, communities seem to have been more isolated than either before or after. This was, apparently, the race-making period postulated by McDougall. But the communities who settled at that time in these regions of isolation were to some extent of mixed ancestry, and their isolation was not of sufficient length to insure absolute homogeneity, though we find a closer approximation to it then than has occurred since.

We have seen at the close of Chapter II. that what we have been accustomed to consider the Mediterranean race is in reality a mixture of several late palæolithic types, all somewhat resembling one another in their most conspicuous features, and the same seems to have been true of the Nordic Wiros, during their race-making period on the Russian steppe. Unfortunately we have no very long series of skulls to study, and in the case of some we are uncertain whether they belong to this or to a slightly later date. But Sergi has described a series of ninety-one,[5] which will give us some idea of their range of variation. Thirty-six of these skulls have indices varying from seventy-three to seventy-six, thirty-one more between seventy-one and seventy-eight, while the remaining twenty-four range outside these from sixty-five to eighty-one. Many of these skulls are very high, and so conform to the type of Brünn-Brux-Combe Capelle, and this has led Fleure to suspect that this late palæolithic type, the essentially intrusive element into the west of Solutrean times, is present in considerable numbers among these steppe-folk.[6] According to Sergi fifty-one out of the ninety-one show this feature

[5] Sergi (1908) 309-16).

[6] Fleure (1922) 12, 13.

and these are distributed pretty generally among all indices from sixty-five to seventy-nine.

Again, Bogdanov has given us reason for believing that two races were inhabiting the government of Moscow during the kurgan period. "One of these races was robust, with a large and long head, an elongated face, and, according to some examples, with hair more or less fair. The other, smaller and more poverty stricken, belongs to a brachycephalic people, having a shorter face, a wider and shorter head, and chestnut hair."[7] He shows, too, that in the centre of the area the long-headed type was purest, and cites twenty-three skulls from the kurgans of Souja, in the government of Kursk, of which nineteen were true dolichocephals, while three women and one child were subdolichocephalic.

We may, I think, consider the two skulls described by Sergi with an index of eighty, and the one with an index of eighty-one, as belonging to a foreign element living on the border of the steppes, perhaps as belonging to the Tripolje folk. If so we may consider our primitive Nórdics as having fairly long and narrow heads, though in this respect not so uniformly narrow as was the case with the Mediterraneans of the west. The cephalic index seems to have ranged from sixty-five to seventy-nine, though more usually from seventy-one to seventy-eight, while the more typical members of the group varied from seventy-three to seventy-six. These figures will be found to agree fairly well with observations made on the tall fair people of the present population of North Europe.

We can then imagine our Wiros as a somewhat variable race, with heads which conform to the narrow rather than to the broad type, tall and robust, though probably neither so tall nor so robust as many of the modern Nordics. There is reason for believing them to have been fair, with transparent skins, light hair and grey eyes, though it is likely enough that in colouration, too, there was considerable variation. We may well believe that the extremely fair colouring of the modern Swedes is a later specialisation, due to a few thousand years of life in a northern home, but we shall do well, I would suggest, to think of the original Wiros as blonds rather than brunets, though not necessarily or in all cases possessing an extreme degree of blondness.

7 Bogdanov (1892) 1.

Such then I would have you picture the Wiros on the steppe, and I would also remind you that many of them seem to have been descendants of the late Aurignacian and Solutrean horse-hunters, and that they may have developed the rudiments of their language in some post-Solutrean time within the Carpathian ring.

We have seen reason for believing that a period of drought, occurring some centuries before 3000 B.C., drove some of them towards the Baltic. It is possible, though I think improbable, that these may have been the ancestors of the group who use Teutonic speech. I am more inclined, however, to see in them the original speakers of Lithuanian and the Baltic tongues. Whether there was also at this time a move to the east is uncertain. Kurgans are said to stretch to the north-east well into Siberia, but we have insufficient data at present to determine their age or indeed whether they belong to Wiro culture. It is possible, however, that the north-westerly movement was paralleled by one to the north-east, into the Obi basin, and the Wiros may have wandered as far north as Tobolsk, or even to the Arctic Circle.

But the great dispersal was about 2200 B.C. On this occasion the drought seems to have been more excessive or more prolonged, for it is believed that the steppe was left for awhile uninhabited. That the movements passed east and west is certain, for we find evidence of the abandonment of settled villages both in the Tripolje area and at Anau. With the westerly movement we have dealt at some length ; that to the east must now demand our attention.

We have seen that shortly after 2200 B.C. nomad horsemen arrived on the Iranian plateau and that their appearance attracted the attention of Hammurabi and his counsellors. That these nomads, who were known as Kassites, were Wiros is certain, for philologists seem agreed that their language was of this type.[8] They were the first to introduce the horse into this area, and that this animal was held in reverence among them seems clear from the adoption of this beast as a divine symbol.[9] It seems unlikely that the Kassites were the sole representatives of this eastward move. It may be that it is to this date that we are to attribute the kurgans found in the Obi basin, or perhaps they found adequate pasture for their herds on the lower slopes of the Hindu Kush and the region around Balkh. We are as yet uncertain whether the group of

[8] Giles (1922) 76, King (1915) 214.

[9] King(1915) 215 fn.

Wiros, who may more properly claim the name of Aryas, and who spoke Indo-Iranian dialects, left the steppe at this time or on the earlier occasion but deductions drawn from linguistic evidence, from Vedic and Avestan sources, and from later Persian legend would lead us to expect that about 2000 B.C. the undivided Aryas were occupying the eastern parts of Russian Turkestan. A little later, perhaps, a group of these, speaking a language which had Iranian affinities, made themselves lords of eastern Armenia.

These are generally known as the Mitanni or Mitani barons; Professor Sayce has suggested to me that the name Mitan is the same as Midas, which would hint at a Phrygian origin, but the Iranian affinities of their language and the early date at which they appear in the Armenian mountains suggest that they arrived before the Phrygian invasion of Asia Minor, while the fact that they were located on the eastern rather than the western side of the Armenian *massif* leads one to believe that their line of approach was from Turkestan or the Iranian plateau on the east, rather than from Thracian territory on the west.

With the westward move of the Wiros I have already dealt in a former chapter. Having destroyed the Tripolje culture some passed along the sandy heaths of Galicia, entering Bohemia and Hungary through the Moravian gap, and displacing the Beaker-folk who passed northwards to Jutland, Holland and the British Isles. Others passed round the south-west shores of the Euxine to the Gallipoli peninsula where they divided, one party skirting the north Ægean coast to the grassy plain of Thessaly, where they introduced Dhimini ware, and where their sudden appearance on horseback gave rise to the legends of the Centaurs. The other party crossed the Hellespont, sacked Hissarlik II. and passed on to the grass lands in the centre of Anatolia Here they organised the eastern Alpine tribes into a great empire, and though, apparently, they adopted the language of their subjects, they introduced some of their own words and idioms, including the numerals, into that tongue, and most important of all established in the Hittite empire the worship of the Wiro deities.

Such seems to have been the distribution of the Wiros about 2000 B.C., or a little later, and for the next 500 years we find little evidence of movement, except that the Kassites, about 1760 B.C. established themselves as rulers in Mesopotamia. The great split between the Indian and Iranian Aryas must have taken place about this time, causing the former to cross Afghanistan and enter the Punjab, while the latter continued

to roam the steppes of Turkestan, and eventually to cross the Volga into South Russia, where they occupied the plain as far west as the foot of the Carpathians.[10]

We may now for a time leave the Asiatic sections and concentrate our attention upon those Wiros who entered what we have termed the Celtic cradle. Some passed into the mountain zone, where others had arrived before them, and made themselves lords of the settled agricultural Alpine lake-villages; these were the proto-Celts. Others seem to have remained in the plain of Hungary, continuing perhaps their former nomadic life. These, who had spread into the basin of the Morava, became the Thraco-Phrygian group. Between these two, in the lower valleys of the Drave and the Save, in Croatia and perhaps in Bosnia, were a third group, who may be termed proto-Italic. It must not be taken for granted that from the time of their arrival these three groups were quite sharply separated. We have seen, however, that the division of the people of the plain and the mountain zones arose quite early, largely from the difference between their modes of life. It is probable that many dialects arose, and that by degrees some of the mountain Wiros extended to the south-east, even as far as Herzegovina, and these gradually became separated from the main body of their fellows. The main group developed Celtic dialects, and south-eastern group Italic, though both, it must be remembered, spoke Q tongues.

Soon after 1500 B.C., when the first leaf-shaped sword, Type A, had been evolved, some Wiros seem to have passed over the mountains into the Friuli. It may have been merely a raid or a trading venture, but the Treviso specimen suggests that these swords had remained in use and had developed into a local type, so that it is possible that we may see in this, evidence of a small migration of Wiros through the Friuli to settle in the Veneto. The evidence is admittedly slight, but it seems to point to the introduction at this time into the regions lying at the head of the Adriatic of the Venetian dialects, which appear to be more archaic in form than the other Italic tongues.

During the Type B period, between 1450 and 1400 B.C., we have evidence of a northward movement to Schleswig-Holstein and Jutland, and the fact that these Type B swords continue in the north an independent development suggests that the party who carried them thither were not engaged in a temporary raid. I am inclined

[10] Minns (1913) 36-39, 102, 115.

to see in this movement the arrival in the north of that band of Wiros, who introduced into the Baltic region Teutonic speech and the legends and the cult of Odin.[11] As we have seen Wiros had arrived there more than a thousand years before, but these earlier invaders, I have suggested, had spoken languages more akin to the Baltic group, and were, if my interpretation of the facts is correct, the red-haired worshippers of Thor.[12] Thus we get the three groups of people, forming the three classes of serfs, farmers, and nobles, which are mentioned in Scandinavian legend,[13] by the super-position of the sword-bearing Teutonic Wiros upon the early group of Baltic-speaking Wiros, who had in their turn mastered and enslaved the Mongoloid people responsible for the Arctic culture.[14]

It was soon after 1300 B.C. that a small group from the Italic zone, coming probably from Bosnia, passed south and then crossed the Adriatic, landing a little south of Ancona at the mouth of the Truentus. Passing up the valley of that river some settled at Batia near its head waters, while others crossed the Apennines to the valley of the Velinus and thence to Reatæ, which stood at its junction with the Himella. Thence some passed south eastward to Lacus Fucinus and others north-westward to Lacus Trasimenus. These, as I have endeavoured to prove, were the Wiros who introduced into the peninsula the Latin tongue and formed the essential Roman patrician *gentes*.

About the same time there were irruptions from the plain; the movements were probably gradual and may have begun somewhat earlier, but direct evidence of this phase is at present lacking. These people of the plain advanced into Thrace, introducing there the Thracian tongue and the worship of Ares; they dominated the aborigines, including the thrifty lake-dwelling Pæonians, and made themselves masters of much of what was afterwards known as Macedonia. Some of these tribes, notably the Briges, crossed the Hellespont and introduced Phrygian speech into Asia Minor, in the east of which it still survives as Armenian.

It was some straggling adventurers from this movement who about 1250 B.C. entered Thessaly, where, as we have seen, some Wiros had long been settled. Some may have come from Thracian lands, some down the Vardar valley, and some stragglers from the Latin group, perhaps, down the Spercheus valley, having tarried awhile around

[11] Chadwick (1899).
[12] Nilsson (1868) 234-43.
[13] Vigfussen & Powell (1883) i. 234-242
[14] Peake (1919) 186-192.

Dodona. These were the "Achæan" heroes, who seem to have made themselves masters of the Mycenean city states, groaning under the rule of Minoan tyrants. A generation later these joined others in attacking Egypt, and it was their grandsons who, under the leadership of the king of men, sacked the city of Priam.

The next movement came from the Celtic mountain zone. It was between 1200 and 1175 B.C. that the Celtic lords, accompanied by the bravest of their henchmen, left the Celtic cradle, crossed the Rhine, and passed through the Belfort gap into Gaul. By degrees they conquered the whole of the country, though they made their mark less in Aquitaine and Brittany. Others, passing in all probability down the Rhine, landed on the east coast of Great Britain, and settled in the eastern counties and in Wessex. It is too soon, as yet, to define the area which they occupied, but the available evidence, derived from the swords and the finger-tip ware, suggests the region south-east of the chalk scarp. Later on a few of these passed across the densely-wooded Midland plain, across Wales by the upper Severn valley and the Bala cleft, and reached the gold fields of Ireland. It was some little time, however, before they settled in any numbers in the land which still preserves their language.

This seems to be all that we can as yet restore of the movements of the Q Wiros, though there is a sequel to be added later; we must turn now to the problem of the P speaking people. We have seen that about the time that the Celts were leaving the mountain zone for the west, bands of Wiros from the plain, passing through the Moravian gate, across Galicia and Podolia, reached the rich valley of the Koban to the north of the Caucasus mountains. Here they learned the use of iron from their humble neighbours on the other side of the mountains, who were perhaps the Chalybes, and made for themselves steel blades for their swords. It was during their sojourn here that they must have mixed with other Wiros who were still roaming the steppes of this region, and who were almost certainly of Iranian speech, which was spoken in this area in the time of Herodotus, and still survives among the Ossetes[15] in the Caucasus mountains. They may, too, have come into contact and intermarried with other folk, who were perhaps not Wiros. For some reason, which I do not pretend to explain, their speech, which on their arrival must have been allied to Thracian, changed its phonological laws, and they acquired the habit of labialising the Qu of their original tongue.

[15] Müller (1864) 524-539.

Rostovtzeff has suggested that these Koban Wiros were the Cimmerians,[16] and since, as we have seen, these P speaking people appear a few years later in Gaul, and again are found approaching, if they do not actually reach, the peninsula of Jutland, it seems reasonable to believe that the statement of Posidonius,[17] which has received Ridgeway's approval,[18] is correct, and that the Cimmerians of Russia and of the west,[19] as well as the people who gave their name to the Cimbric Chersonese are all one P speaking people, and that we must include in their number the Brythonic Cymry of Britain, in spite of what Rhys has written to the contrary.[20] Whether the name was originally *com-brox*, *compatriots*, or not, I must leave to philologists to determine, but if Rhys' etymology is correct, these compatriots were those who set out from the Koban to conquer the greater part of Europe. If this be so the statement quoted by Pliny from Lycophron that the Cimmerii were a people living around Lake Avernus[21] may not be a poetic fable, as has been supposed, but may show us that some of the Villa-nova invaders of Italy retained for a time the common name which survives in Wales to-day. Thus I am assuming that the words κιμμέριοι, κίμμεροι, Cimbri Cymry are all one, and suggest the use of the term Kimri[22] for the whole group.

Herodotus tells us that the Russian Cimmerians built castles or forts,[23] a custom which is found among the early iron age or Hallstatt inhabitants of the mountain zone,[24] and reached this country somewhat later in the form of Hill-top camps. Their distribution has not yet been well worked out, but their date is Hallstatt or sometimes later, and the available evidence from their distribution in time and space suggests that they were the work of different branches of the Kimri.

A large number of the Kimri, perhaps the greater part, remained in the Koban region until the seventh century, when they were displaced by incoming Scythian hordes,

[16] Rostovtzeff (1920) 111.

[17] Diodorus Sieulus v. 32 ; Niebuhr (1838) ii. 523.

[18] Ridgeway (1901) 369, 370.

[19] Hom. *Od.* ii. 14.

[20] Rhys (1884) 279.

[21] Pliny, *Hist. Nat.* III. ix.

[22] Holmes (1907) 438, says the term was used by Broca (1871) i. 395.

[23] Herodotus iv. 12.

[24] Déchelette (1908-14) ii. 593.

who appear to have been of mixed Iranian and Mongol origin ; then they overran Asia Minor as far as Sardis.[25] But many of these Kimri left the steppe almost immediately after they had developed their iron swords and settled in Thrace ; later they moved up the Danube valley as far, at least, as its junction with the Save. It was not long before the bulk of them moved southwards, probably down the Vardar valley, and about 1000 B.C. began the Dorian invasion of Greece. These introduced into that country iron swords and a P tongue, which, owing to their having mingled with Iranian neighbours in the steppe, retained marked affinities with that group of languages, especially in connection with weapons and other warlike materials.

The remainder divided, the larger group pushing up the Danube valley towards Ulm and Sigmaringen where they adopted the Celtic speech of their subjects, but labialising the Qs. The smaller group made themselves masters of North Serbia, Bosnia, and Croatia, and like their fellows adopted the language of the country, which was allied to Latin, but with the usual changes.

It was the latter group which was the first to move, either across the Adriatic or to the north-west and then over the Predil pass into the Friuli. Though they introduced their culture among the Veneti they did not supplant their language, but they pushed on across the Po valley, destroying the Terramara settlements and dispersing their inhabitants to Etruria, Latium and the region around Tarentum. They settled in the plain to the north of the Apennines, with their headquarters at Felsina or Bononia, and gradually conquered all the peninsula except Etruria, the Greek colonies and the lands occupied by the Latin tribes. It is doubtful whether these Kimri who invaded Italy were ever known to themselves by one name, but to others they were summed up as Ombri or Umbri. Later, as we have seen, one of their tribes, the Sabines, issuing by night from Amiternum, displaced some of the Latin tribes from the region around Reatæ, whence the dispossessed Latins departed towards the mouth of the Tiber. Here some of them coalesced with Terramara refugees, who had erected a dry *terramara* on a hill-top beside the river, and to this hill they gave the name of one of their abandoned cities, Palatium, so that it became *mons palatinus*. Later, when it had been freshly laid out and surrounded by a wall, it was called Rome.

[25] Herodotus i. 6, 15, 16.

The Sabines, who had overrun much of the Latin territory, even as far as the hill overlooking the Palatine, seem to have adopted the Latin language, while retaining a few features of their original Umbrian dialect. Soon afterwards some Kimri from Felsina seem to have made themselves war lords over Etruria, and to have for a time extended the Etruscan empire from the Alps to Pompeii, but being a small military aristocracy in a land with an ancient and advanced culture, they failed to impose their Wiro language upon the inhabitants.

But the larger group of Kimri had settled by the upper waters of the Danube and had adopted with modifications the Celtic speech. About 900 B.C. disagreements arose between them and the Q speaking Gaelic lords of the villages in the mountain zone, and no time was lost in attacking these communities in Switzerland and Savoy, in burning the pile-dwellings and expelling the inhabitants.

We must now take up again the tale of the bronze-using Q-speaking Celts, the story of fresh Gaelic movements, but this time a story of flight rather than of invasion. This was not a question only of Gaelic lords, for the Alpine peasants, who doubtless spoke a Celtic dialect and called themselves Celts, were also involved in this ruin. They fled by divers routes to the north and the west. By the swords of Type G we can trace their wanderings over Gaul, down the Rhone, the Loire and the Seine. Others seem to have fled northwards to Schleswig, Jutland, Sweden and even Finland, to escape their pursuers, while a large party landed in England, mainly between the Thames and the Wash, and found refuge with their relations who had settled on the open downs some centuries before.

The former arrivals had been Nordic lords, with perhaps a few half-breed retainers; the refugees were largely Alpine peasants, unaccustomed to pastoral pursuits on the high downs, and more anxious for water-meadows and arable patches by the margins of lakes and rivers. Settlements were made by the banks of the Thames between London and Richmond, and doubtless higher up the river. Lowlands were cleared in Wessex in the Vale of Pewsey, such as the village at All Cannings, and other settlements were made by lakes and marshes in South Wales.

In most parts of Gaul the Kimri followed the refugees, and drove them from the valleys of the Rhone and the Loire into the hills. In the Seine valley, however, the Sequani were left undisturbed and gave their name to the river. Though no positive

evidence has appeared, so far as I know, there is reason for believing that many of these Gaelic wanderers found refuge in south Brittany and La Vendée, and persisted in their lake-dwelling culture. No pile-dwellings have been found in these parts, so far as I am aware, yet I suspect their existence; but perhaps the numerous islets in the Bay of Morbihan were a sufficiently safe refuge for these poor folk.

The Kimric invasion of Gaul reached at first neither to the extreme west nor to the north, for its main advance was down the Rhone valley to the Midi. But there is evidence that small bands moved towards the north-east, down the valleys of the Meuse and Moselle, and we can pick up their traces again in Belgium.[26] So far direct archæological evidence still further north fails us, at least in Hallstatt times, though perhaps the Kimri did not cross the mouth of the Rhine until they had adopted La Tène culture; but if, as I have suggested, we are to consider the name Cimbri as a variant of Kimri, they must have reached the peninsula of Jutland, to which they gave the name of the Cimbric Chersonese. That they came within sight of the Baltic sea is clear, for an old name for that sea, *Morimarusam*,[27] is Celtic. If, however, Rhys is correct in considering the word Goidelic,[28] it must have been given to the sea by the Gaelic refugees. In Jutland the Kimri came into contact with the Teutones, descendants of the Wiros who had carried northwards the Type B swords. Whether they fought them at first is uncertain, but by the second century they had made an unholy alliance with them to ravage the lands to the south, and they would again have carried fire and sword throughout Europe had not their operations been cut short in 102 B.C. at Aquæ Sextiæ by the Roman army under Marius.

It was apparently in the fourth century, or a few years earlier, that certain tribes of these Kimri, whether a southern branch of the Cimbri or tribes living to the south-west of the chersonese in Frisia, Holland or Belgium, is uncertain, began to move southwards and westwards. These were the Galati, Galli and Belgæ. They began in various waves to disturb southern Europe, and to harry the settled communities as far as Asia Minor, where they survived for several centuries as Galatians.

[26] Déchelette (1908-14) ii. 615, 616.

[27] Pliny iv. 95; Solinus xix. 2; quoted by Rhys and Brynmor-Jones (1900) 80.

[28] Rhys and Brynmor-Jones (1900) 80.

It is not necessary for our purpose to trace in detail these movements, except in so far as they affect our problem. In the second century, or thereabouts, the Veneti, one of these tribes, who had taken to the sea, sailed down the channel and settled at Vannes, at the head of the Morbihan bay.

Their arrival seems to have disturbed the Gaelic lake-dwellers of this region, for about this time we find people, whose culture show Breton affinities, settling on either side of the Irish channel. In the lake-villages of Glastonbury[29] and Meare we have evidence of the arrival of these refugees, and similar evidence may be found in Ireland, which received its first knowledge of iron and La Tène culture about this time.[30] In Ireland these timid folk built their usual lake-dwellings, and *crannogs*, in the lakes, though Macalister has recently seen in these fortified habitations evidence of the arrival of Gaelic conquerors, who thus defended themselves from the treachery of their subjects, among whom they were very unpopular.[31] But, as we have seen, the Gaelic war lords, with their bronze swords, had reached Ireland nearly a thousand years before.

It was during one of these late Kimric movements that the Belgian tribes began to cross the channel into Great Britain. It is doubtful, at present, whether the introduction of the use of iron and La Tène culture, which took place about 450 B.C., is to be attributed to them, for there were probably many trading posts along the coast, like the one excavated at Hengistbury Head,[32] which were in touch with the continent and could have imported these wares. Some of these settlements may even be earlier than the La Tène period; this is suspected in the case of Hengistbury, and was certainly the case at Eastbourne,[33] if the pottery found there recently really betokens a trading post, and not the arrival of a small group of Gaelic refugees from the further bank of the upper Rhine.

But these Belgic invaders were almost certainly responsible for the hill-top camps, which in the south of England seem to be earlier than 200 B.C., though probably

[29] Bulleid & Grey (1911, 1917).

[30] Macalister (1921) **2.** 24, 50.

[31] Macalister (1921) **2.** 256.

[32] Bushe-Fox (1915).

[33] Budgen, Rev. W., Hallstatt Pottery from Eastbourne. A.J. II. 354-360.

much later in the north and west. To them we must also attribute the introduction of pedestal vases and other types of pottery which come, undoubtedly, from the Belgic area on the continent. Such Belgic movements continued until the first century, and had only ceased shortly before the arrival of Julius Cæsar in northern Gaul.

Thus the Kimri, or as we may now call them the Cymry, did not enter England until about 300 B.C., and for a time seem to have limited their settlements to the chalk lands. By degrees they spread to the oolite ridge, but it is doubtful whether they had progressed farther when Cæsar landed here. The dense Midland forest kept them back, and they seem to have made no attempt to reach Ireland, or, until after Cæsar's time, to dispossess the Gaels of the Parret marshes. But early in the Christian era civil wars occurred between the tribes on either side of the Thames, which led eventually to Roman interference, and it was during the campaign of Aulus Plautius and his successors that dispossessed Cymric leaders, like Caractacus, fled with their followers to the west, and introduced into Wales a Cymric or Brythonic speech, the first Wiro dialect to be spoken regularly in the principality, except along trade routes and in the small Gaelic settlements above Cardiff.

Chapter XV.

CONCLUSION

WE have now traced in outline the history of Celtic peoples and Celtic lands from the Wurmian glaciation to the Roman conquest of Britain, and have cited as evidence the conclusions drawn from linguistic science and an extensive array of data of an anthropological and archæological character. Though most of the main conclusions arrived at have been suggested before, many of them to be subsequently discarded as lacking sufficient evidence, the main story of the Wiros and their wanderings, as I have outlined it above, seems to be compatible with all the positive information we possess, though it is in conflict, as I am well aware, with many theories that have been built upon them.

My views will not, I feel sure, meet with ready acquiescence from some Celtic scholars, especially from those who follow Zimmer and Kuno Meyer. This school has for thirty years been engaged in proving that there is no philological evidence for the existence of Goidelic speech in England or Wales, except such as was introduced from Ireland in the third or fourth century, A.D. I do not wish to dispute the philological evidence, nor do I feel competent to do so. I am ready to admit, at any rate for the sake of argument, that no such philological evidence exists. But England has been overrun by Kimri, Romans and Saxons, since the Gaels are believed to have come, and the absence of such evidence is not surprising.

I would, however, point out that the absence of philological evidence of their presence is not conclusive evidence of their absence. If my equation of the bronze swords and the finger-tip pottery with Q speaking people is correct, and the evidence from Italy and the Seine valley seems incontrovertible, the Gaels not only came to England, but settled there in considerable numbers, and even inhabited the southern slopes of the Glamorgan hills. No absence of Goidelic elements in British place-names is proof against

such positive evidence. A few of the Gaels may have reached Ireland from the mouth of the Loire, in fact it seems probable that some such movement took place, though positive archæological evidence from the French side is for the present lacking.

Lastly there is an idea prevalent in some quarters that at one time there was in Europe a great Celtic empire. Some writers speak of this as though it had been a Gaelic empire. I have been unable as yet to trace this superstition to its source. I suspect that the chapters on Brennius in Geoffrey of Monmouth's History of the Britons[1] are the real foundation for this strange belief, though naturally no-one to-day would base a serious hypothesis upon so shifty a foundation. M. d'Arbois de Jubainville[2] seems to rely mainly on a passage from Livy[3], in which the writer states that Bellovesus and Sigovesus, nephews of Ambigatus, king of the Bituriges, were sent simultaneously on two expeditions. Livy says nothing of an empire, and the movements which he dates at 600 B.C. seem to have occurred 300 years later. Déchelette[4] had dealt with this absurd notion according to its deserts.

The empire of Ambigatus, if such a thing existed, must have been a Kimric not a Gaelic power. But empires, if we are to understand the word in the sense in which it is ordinarily used, need settled conditions, such as did not prevail in north or north-west Europe until the arrival in the latter region of the *pax Romana*. It is conceivably possible that among the Kimri the tribal chiefs paid some form of loose allegiance to a super-chief, just as the Dorians, and to some extent the Hellenic world, recognised, very occasionally the hegemony of Sparta; but the evidence which we possess from classical sources does not even imply the existence of any such over-lordship among the Celts. In any case such vague hegemony could only have existed among the Kimric tribes, who for a thousand years harried the people of Celtic lands and the Celtic cradle, Gaelic lords or non-Wiro subjects alike. Before their arrival the Gaelic chiefs ruled only in the mountain zone, and the establishment of an empire in a mountainous country, draining into four rivers and four seas, would have been more impossible than in the open steppe.

[1] Geoffrey of Monmouth, *Hist. Brit.* iii. 8-10.

[2] Jubainville (1904) 80.

[3] Liv. v. 34.

[4] Déchelette (1908-14) ii. 572, 573.

Appendix I

CHRONOLOGY

BEFORE the days of written history positive chronology is to some extent a matter of speculation, and until the beginning of this century it was little more than guesswork. But the discoveries of Cnossos provided synchronisms between the archæological remains of Egypt and Europe, and since then rival systems have arisen, all of which approximate more or less nearly to the truth. The palæolithic age, however, still remained in the region of guesswork, and wild and very discrepant attempts have been made to estimate its length. It is still the fashion for some writers to use inflated dates and to count years in hundreds of thousands, but the trend of the evidence produced of late is to encourage moderation, and it seems to me possible that the men responsible for the Fox Hall flints, if indeed they are of human workmanship, may not have been separated from their discoverer by a period of time exceeding 150,000 years.

When matters are so problematical, cautious writers are prone to be content with a comparative chronology, or to speak in terms of millenia. This method has advantages, for such writers run little risk of having to confess that they have made miscalculations. On the other hand, the use of actual dates leads to clear thinking, and to gaining a vivid impression of the story, and since we have now good grounds for estimating such dates, (and I shall not be ashamed to own up if later discoveries prove my estimates to be incorrect), I have adopted positive dates throughout, indicating where special uncertainty exists and the direction in which modification may be expected.

While the early palæolithic age is still a hazy past, and the middle palæolithic is not in much better case, the later palæolithic or reindeer age can now be shown to

be relatively modern, while the *hiatus* between that period and the neolithic age has disappeared. Thanks to the work of Baron de Geer[1] we have some foundation for a chronology of this period, and the results of this work have long been made known to English readers by Professor Sollas.[2] There seems to be little doubt but that the pause in the retreat of the Scandinavian ice by Lake Ragunda, which de Geer has dated at 5000 B.C., may be equated, as has been shown by Brooks,[3] with the Daun stadium of Penck.[4] The Fenno-Scandian moraines, on the other hand, can only be equated with the Bühl advance which took place towards the close of Magdalenian times, and this gives us a date of 7000 to 7500 B.C. for Magdalenian. The Goti-glacial moraines seem to indicate the second Würm maximum, and Sollas' estimate for the interval seems eminently reasonable and has been adopted here; the first maximum of the Würm seems represented by the Dani-glacial line.

The later dates depend, by a series of synchronisms, on those ascertained from the Egyptian monuments, and it is unfortunate that on this point authorities differ. The difference between the various schools of thought has been well and fairly summarised by Dr. Hall;[5] the two great protagonists are Professor Flinders Petrie[6] and Dr. Edouard Meyer,[7] whose system has been adopted with slight modifications by Professor Breasted.[8] For this reason there are alternative systems in vogue for the period preceding 1580 B.C.

Since so many great authorities, well acquainted with the facts and well able to interpret them, differ as to the result, one, who is not an Egyptologist, can decide between them only by testing the application of both systems in his own field of study. Having applied this test to both schemes, I have no hesitation in accepting the latter or shorter chronology, for by the former I find that the earlier periods would be more prolonged than the evolution of the culture warrants. I have therefore, throughout this work used dates based on those given for Egypt by Professor Breasted. This, of course, does not apply to Mesopotamian dates.

1 Geer (1896), (1912).
2 Sollas (1911) 395-397.
3 Brooks (1921).
4 Penck & Brückner (1909).
5 Hall (1913) 15-30.
6 Petrie (1906) ch. xii.
7 Meyer (1904).
8 Breasted (1912).

Dr. Hall would like to add another century or two to this shorter chronology,[9] and there is much to be said for such a step. I have not, however, ventured to do so here, but if such an amendment should prove generally acceptable, it would only be necessary to add the required figure to all my dates, other than Mesopotamian, prior to 1580 B.C., as far back as the beginning of the neolithic age.

[9] Hall (1913) 25.

Appendix II

MATRILINEAR SUCCESSION IN GREECE

BACHOFEN[1] was the first to draw attention to the existence of mother-right in Greece, and he was followed in 1886 by M'Lennan.[2] Both these authors claimed support from evidence which will not now stand investigation; a more judicious statement of the case was issued last year by Dr. Hartland.[3] In 1911 Professor Rose[4] set out to prove the case, but found that his evidence led him to a contrary conclusion, and he argued that such customs were unknown in Hellenic Greece. If by Hellenic he means "Achæan" and Dorian, that is to say Wiro Greece, I am in full agreement with him, but he includes also Minoan Crete, "because it is just possible that the population was in some sense Hellenic."[5]

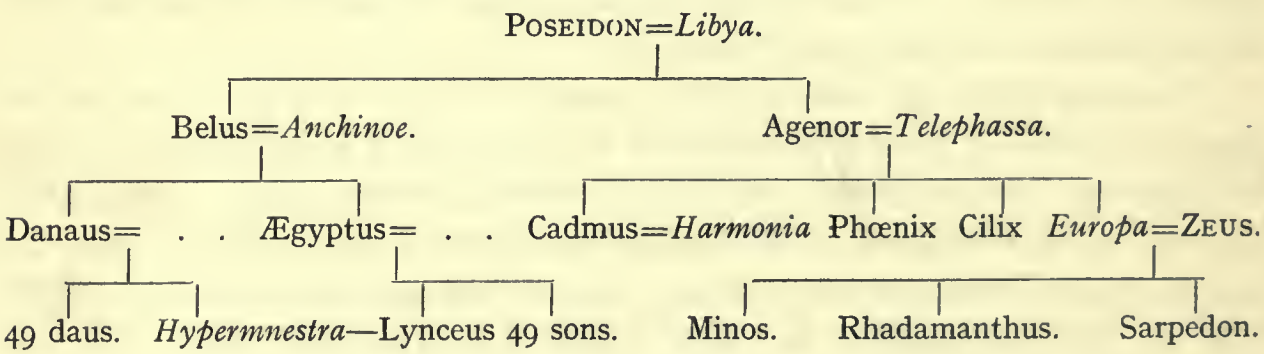
Rose argues that the existence of the worship of a mother goddess must not be taken as evidence of matrilinear succession, and were this the only detail on which we could rely, I would readily admit that the evidence was too slight. But we have some support from pedigrees. Rose dismisses the evidence from traditional genealogies, because " many of these are late, and a large part of them is doubtless pure invention."[6] I do not feel confident that we must dismiss these genealogies, even if late, so summarily. Much of the detail contained in them occurs in the tragedians, who gathered it from the legendary matter current in their day. That there was much more such legendary matter, and that it was for long after kept alive in the minds of the people, is clear from the pages of Pausanias. Still doubtless there were some inventions, in fact it is obvious from internal evidence that this was so, but such interpolations can usually be detected, and by no means vitiate the pedigrees for our purpose. Often

[1] Bachofen (1897).
[2] M'Lennan (1886) 195-246.
[3] Hartland (1921) 122-124.
[4] Rose (1911).
[5] Rose (1911) 279.
[6] Rose (1911) 283.

the interpolation is but the substitution of a fictitious name for an unnamed son or daughter, or when tradition states that C is the grandson of A, a name B has been invented to fill in the missing intermediate ancestor.

I propose, therefore, to examine some of these pedigrees, and will choose those of undoubted Minoan origin. Ridgeway[7] has suggested that the Minoans traced their descent from Poseidon, as the "Achæans" did from Zeus or Ares. There are three well-known families that do so, the Neleids of Pylos, the Danaans of the Argolid and the Cadmeians of Bœotia; in the two former cases there is ample evidence that those places received a population from Crete either in the first or early in the second Late Minoan period.

The Neleid pedigree is meagre and does not help us, but those of the Danaans and Cadmeians are fuller, and it is claimed by later writers that the families were connected. The first part of the genealogy is unquestionably fictitious, and designed to show a connection between the two families, but it is worth looking at.



Here we find the late genealogist inventing a pedigree to connect the traditional families of the Argolid, Thebes and Cnossos with the eponymous heroes of Phœnicia, Cilicia and Egypt, and tracing them all from Poseidon. This seems to indicate that popular tradition believed all these families and peoples to have been connected, and that they were worshippers of the sea-god.

Let us now turn to the Danaan pedigree. That the fifty daughters of Danaus were mythical admits of no doubt, and the same is true of their fifty cousins, but it is possible that tradition is correct in claiming that one of them, Hypermnestra,

7 Ridgeway (1901).

married her cousin and succeeded her father. They are succeeded by Abas, who is followed by Acrisius, and then again we get a daughter Danaë, who is succeeded by her son Perseus. This hero is said to have left many sons, but here the pedigree gets mixed. It seems more likely to my mind that Perseus was succeeded by Electryon, whose daughter Alcmene married her cousin Amphitryon, though later writers, accustomed to a more strictly patrilinear succession, made Amphitryon succeed his father Alcæus as king of Mycenæ. But the times were troubled, the Pelopids were conquering the Peloponnese and the succession failed. It is well to remember, though, that Perseus is said to have had a daughter Gorgophane, whose name may well be fictitious and that her son or grandson Tyndareus was father of Clytemnestra. It would seem that both Agamemnon and Ægistheus claimed to reign not only by right of conquest but *jure uxoris*.

Hartland has well cited from the *Eumenides* that " when Orestes, pursued by the Erinyes for his mother's death, pleads that he is not of kin to her and wins by the casting vote of Athena, the Erinyes are startled and shocked on finding that even the gods decide against them, declaring that these, the younger gods, have over-ridden the old laws and unexpectedly plucked Orestes out of their hands."[8]

Cadmus is said to have married Harmonia, daughter of Ares, again a fictitious name for a Thracian maiden. He had four daughters and one son, but it is not the latter who succeeds him, but the son of his fourth daughter Agaue. The Bacchæ of Euripides seems to show a struggle between the claims of the priestly or divine son of Semele, the eldest daughter, and the more mundane and regal son of Agaue, the youngest. The claim of Polydorus, the only son, does not arise until Dionysus has been banished and Pentheus slain.

While these genealogies, much garbled by writers accustomed only to patrilinear succession, show the frequent succession of a daughter or a daughter's son, it may well be urged that there is no evidence of the importance of the maternal uncle, or of the *avunculi potestas* of Sir James Frazer. This is undoubtedly true, and no reasonable claim can be made that this particular form of matrilinear succession obtained in Minoan Greece. But are we sure that there is only one type of matrilinear succession? The

[8] Hartland (1921) 123.

forms of patrilinear succession are not all alike. The laws on this subject varied between the Ripuarian and the Salic Franks, the British crown passes by a rule which differs from that governing the descent of a peerage, and peerages granted by letters patent differ from those dependent upon a writ of summons. I submitted the point recently to the late Dr. Rivers, who told me that it was his opinion that several types of matrilinear succession had probably existed and that he had found evidence of two in Melanesian society.

I do not suggest that the evidence which I have cited shows the typical matrilinear succession as it is commonly understood, or that among pre-Hellenic peoples " the father did not count,"[9] but it seems to hint that the succession was in the process of passing from some form of matrilinear to some form of patrilinear descent. Perhaps it may only indicate that the eldest child succeeded regardless of sex, but in any case there appears to be sufficient evidence for assuming that in Minoan cities an heiress counted for more politically than she did in " Achæan " households. It is well, too, to remember in this connection that these Minoan tyrants were probably Prospectors and that among another group of Prospectors, the Etruscans, " it is, of course, agreed on all hands that such a system did exist."[10]

[9] Murray (1907) 74.

[10] Rose (1920) 94.

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The following abbreviations have been used :—

A.	L'Anthropologie.
A.A.	Archäologischen Anzeiger.
A.A.A.	Annals of Archæology and Anthropology. Liverpool.
A.A. & E.	Archivo per l'Antropologia e la Etnologia.
A.d.P.	Annales de Paléontologie.
A.f.A.	Archives für Anthropologie.
A.J.	The Antiquaries' Journal.
A.J.P.A.	American Journal of Physical Anthropology. Washington, D.C.
A.M.	Atlantic Monthly.
A.R.	Asiatick Researches.
A. & R.	Atene e Roma.
Arch.	Archæologia.
Arch. Camb. ..	Archæologia Cambrensis.
B.P.	Bullettino di Paletnologia Italiana.
B.S.A.	British School at Athens.
B.S.A.L.	Bulletin de la Société d'Anthropologie de Lyon.
B.S.A.P.	Bulletin de la Société d'Anthropologie de Paris.
B.S.R.	British School at Rome.
C.G.I.	Congrès Géologique International.
C.I.A.P.A.	Congrès International d'Archéologie Préhistorique et d'Anthropologie.
C.M.H.	Cambridge Mediæval History.
Ἐφ .Ἀρχ.	Ἐφημερὶς Ἀρχαιολογικὴ.

G.J.	Geographical Journal.
G.R...	Geographical Review.
J.A.I.	Journal of the Anthropological Institute.
J.E.A.	Journal of Egyptian Archæology.
J.E.S.	Journal of the Ethnological Society of London.
J.I.S.I.	Journal of the Iron and Steel Institute.
J.R.A.I.	Journal of the Royal Anthropological Institute.
J.S.	Journal des Savants.
K.A.W.	Kaiserlich. Akademie der Wissenschaften.
K.D.A.I.	Kaiserlich. Deutschen Archäologischen Institut.
K.P.A.W.	Königlich. Preussischen Akademie der Wissenschaften.
M.A.N.	Mémoires de la Société Royale des Antiquaires du Nord.
M.P.K.K.A.W. ..	Mitteilungen der Prähistorischen Kommission der Kaiserlichen Akademie der Wissenschaften zu Wien.
M. & P.M.L. & P.S.	Memoirs and Proceedings of the Manchester Literary and Philosophical Society.
N.H.	Natural History. New York.
N.S.	Notizie degli Scavi di Antichità.
P.A. & A.S.U.A. ..	Proceedings of the Anatomical and Anthropological Society of the University of Aberdeen.
P.S.A.	Proceedings of the Society of Antiquaries of London.
P.S.E.A.	Prehistoric Society of East Anglia.
Q.J.G.S.L.	Quarterly Journal of the Geological Society of London.
Q.J.R.M.S.	Quarterly Journal of the Royal Meteorological Society.
R.C.	Revue Celtique.
R.B.A.	Report of the British Association.
R.E.A.	Revue d'École d'Anthropologie.
R.E.S.	Revue d'Ethnologie et de Sociologie.

R.L.P.C. .. .. Revue de Linguistique et de Philologie Comparée.
R.R.C.S.A. .. .. Reports of Research Committees of the Society of Antiquaries of London.
S.H.P.F. .. .. Stockholms Hogskolas Populära Föreläsningar.
S.H.S. .. .. Society for Promoting Hellenic Studies.
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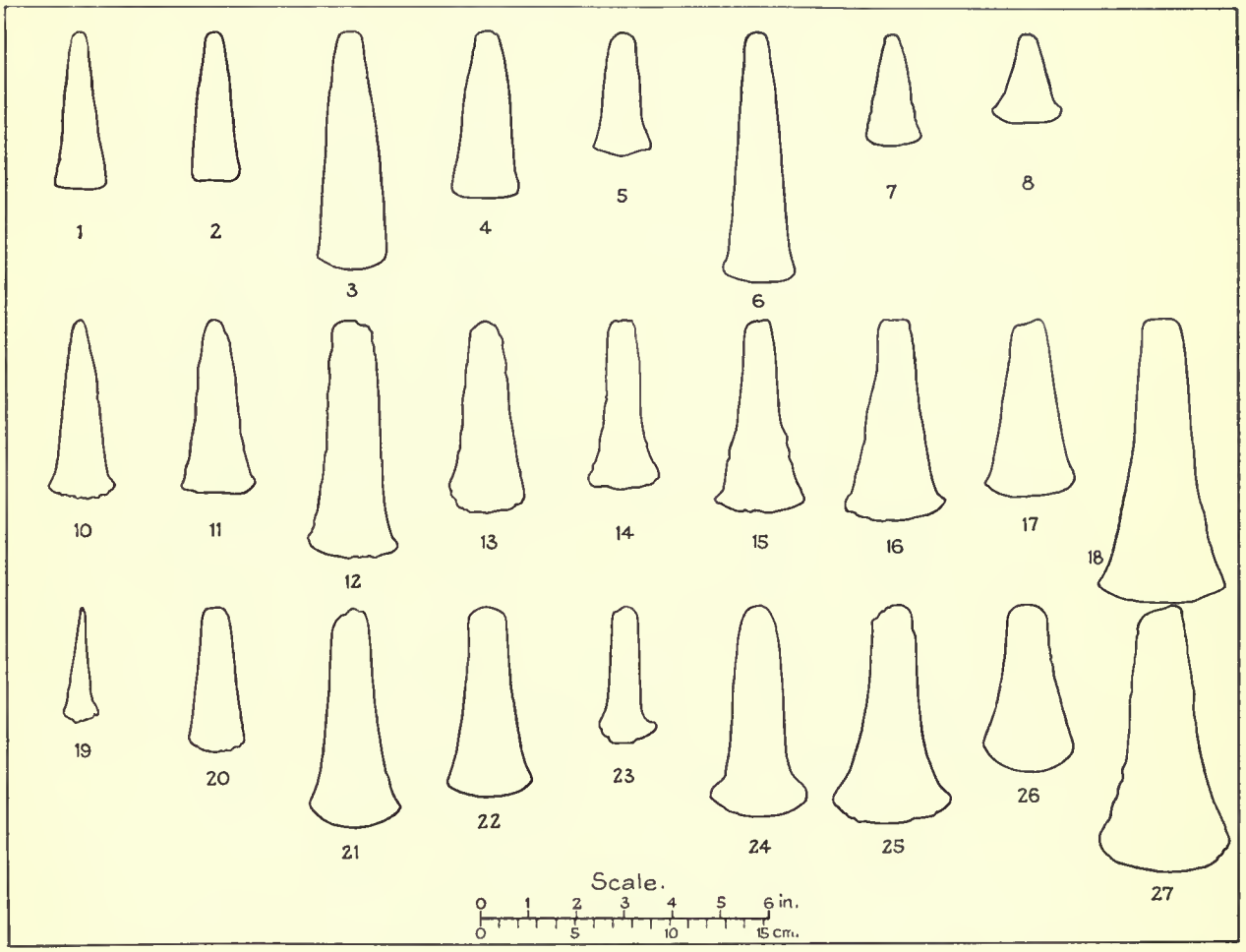
PRINTED IN GREAT BRITAIN BY HEADLEY BROTHERS,
18, DEVONSHIRE STREET, E.C.2 ; AND ASHFORD, KENT.

PLATES

PLATE I.

AXES FROM THE MEDITERRANEAN AND WEST EUROPE.

1	Cyprus.	Pitt-Rivers Museum, Oxford. 1440. Cesnola Collection.
2	Cyprus.	Pitt-Rivers Museum, Oxford. J. W. Flower.
3	Cyprus.	Pitt-Rivers Museum, Oxford. 1440. Cesnola Collection.
4	Cyprus ; Dati.	City Art Gallery, Leeds. John Holmes Collection.
5	Cyprus ; Nicosia.	Ashmolean Museum, Oxford.
6	Cyprus.	Pitt-Rivers Museum, Oxford. 1440. Cesnola Collection.
7	Greece ; Eubœa.	British School of Archæology, Athens. Finlay Collection, 25.
8	Greece ; Peloponnesus.	British School of Archæology, Athens. Finlay Collection, 538.
10	Spain ; site unknown.	Collection of Capt. J. H. Ball.
11	Spain ; El Argar. Siret 21.	Ashmolean Museum, Oxford. P.R. 200.
12	Malta : Hal-Tarxien.	Valetta Museum.
13	Malta ; Hal-Tarxien.	Valetta Museum.
14	Malta ; Hal-Tarxien.	Valetta Museum.
15	Spain ; El Argar. Siret 276.	Ashmolean Museum, Oxford. P.R. 202.
16	Spain ; El Argar. Siret 605.	Ashmolean Museum, Oxford. P.R. 199.
17	Spain ; El Argar. Siret 26.	Ashmolean Museum, Oxford. P.R. 201.
18	Spain ; El Argar. Siret 816.	Ashmolean Museum, Oxford. P.R. 198.
19	England ; Arreton Down, Isle of Wight.	Carisbrooke Museum.
20	England ; Aldershot, Hants.	Collection of Capt. J. H. Ball.
21	England ; Battlefield, Shropshire.	Shrewsbury Museum.
22	England ; Yorkshire. Site unknown.	Private Collection.
23	England ; Beckhampton, Wilts.	Devizes Museum.
24	England ; Grappenhall, Cheshire.	Warrington Museum.
25	England ; Fordham, Cambridgeshire.	Museum of Archæology and Ethnology, Cambridge.
26	England ; Banner Down, near Bath.	Literary and Scientific Institute, Bath.
27	England ; Fordham, Cambridgeshire.	Museum of Archæology and Ethnology, Cambridge.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DAGGERS FROM THE MEDITERRANEAN AND WEST EUROPE.

1	Crete.	Candia Museum.
2	Crete.	Candia Museum.
3	Crete ; Gournia.	Boyd & Hawes (1912) iv. 51
4	Malta ; Hal-Tarxien.	Valetta Museum.
5	Malta ; Hal-Tarxien.	Valetta Museum.
6	Sicily ; Monteracello. B.P. XXIV., xxii. 7.	Syracuse Museum.
8	England ; Throwley, Staffordshire.	Sheffield Museum. Bateman Collection. J. 93. 450.
9	Ireland ; Shannon, Co. Limerick.	Glastonbury Museum. Braxton Collection 359.
10	England ; exact site unknown.	Public Library, Brentford.
11	Ireland ; site unknown.	Private Collection.
12	Ireland ; site unknown.	Municipal Museum, Plymouth.
13	England ; Fairoak, near Hereford.	Hereford Museum.
14	Ireland ; site unknown.	Museum of the Leeds Literary and Philosophical Society.
15	England ; Isleworth, Middlesex. From the Thames at Sion reach.	Guildhall Museum, London.
16	England ; Bottisham lode, Cambridgeshire.	Museum of Archæology and Ethnology, Cambridge.
17	England ; Hammersmith, Middlesex. From the Thames.	The London Museum.

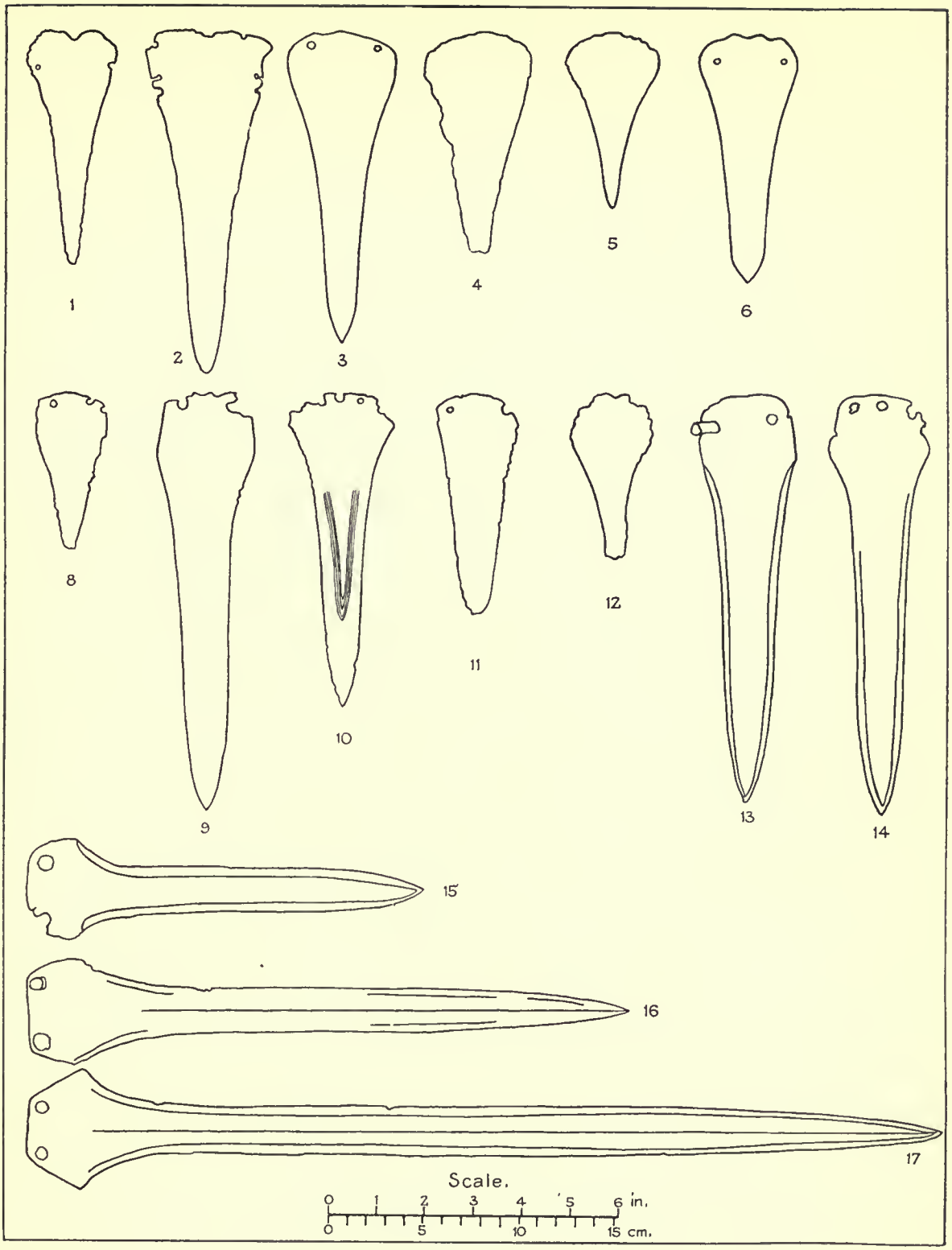
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PLATE III.

PLATE III.

AN ETRUSCAN PROSPECTOR.

From the lid of a coffin in the British Museum.
By kind permission of the Trustees.

18

SARCOPHAGUS

RECUMBENT MALE FIGURE: TWO

[*Photo: W. A. Mansell & Co.*

PLATE IV.

HIVE HUNGARIAN DAGGERS.

A Komoron, Hungary. Ownership unknown.
Catalogue (1891) IX. 62.

B Komoron, Hungary. Ownership unknown.
Catalogue (1891) IX. 62.

C Szony, Hungary. Ownership unknown.
Catalogue (1891) IX. 58.

D Kassa, Hungary. Ownership unknown.
Catalogue (1891) IX. 61.

E Transylvania. Ownership unknown.
Catalogue (1891) IX. 60.

PLATE IV.

FIVE HUNGARIAN DAGGERS.

A	Komoron, Hungary. Catalogue (1891) IX. 62.	Ownership unknown.
B	Komoron, Hungary. Catalogue (1891) IX. 62.	Ownership unknown.
C	Szony, Hungary. Catalogue (1891) IX. 58.	Ownership unknown.
D	Kassa, Hungary. Catalogue (1891) IX. 61.	Ownership unknown.
E	Transylvania. Catalogue (1891) IX. 60.	Ownership unknown.

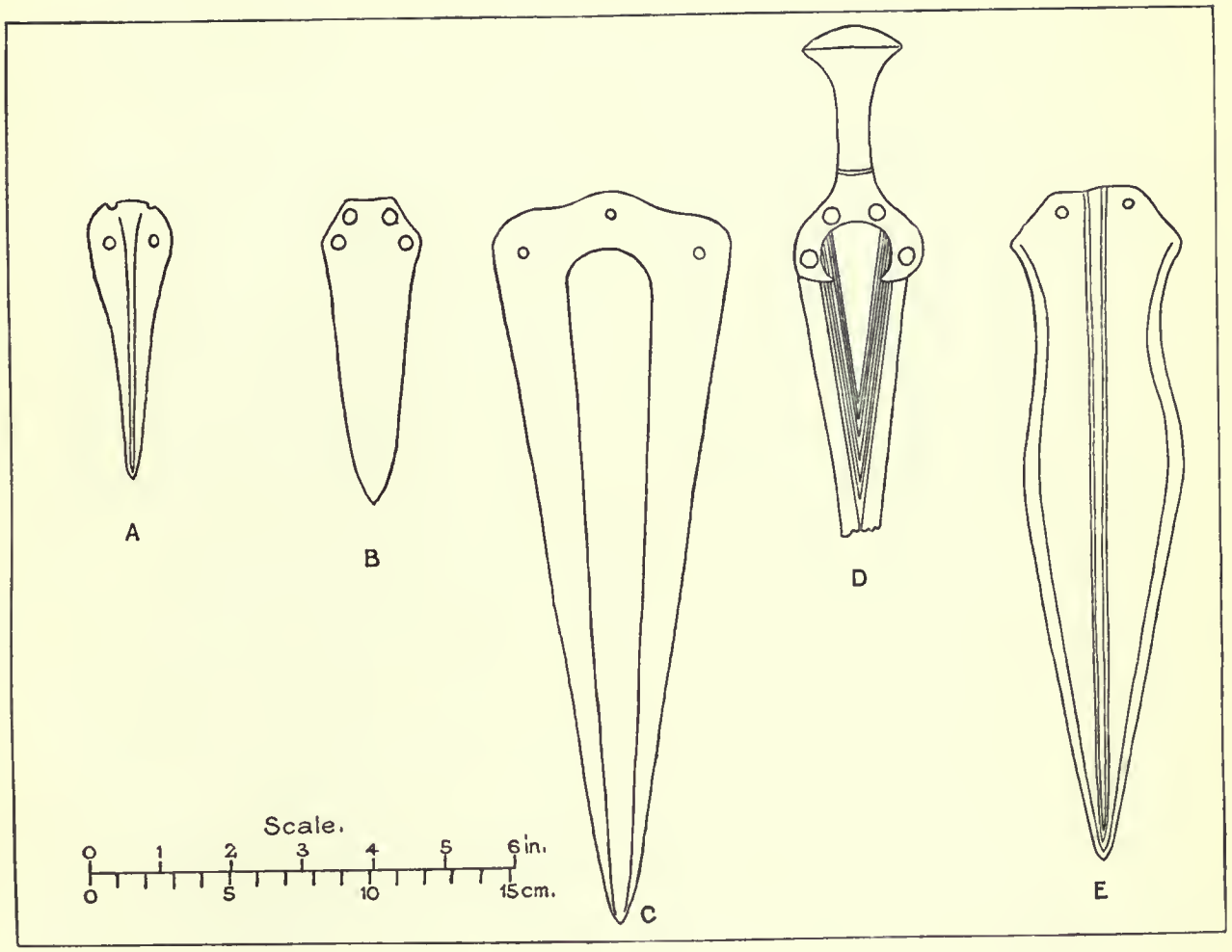
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PLATE V.

SIX LARGER DAGGERS.

A	Austria, Lungen Wand.	Ownership unknown.
	Naue (1903) xix. 2.	
B	Germany; site unknown.	Imperial Museum, Berlin.
	Montelius (1900) xxxi. 75.	Naue (1903) xix. 3
	Bastian & Voss, xiii. 1.	
C	Denmark; Island of Lolland.	Ownership unknown.
	Muller, Ordnung, &c., xi. 157.	Naue (1903) xix. 4.
D	Italy; Casina Ranza, near Milan.	Brera Museum, Milan.
		Montelius (1903-1904). I.B., xxviii. 2.
E	Hungary; site unknown.	Antiquaries' Museum, Zurich.
		Fehr Collection.
	Hampel (1886) xix. 6.	Arch. Eirenio, xii. 202.
F	Hungary; site unknown.	Antiquaries' Museum, Zurich.
		Fehr Collection.
	Hampel (1886) lxxxv. 2.	Arch. Eirenio xii. 206.

SIX LARGER DAGGERS.

A	Austria, Langen Wand. Naue (1903) xix. 2.	Ownership unknown.
B	Germany; site unknown. Montelius (1900) xxxi. 75. Bastian & Voss, xiii. 1.	Imperial Museum, Berlin. Naue (1903) xix. 3.
C	Denmark; Island of Lolland. Muller, Ordnugn, &c., xi. 157.	Ownership unknown. Naue (1903) xix. 4.
D	Italy; Cascina Ranza, near Milan.	Brera Museum, Milan. Montelius (1895-1904). I.B., xxviii. 2.
E	Hungary; site unknown. Hampel (1886) xix. 6.	Antiquaries' Museum, Zurich. Fehr Collection. Arch. Ertesito, xii. 292.
F	Hungary; site unknown. Hampel (1886) lxxxv. 2.	Antiquaries' Museum, Zurich. Fehr Collection. Arch. Ertesito xii. 290.

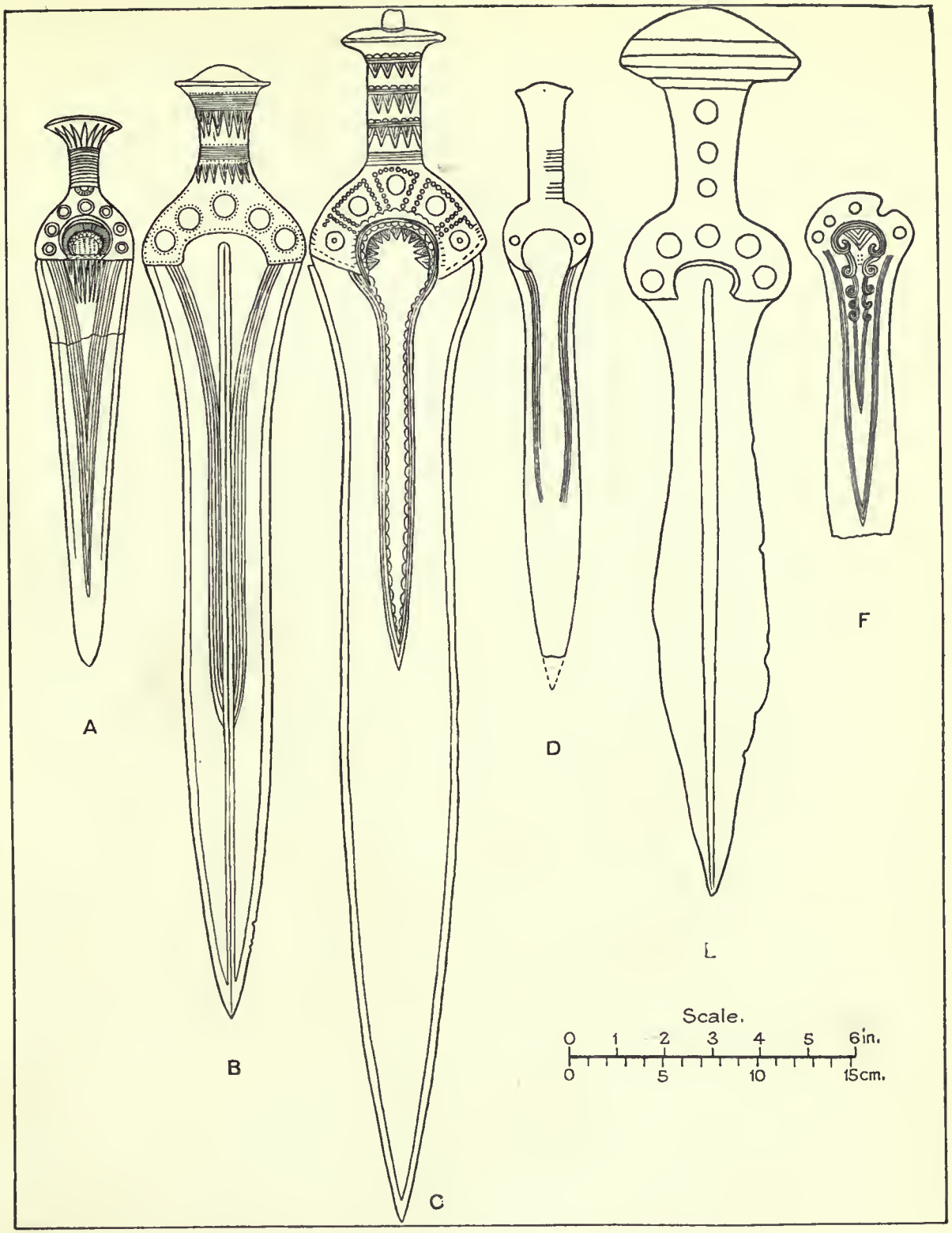
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PLATE VI.

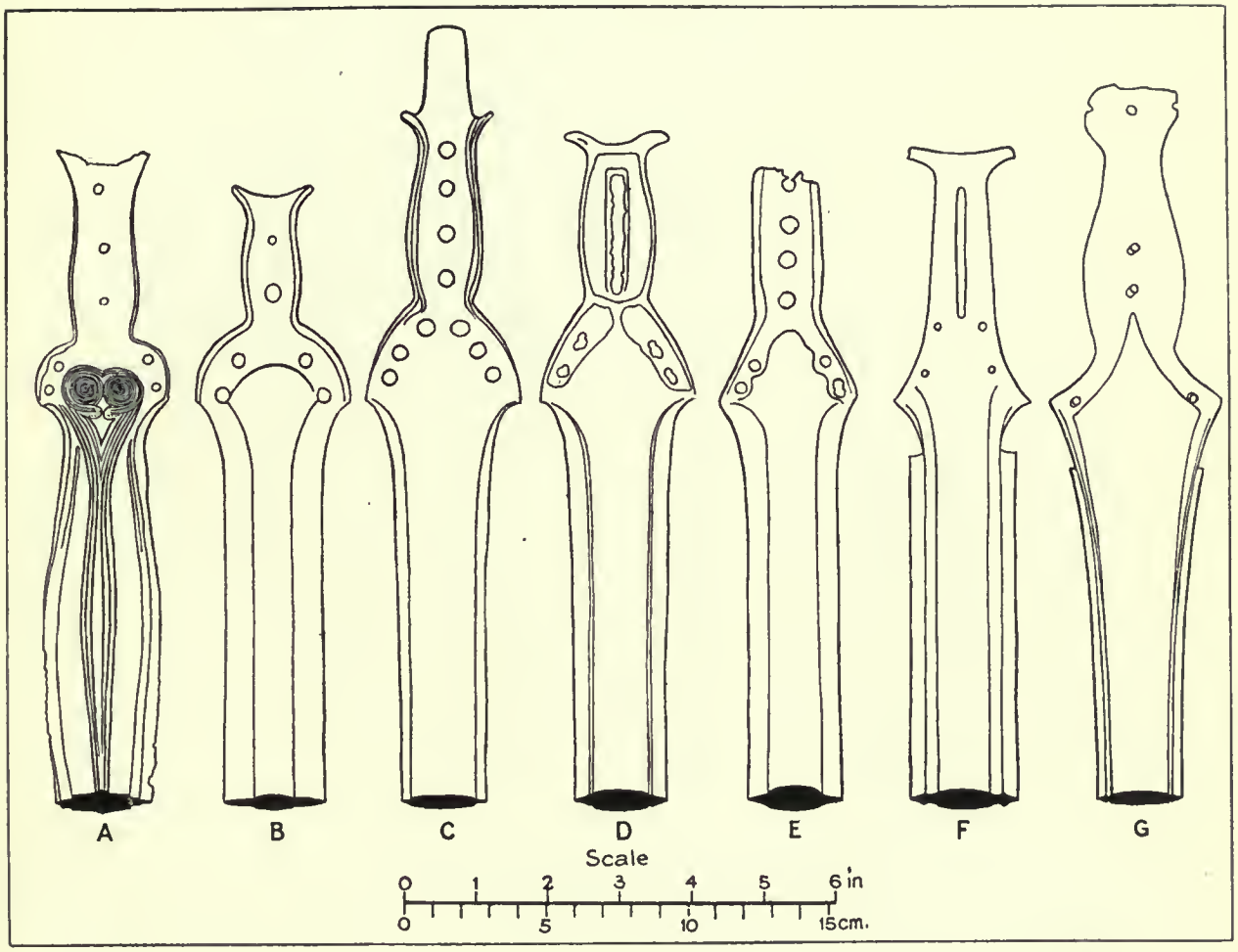
THE SEVEN TYPES OF LEAF-SHAPED SWORDS.

A	Hungary, site unknown. Hampel (1886) xx. 4.	National Museum, Buda-Pest. Naue (1903) ix. 3.
B	Denmark, Nordrhiade in the Isle of Sylt. Handelmann, Ausgrabungen auf Sylt (1873, 1875, 1880), fig. 4. Naue (1903) x. 1.	Museum of National Antiquities, Kiel.
C	Hungary, Buda-Pest. St. Margaret's Isle. Dredged from the Danube.	National Museum, Buda-Pest. Hampel (1886) cxcvii. 6.
D	Hungary, Hajdu-bószörmény, Hajdu Co. Found May, 1850, with sword of Type C.	National Museum, Buda-Pest. 1883/131.
E	Hungary. May, protexar	National Museum, Buda-Pest.
F	Switzerland, Morges. Déchelette (1908-14) ii. Fig. 64 (2).	Lausanne Museum. Albinn Musée Lausanne, xiv 6.
G	Austria Hallstatt. Grave 299. Sacken (1868) xix. 10.	Natural History Museum, Vienna. 24,000.

PLATE VI.

THE SEVEN TYPES OF LEAF-SHAPED SWORDS.

A	Hungary, site unknown. Hampel (1886) xx. 4.	National Museum, Buda-Pest. Naue (1903) ix. 3.
B	Denmark, Norderhaide in the Isle of Sylt. Handelmann, Ausgrabungen auf Sylt (1873, 1875, 1880), fig. 4. Naue (1903) x. 1.	Museum of National Antiquities, Kiel.
C.	Hungary, Buda-Pest. St. Margaret's Isle. Dredged from the Danube.	National Museum, Buda-Pest. Hampel (1886), cxcvii. 6.
D	Hungary, Hajdu-böszörmény, Hajdu Co. Found May, 1858, with sword of Type C.	National Museum, Buda-Pest. 1883/131.
E	Hungary, Magyarorszaz.	National Museum, Buda-Pest.
F	Switzerland, Morges. Déchelette (1908-14) ii. Fig. 64 (2).	Lausanne Museum. Album Musée Lausanne, xiv. 9.
G	Austria, Hallstatt. Grave 299. Sacken (1868) xix. 10.	Natural History Museum, Vienna. 24,609.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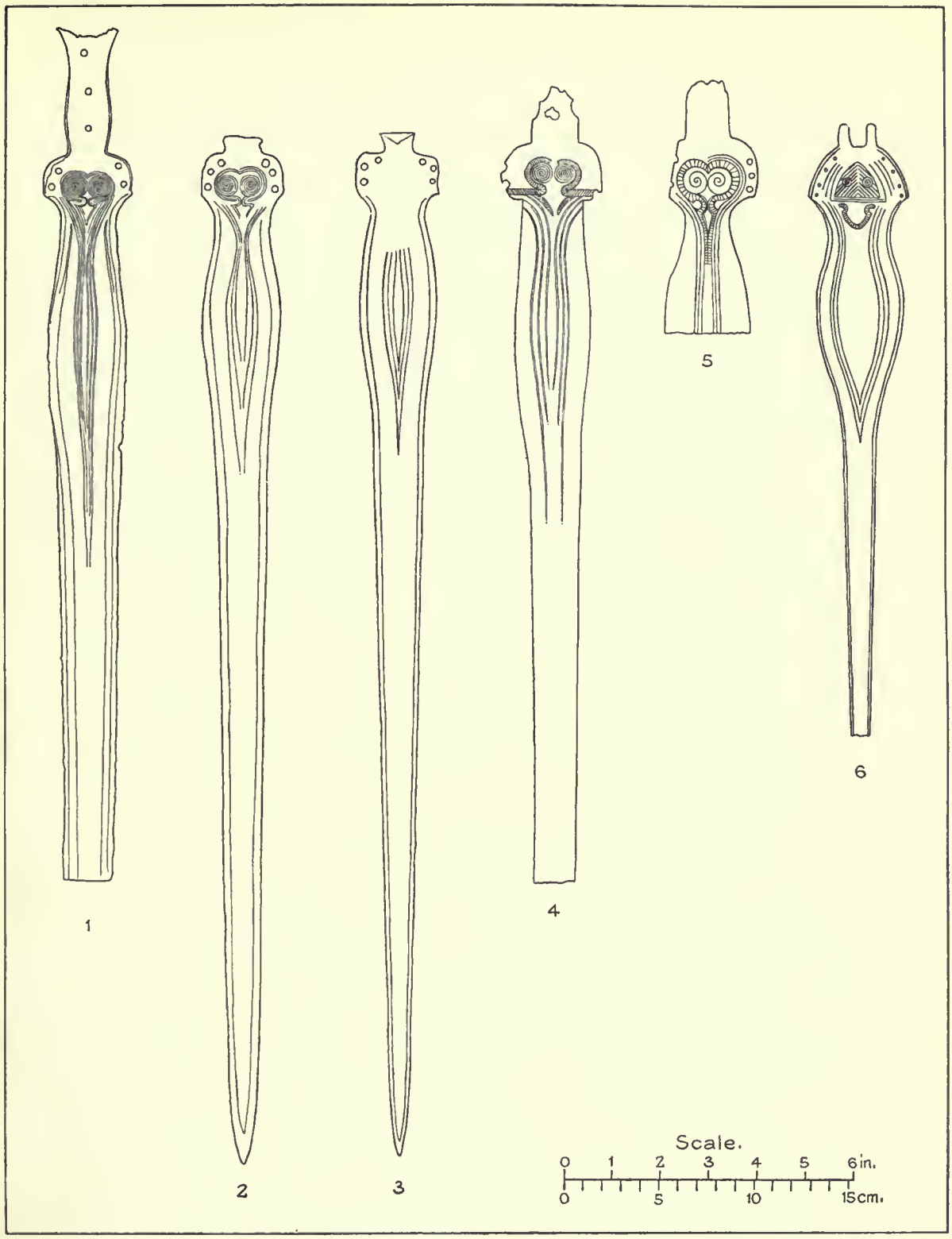
SWORDS OF TYPE A, FROM HUNGARY.

1	Hungary, site unknown. Hampel (1886) xx. 4.	National Museum, Buda-pest. Naue (1903) ix. 3.
2	Hungary, site unknown.	University Museum of Archæology and Ethnology, Cambridge. Foster bequest.
3	Hungary. Dredged from the Danube near Buda-Pest. Catalogue (1891), viii. 45.	Ownership unknown.
4	Schleswig-Holstein, site unknown. From a tomb.	Ownership unknown. Splieth (1900) i.9b.
5	Italy, Castions di Strada, near Udine. B.P. xxxvii. (1912), 33.	Archæological Museum, Cividale.
6	Italy, near Treviso. Montelius (1895-1904) I.B. 39.	Treviso Museum.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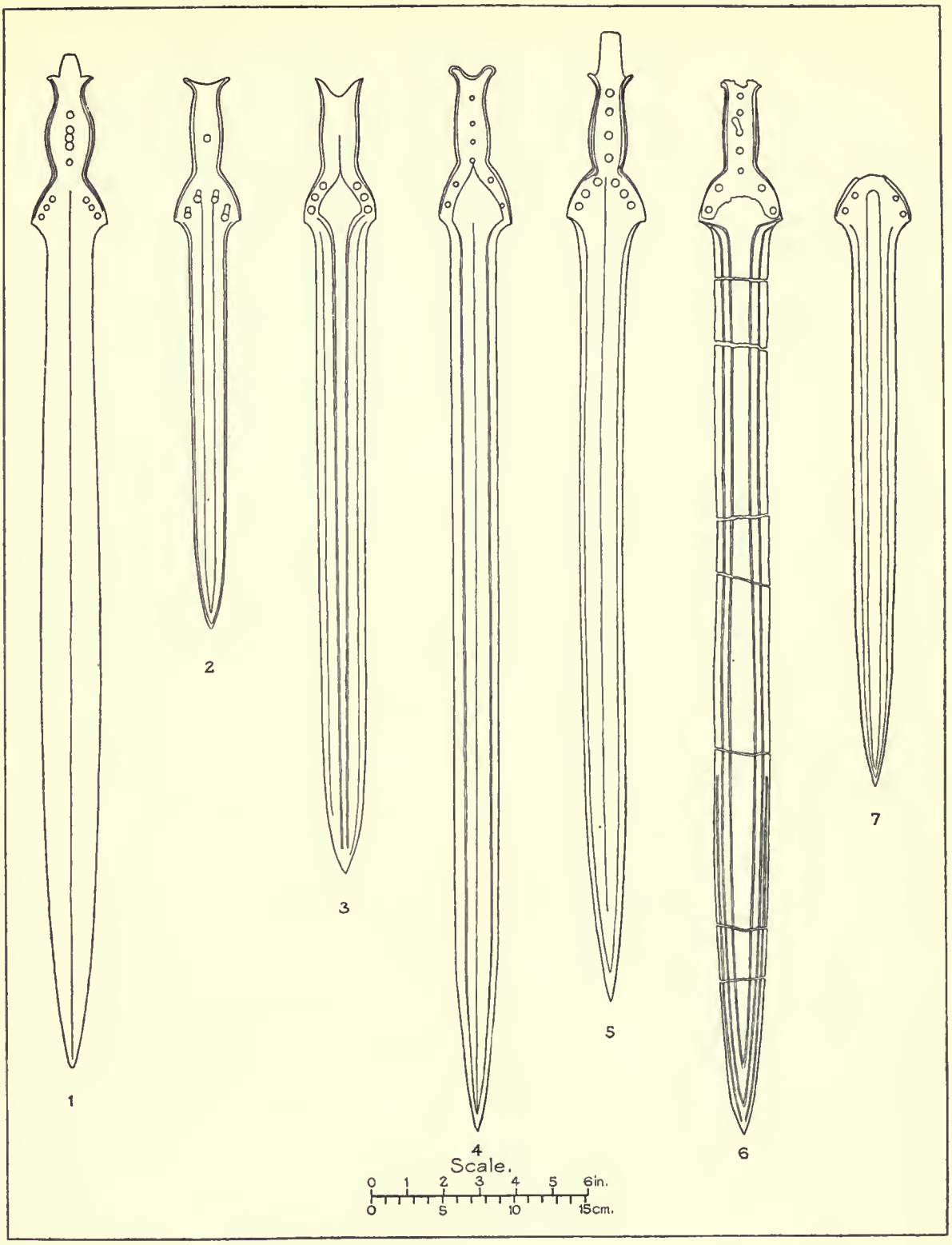
SWORDS OF TYPE C, FROM HUNGARY.

1	Site unknown.	Catalogue (1891) viii. 12.	Ownership unknown. Naue (1903) xi. 3.
2	Site unknown.	Hampel (1886) xx. 7.	National Museum, Buda-Pest. Naue (1903) viii. 8.
3	Szlo-Gönyü	Hampel (1886) xv. 3.	National Museum, Buda-Pest. Naue (1903) viii. 3.
4	Site unknown.	Catalogue (1891) [illegible] 4.	Ownership unknown. Naue (1903) VIII. 6.
5	Buda-Pest, St. Margaret's Isle. Dredged from the Danube. Hampel (1886) cxcvii. 6.		National Museum, Buda-Pest.
6	Hajdu-Böszörmény, Hajdu Co. found in May, 1895, with three others of Type D.		National Museum, Buda-Pest. 1893 131 (6).
7	Kis-Koszeg (Burtina) Estranza Co.		Natural History Museum, Vienna 37811.

SWORDS OF TYPE C, FROM HUNGARY.

1	Site unknown. Catalogue (1891) vii. 42.	Ownership unknown. Naue (1903) xi. 3.
2	Site unknown. Hampel (1886) xx. 7.	National Museum, Buda-Pest. Naue (1903) viii. 8.
3	Sajo-Gömör. Hampel (1886) xv. 3.	National Museum, Buda-Pest. Naue (1903) viii. 3.
4	Site unknown. Catalogue (1891) vii. 43.	Ownership unknown. Naue (1903) VIII. 6.
5	Buda-Pest, St. Margaret's Isle. Dredged from the Danube. Hampel (1886) cxcvii. 6.	National Museum, Buda-Pest.
6	Hajdu-böszörmény, Hajdu Co. found in May, 1858, with three others of Type D.	National Museum, Buda-Pest. 1883/131 (6).
7	Kis-Koszey (Battina) Baranza Co.	Natural History Museum, Vienna. 37811.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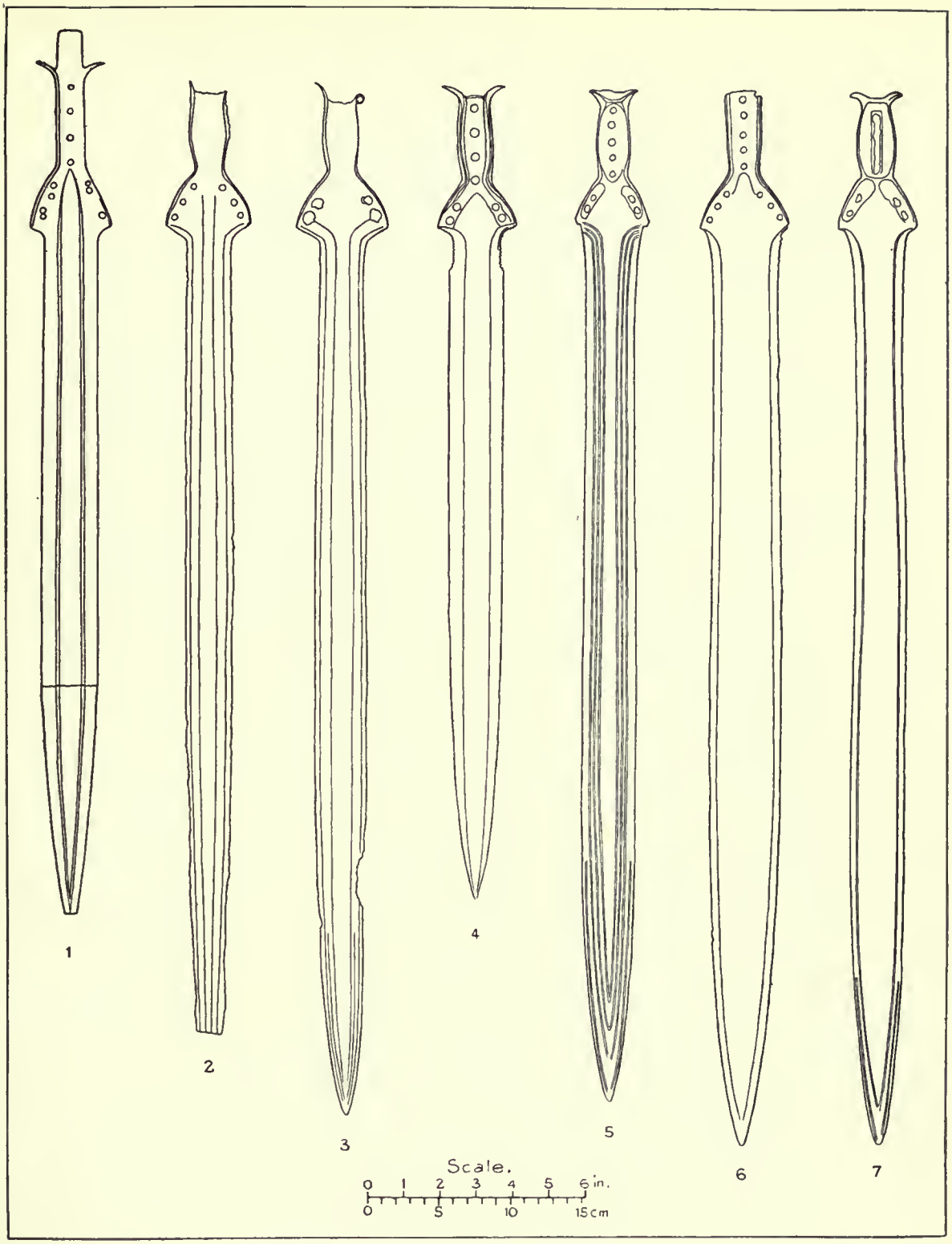
SWORDS OF TYPE D, FROM HUNGARY.

1	Site unknown. Catalogue (1891) viii. 44. Naue (1903) viii. 7.	Ownership unknown.	Hampel (1886) xx. 4.
2	Rima-Szombat, Gömör Co., found with a sword of Type E. Hampel (1886) cxiii	National Museum, Buda-Pest.	1867\3.
3	Endrőd, Békés Co.	National Museum, Buda-Pest.	1888\33.
4	Magyarorszag, with four others.	National Museum, Buda-Pest.	
5	Hajdu-böszörmény, Hajdu Co, found		
6	in May, 1858, with a sword of	National Museum, Buda-Pest.	1883\131.
7	Type C.		

SWORDS OF TYPE D, FROM HUNGARY.[1]

1	Site unknown. Catalogue (1891) viii. 44. Naue (1903) viii. 7.	Ownership unknown. Hampel (1886) xx. 8.
2	Rima-Szombat, Gömör Co., found with 2 swords Type E. Hampel (1886) cxiii.	National Museum, Buda-Pest. 1867/3.
3	Endröd, Békés Co.	National Museum, Buda-Pest. 1888/33.
4	Magyarorszaz, with four others.	National Museum, Buda-Pest.
5	Hajdu-böszörmény, Hajdu Co, found in May, 1858, with a sword of Type C.	National Museum, Buda-Pest, 1883/131.
6		
7		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Scale.
0 1 2 3 4 5 6 in.
0 5 10 15 cm

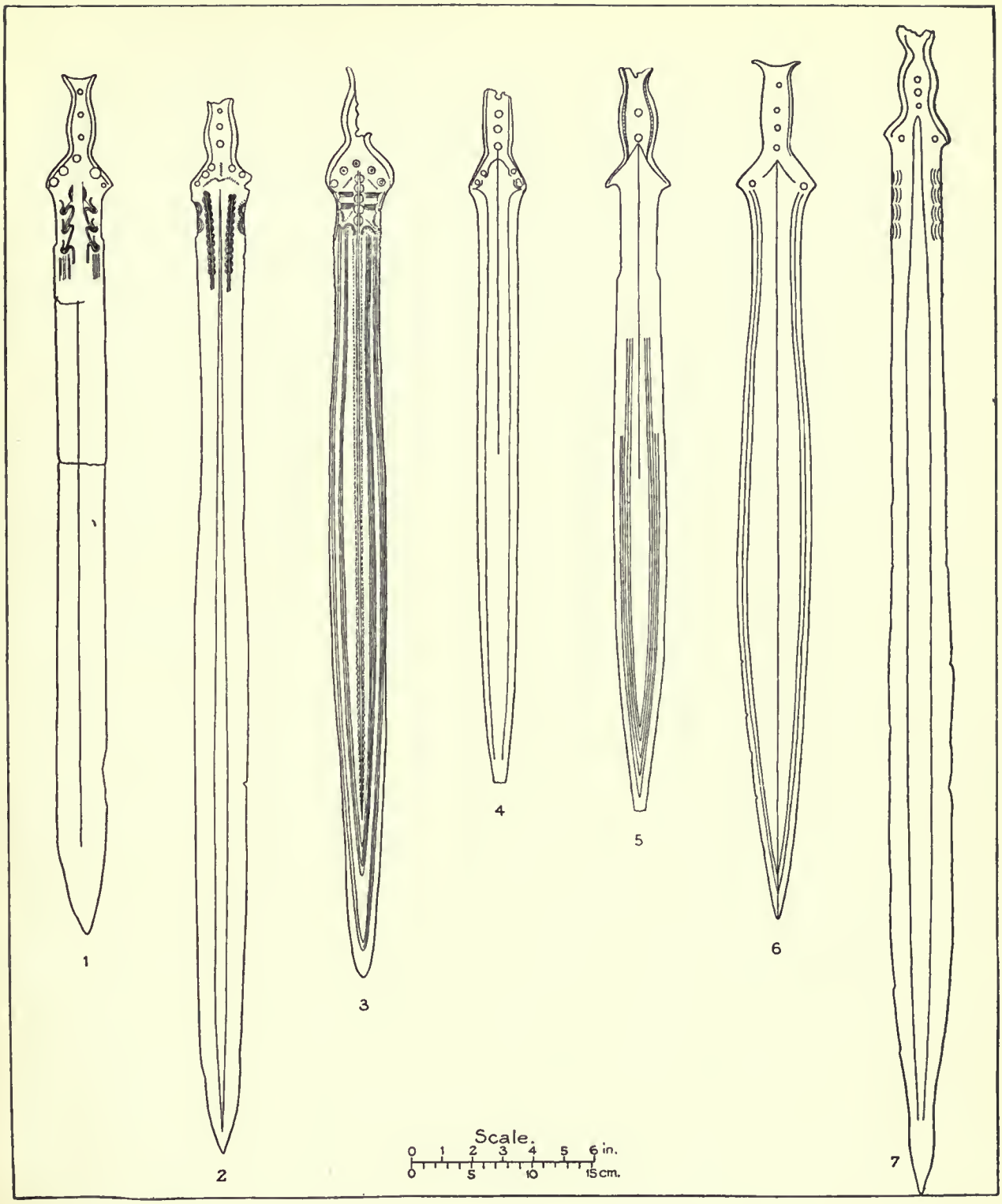
SWORDS OF TYPE E, FROM HUNGARY.

1	Podlerning, Berg Co.		National Museum, Buda-Pest.
2	Hampel (1886) xc.		Arch. Értesito XIV. xxvi. 229-230.
3			
4	Magyar-zaz		National Museum, Buda-Pest.
5	Site unknown. Catalogue (1891) vii. 4. Vase (1903) ix. 2.		Ownership unknown. Formerly in Pfeffer collection.
6	Hajdú-Böszörmény, Hajdu Co. Hampel (1886) xx. 2.		Ownership unknown. Name (1903) ix. 1.
7	Orosztka, Zemplén Co. Hampel (1886) xx. 1 and 3.		Collection of Count Antoine Szécsen.

PLATE X.

SWORDS OF TYPE E, FROM HUNGARY.

1, 2, 3	Podhering, Bereg Co. Hampel (1886) xc.	National Museum, Buda-Pest. Arch. Ertesito XIV. xxvi. 229-230.
4	Magyarorszaz.	National Museum, Buda-Pest.
5	Site unknown. Catalogue (1891) vii. 4. Naue (1903) ix. 2.	Ownership unknown. Formerly in Pfeffer collection.
6	Hajdú-böszörmény, Hajdu Co. from the Schatze. Hampel (1886) xx. 2.	Ownership unknown. Naue (1903) ix. 1.
7	Oreszka, Zemplén Co. Hampel (1886) xx. 1 and 3.	Collection of Count Antoine Sztàray.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Scale.
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0 5 10 15cm.

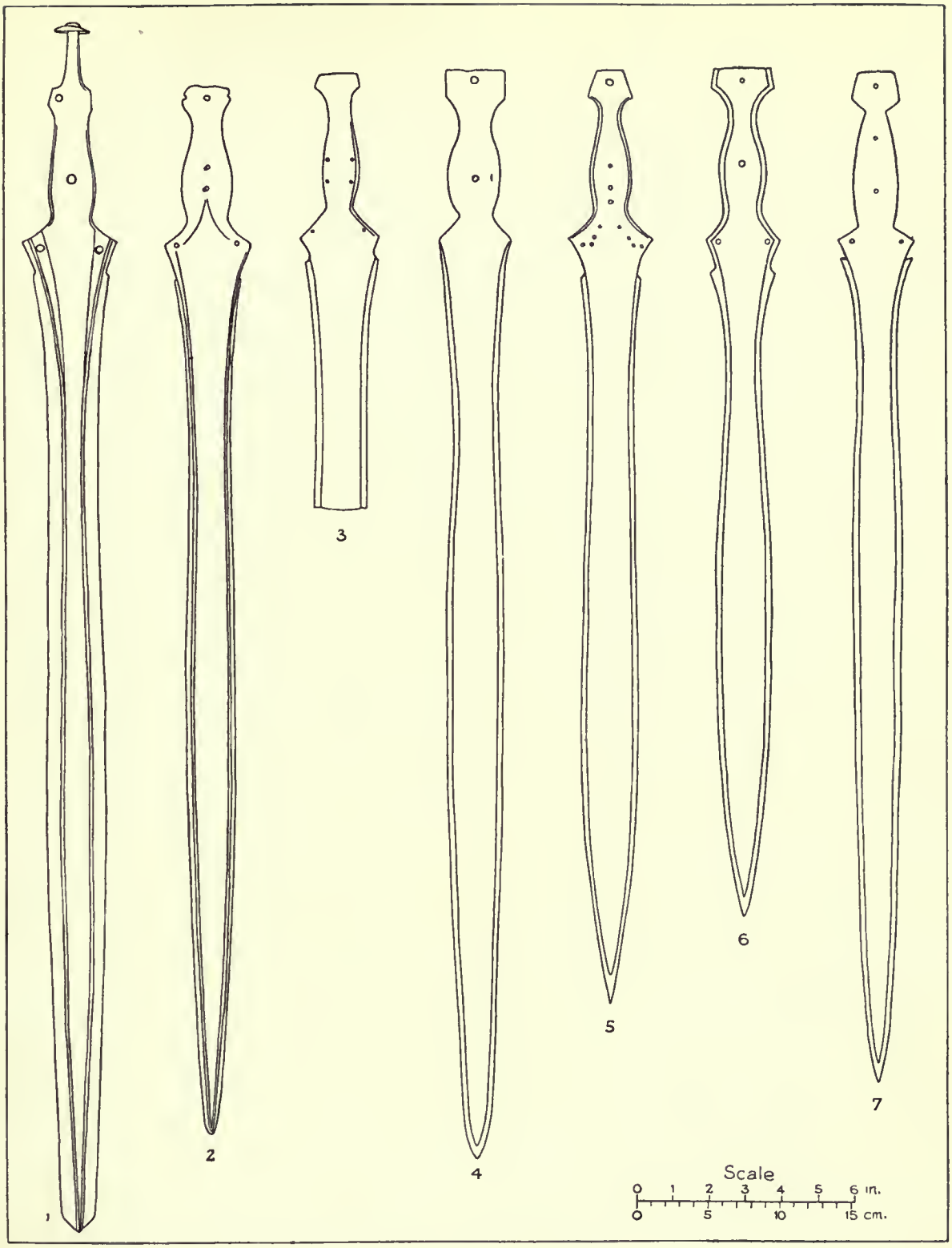
PLATE XI.

SWORDS OF TYPE C.

1	Austria, Hallstatt Sacken (1868).	Grave 126.	Natural History Museum, Vienna. 24091.
2	Austria, Hallstatt Sacken (1868)	Grave 299.	Natural History Museum, Vienna. 24609.
3	Schleswig-Holstein, Lübeck.	Sperrs near Splieth (1900) ix. 172.	Lübeck Museum. 729.
4	France, Var, Flayosc.		Antiquarian Museum, Marseilles.
5	Ireland, site unknown (cat. Antiq., 319, No. 2.		Wild, National Museum, Dublin.
6	Sweden, Nilsson, Skåne Ur-Inv. i 7. (1868) fig. 15.	Skåne Nord. Lubbock	
7	Finland, Nyland, Hauho Kylä Heath. (Grawford (1921) 130. Vorgeschichtliche xxxii. 4.	(1900)	Helsingfors Museum.

SWORDS OF TYPE G.

1	Austria, Hallstatt. Grave 126. Sacken (1868).	Natural History Museum, Vienna. 24091.
2	Austria, Hallstatt. Grave 299. Sacken (1868).	Natural History Museum, Vienna. 24609.
3	Schleswig-Holstein, Siems near Lübeck. Splieth (1900) ix. 171.	Lübeck Museum. 729.
4	France, Var, Flayosc.	Antiquarian Museum, Marseilles.
5	Ireland, site unknown. Wild, Cat. Antiq., 319, No. 2.	National Museum, Dublin.
6	Sweden, Nilsson, Skand Nord. Ur-inv. i. 7. Lubbock (1865) fig. 15.	
7	Finland, Nyland, Haapa Kylä Heath. Crawford (1921) 136. Vorgeschichtliche (1900) xxxii. 4.	Helsingfors Museum.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Scale
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0 5 10 15 cm.

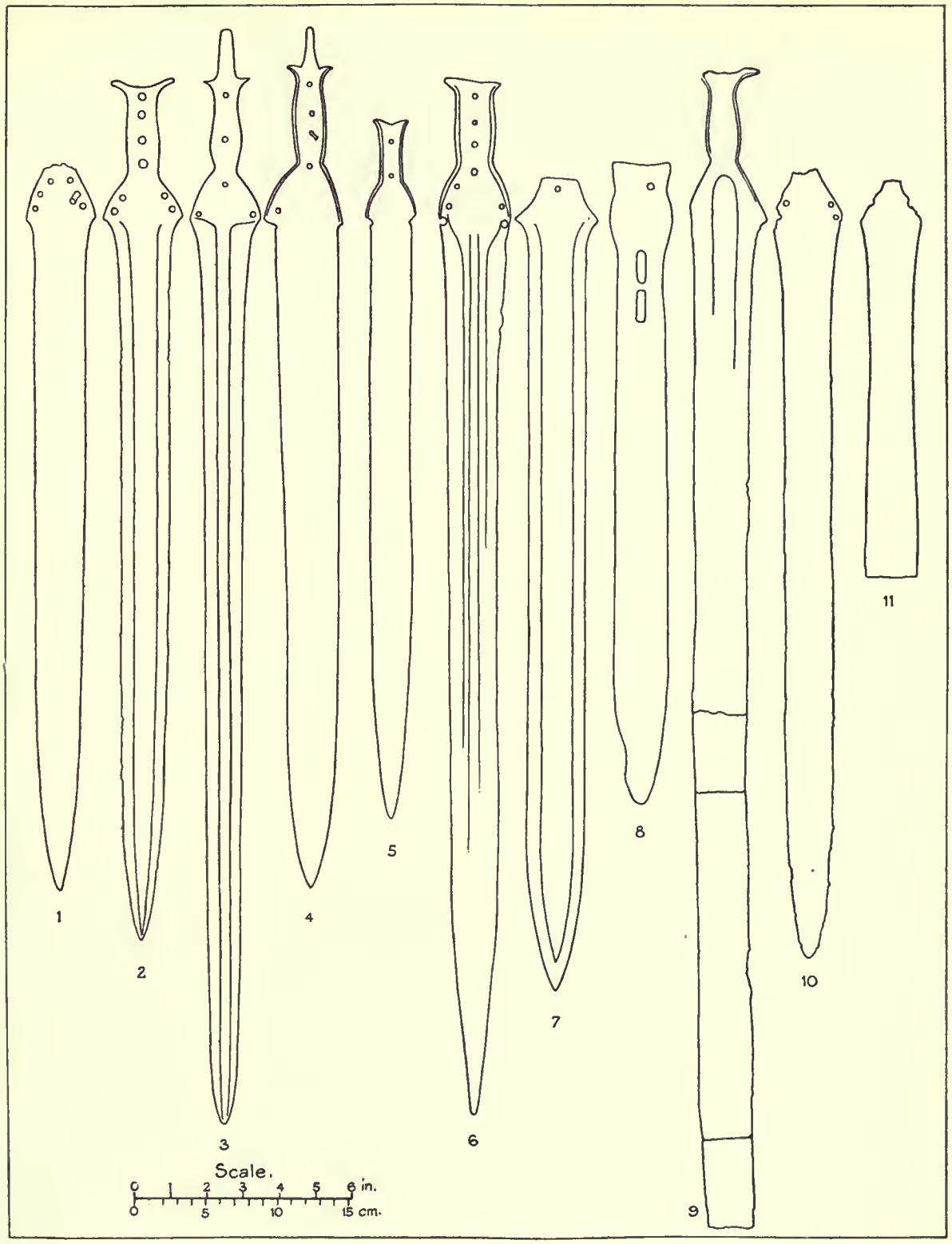
SWORDS FROM GREEK LANDS.

1	Greece : Mycenae.	Schliemann (1878) No. 221, p. 144.	Athens Museum. No. 1017.
2	Greece : Mycenae.	Tsountas, E. A. (1891) 25.	Athens Museum. No. 4539.
3	Greece : Levadeia.		Athens Museum. No. 8017.
4	Crete : Mulianu.	(Trans B.	'J.H.S.' (1904) IV. II p. 44.
5	Crete : Mulianu.	(Trans B.	'J.H.S.' (1904) IV. II. p. 44.
6	Egypt : Zagazig.	Petrie (1917) xxxii. 6. Z.Ä.S. L.Tal. v. p. 61.	Berlin Museum. No. 20447. Perrot (1911. 2) 283.
7	Egypt : site unknown.	Petrie (1917) xxxii. 5.	Berlin Museum. Z.Ä.S. L.Tal. v. p. 61.
8	Egypt : Tell Firaun.	Petrie (1917) xxxii. 7.	Berlin Museum. No. 20305. Z.Ä.S. L.Tal. v. p. 61.
9	Greece : Tiryns.		Athens Museum. No. 6295.
10	Greece : Tiryns.		Athens Museum. No. 6224.
11	Cyprus : site unknown.		Coll. Professor P. Gardner.

PLATE XII.

SWORDS FROM GREEK LANDS.

1	Greece : Mycenæ. Schliemann (1878) No. 221, p. 144.	Athens Museum. No. 1017.
2	Greece : Mycenæ. Tsountas, E. A. (1891) 25.	Athens Museum. No. 2539.
3	Greece : Levadeia.	Athens Museum. No. 8017.
4	Crete : Muliana. Grave B.	Ἐφ. Ἀρχ. (1904) Pl. 11. p. 44.
5	Crete : Muliana. Grave B.	Ἐφ. Ἀρχ. (1904) Pl. 11. p. 44.
6	Egypt : Zagazig. Petrie (1917) xxxii. 6. Z.f.Æ.S. L.Taf. v. p. 61.	Berlin Museum. No. 20447. Peet (1911. 2) 283.
7	Egypt : site unknown. Petrie (1917) xxxii. 5.	Berlin Museum. Z.f.Æ.S. L.Taf. v. p. 61.
8	Egypt : Tell Firaun. Petrie (1917) xxxii. 7.	Berlin Museum. No. 20305. Z.f.Æ.S. L.Taf. v. p. 61.
9	Greece : Tiryns.	Athens Museum. No. 6228.
10	Greece : Tiryns.	Athens Museum. No. 6228.
11	Cyprus : site unknown.	Coll. Professor P. Geddes.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Scale.
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0 5 10 15 cm.

SWORDS FROM ITALY.

1	Ascoli Piceno. Montelius (1895-1904) II. ii. B. 131.	Prehistoric Museum, Rome.	
2	Lake Trasimene. Naue (1903) vii. 4. Montelius (1895-1904) II. ii. B. 120	Collection Baron Franz von Lippenheide, at Schloss Matzen.	
3	At the bridge of Trasineto, on the banks of the Chiana. Montelius (1895-1904) II. ii. B. 120.	Museum of Arezzo.	B.P. XXVI. viii. 1.
4	Lake Trasimene. Naue (1903) vii. 3. Montelius (1895-1904) II. ii. B. 120.	Formerly in the collection of M. Amilcare Ancona, at Milan	
5	Lake Trasimene. Naue (1903) vii. 2.	Ownership unknown.	
6	Alcona, com. de Ficulle, Province of Orvieto. Montelius (1895-1904) II. ii. B. 126.	Prehistoric Museum, Rome	B.P. XXVI. viii. 4.
7	Ronic. Naue (1903) vii. 5.	Collection of M. Amilcare Ancona, at Milan.	
8	Near Lake Trasimene. Montelius (1895-1904) II. ii. B. 142.	Prehistoric Museum, Rome.	B.P. xii. 201 xxix. 84-86.
9	Near Lake Trasimene. Montelius (1895-1904) II. ii. B. 142.	Prehistoric Museum, Rome.	B.P. xii. 201 xxix. 84-86.
10	Near Lake Trasimene. Montelius (1895-1904) II. ii. B. 142.	Prehistoric Museum, Rome.	B.P. xii. 201 xxix. 84-86.
11	Sulmona. Naue (1903) vii. 1.	Collection Baron Franz von Lippenheide, at Schloss Matzen.	
12	Apulia, site unknown. Naue (1903) vii. 6.	Ownership unknown.	

1

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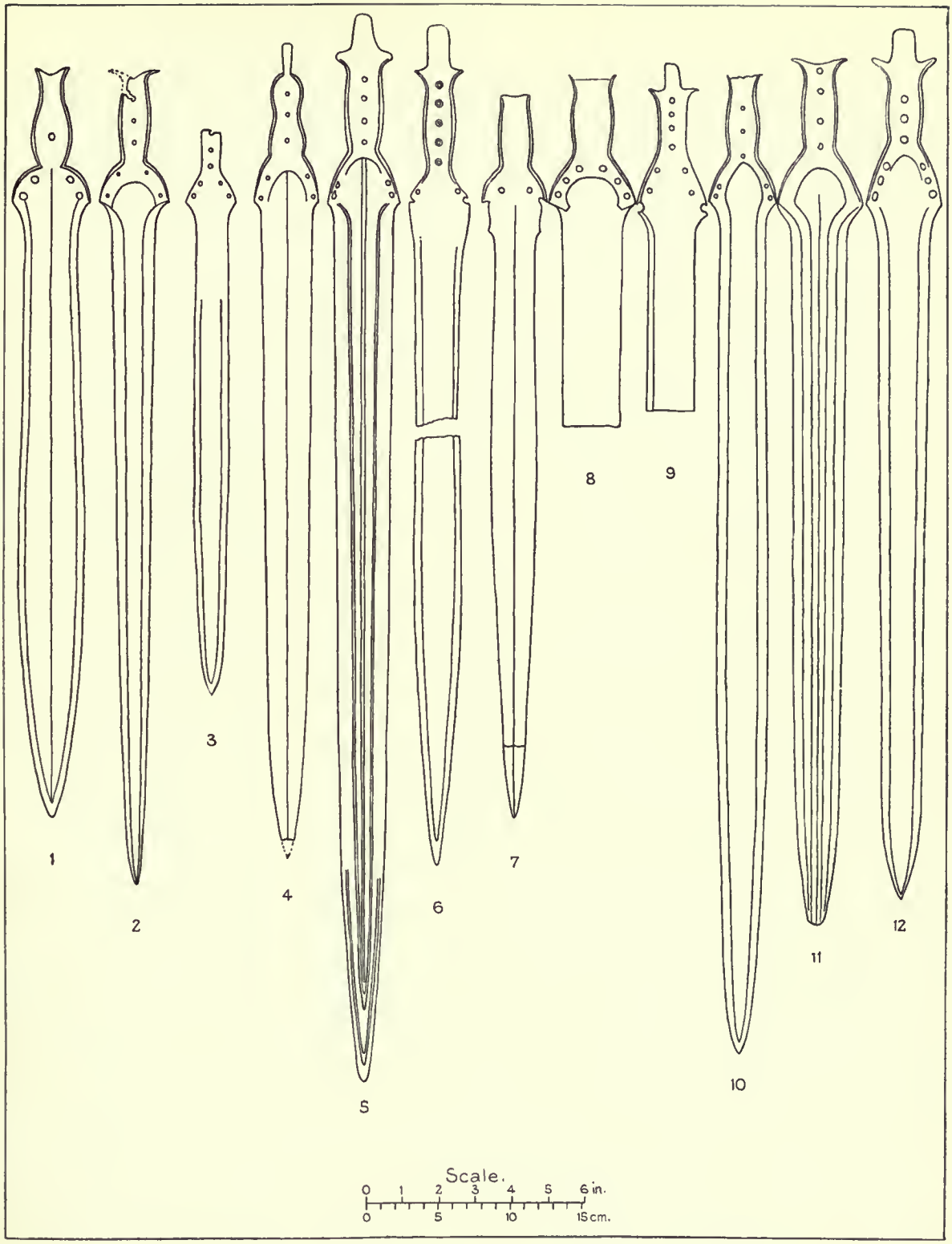
SWORDS FROM ITALY.

1	Ascoli Piceno. Montelius (1895-1904) II. ii. B. 131.	Prehistoric Museum, Rome.
2	Lake Trasimene. Naue (1903) vii. 4. Montelius (1895-1904) II. ii. B. 126.	Collection Baron Franz von Lippenheide, at Schloss Matzen.
3	At the bridge of Frassineto, on the banks of the Chiana. Montelius (1895-1904) II. ii. B. 126.	Museum of Arezzo. B.P. XXVI. viii. 1.
4	Lake Trasimene. Naue (1903) vii. 3. Montelius (1895-1904) II. ii. B. 126.	Formerly in the collection of M. Amilcare Ancona, at Milan.
5	Lake Trasimene. Naue (1903) vii. 2.	Ownership unknown.
6	Alerona, com. de Ficulle, Province of Orvieto. Montelius (1895-1904) II. ii. B. 126.	Prehistoric Museum, Rome. B.P. XXVI. viii. 4.
7	Rome. Naue (1903) vii. 5.	Collection of M. Amilcare Ancona, at Milan.
8	Near Lake Fucino. Montelius (1895-1904) II. ii. B. 142.	Prehistoric Museum, Rome. B.P. xii. 261 ; xxix. 84-86.
9	Near Lake Fucino. Montelius (1895-1904) II. ii. B. 142.	Prehistoric Museum, Rome. B.P. xii. 261 ; xxix. 84-86.
10	Near Lake Fucino. Montelius (1895-1904) II. ii. B. 142.	Prehistoric Museum, Rome. B.P. xii. 261 ; xxix. 84-86.
11	Sulmona. Naue (1903) vii. 1.	Collection Baron Franz von Lippenheide, at Schloss Matzen.
12	Apulia, site unknown. Naue (1903) vii. 6.	Ownership unknown.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Scale.
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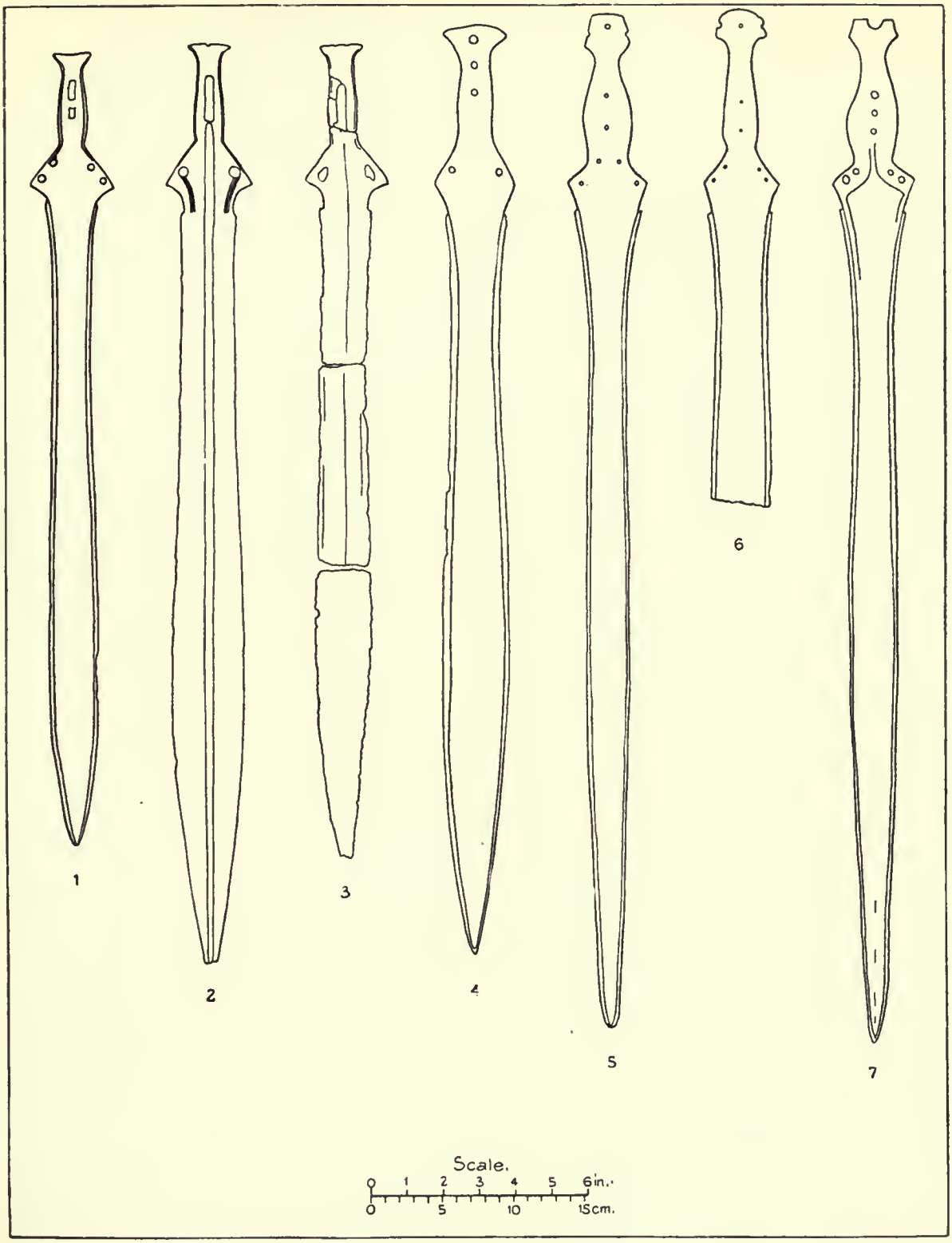
SWORDS FROM ENGLAND.

1. Brentford, Middlesex. From the bed of the Thames, above the G.W.R. dock. Public Library, Brentford. Layton Collection.
2. Peterborough, Suffolk. Archæol. Journ. vii. (1850) 254, xv. (1859) pl. xxii. 4. Hynds Anc. Br. Impl. No. 345. p. 282. Northampton Castle Museum. Fitch collection, 765, 76. 94. Catalogue of Antiquities, 315.
3. Wilburton, Cambridgeshire. Found in the peat. Archæol. xlviii. 100. Museum of Archæology and Ethnology, Cambridge. New Cambridge, 17 May, 1919.
4. Amerside Law Farm, Chatton, Northumberland. Alnwick Castle Museum, No. 228.
5. Brentford, Middlesex. From the bed of the Thames, above the G.W.R. dock. Public Library, Brentford. Layton Collection.
6. Richmond, Surrey. From the bed of the Thames, at the lock and weir. Public Library, Richmond. Lloyd Collection. No. 816.
7. Newcastle-upon-Tyne. From the Tyne. Black Gate Museum, Newcastle-upon-Tyne. No. 85

SWORDS FROM ENGLAND.

1	Brentford, Middlesex. From the bed of the Thames, above the G.W.R. dock.	Public Library, Brentford. Layton Collection.
2	Wetheringsett, Suffolk. Arch. Ass. Journ. iii. (1848) 254, xv. (1859) pl. xxiii. 4. Evans Anc. Br. Impl. fig. 345. p. 282.	Norwich Castle Museum. Fitch collection, 785, 76, 94. Catalogue of Antiquities, 315.
3	Wilburton, Cambridgeshire. Found in the peat. Arch. xlviii. 106.	Museum of Archæology and Ethnology, Cambridge. New Cambridge, 17 May, 1919.
4	Amerside Law Farm, Chatton, Northumberland.	Alnwick Castle Museum, No. 228.
5	Brentford, Middlesex. From the bed of the Thames, above the G.W.R. dock.	Public Library, Brentford. Layton Collection.
6	Richmond, Surrey. From the bed of the Thames, at the lock and weir.	Public Library, Richmond. Lloyd Collection. No. 816.
7	Newcastle-upon-Tyne. From the Tyne.	Black Gate Museum, Newcastle-upon-Tyne. No. 88.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Scale.
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