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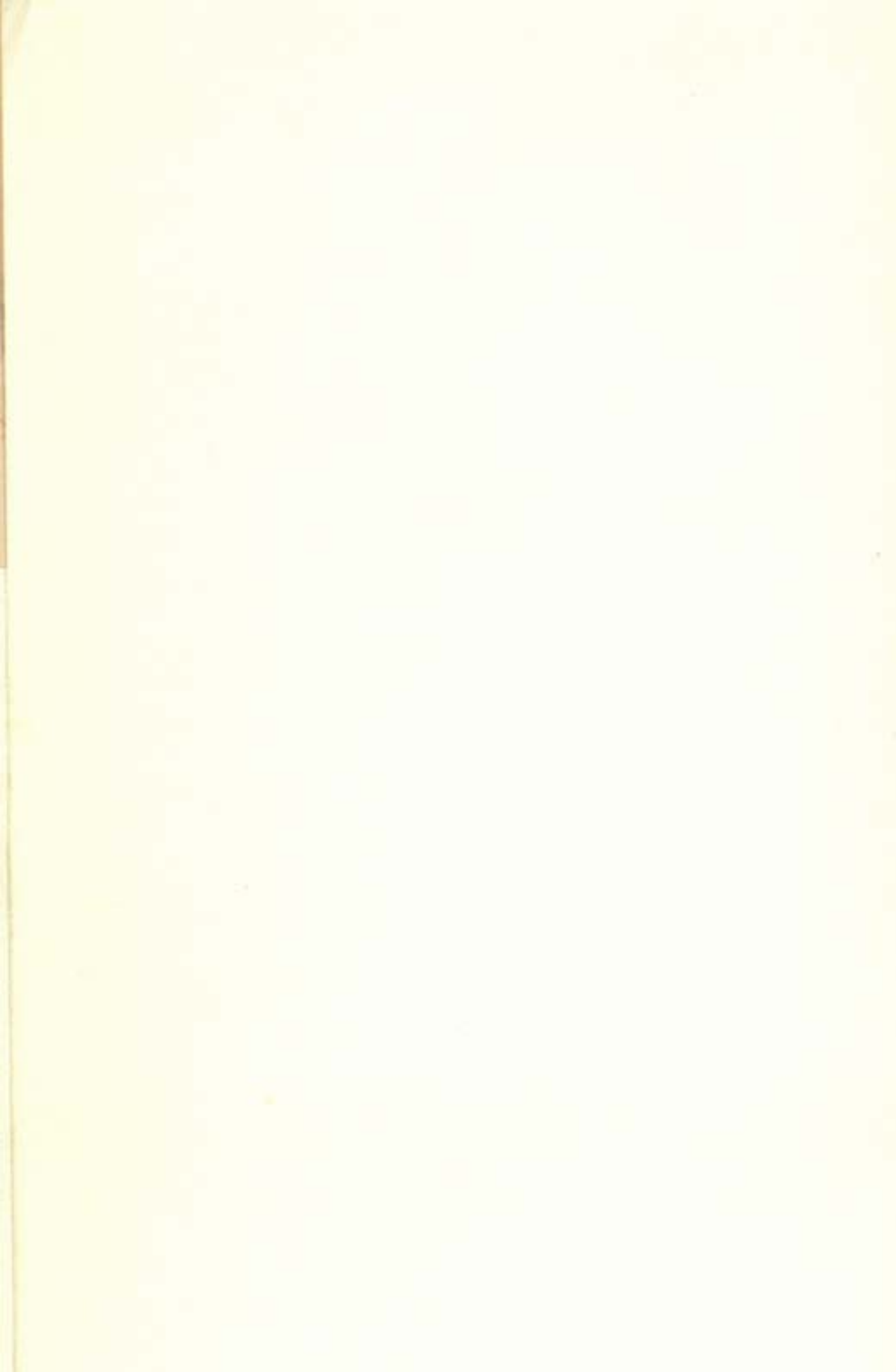
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The Europeans



The Europeans

An ethnohistorical survey

John Geipel



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Acknowledgements

I should like to thank my cousin, Nicholas Driver, for his very pertinent and constructive criticisms of an early version of *The Europeans*, John Flower and Peter Branfield for their masterly maps and line drawings and, especially, my wife, Eileen, who has been an unflagging source of encouragement and practical help throughout the preparation of this survey.

I am also grateful to Gerald Duckworth & Co. Ltd for permission to quote from 'The Three Races' by Hilaire Belloc from *Cautionary Verses*.

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To my grandfather, P. H. Ellis

Of all parts of the world Europe presents the most favourable conditions for the interblending of peoples. Easy of access, a mere peninsula of Asia, from which the Ural mountains and straits a few miles wide hardly separate it, Europe has a totally different configuration from the continental colossus, heavy and vague in outline, to which it is attached. Indented by numberless gulfs, bays and creeks, provided with several secondary peninsulas, crossed by rivers having no cataracts, and for the most part navigable, it offers every facility for communication and change of place to ethnic groups. Thus from the dawn of history, and even from prehistoric times, a perpetual eddying has taken place there, a coming and going of peoples in search of fortune and better settlements. These migrations, combined with innumerable wars and active commerce, have produced such a blending of races, such successive changes in the manners and customs and languages spoken, that it is very difficult to separate from this chaos the elements of European ethnogeny.

J. Deniker, *The races of man*, 1900, pp. 299-300

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Preface

Close on four hundred and fifty million representatives of the species *Homo sapiens* at present live in Europe, which is the north-westernmost corner of their range in the Old World. These people, and their apparent origins and interrelations, are the subject of the present survey.

The findings of four related disciplines: physical anthropology, archaeology, comparative linguistics and recorded history, have been collated in an attempt to elucidate as much as possible of the evolution and development of man in Europe.

The first section looks back briefly over what is known of the settlement of Europe by our species. The temptation to try to derive existing European types or populations from any specific archaeologically or skeletally attested forerunners, to which so many anthropologists have succumbed in the past, has been assiduously avoided; the meagre number of prehistoric human remains and the enormous gaps in our knowledge of the early history and composition of the European peoples make this a futile exercise.

In the second section, the languages of Europe and what is known of their history are examined in an effort to discover whether their proven interconnections and reciprocal influences can throw any light on the movements and contacts of European peoples in the past. However, the limitations of comparative linguistics as a tool for illuminating any aspect of prehistory are stressed, as are the dangers of assuming intimate biological relationships between populations who speak similar languages.

The third section discusses a random selection of physical traits – stature, pigmentation, skull shape, blood types and others – and attempts to show how local differences in the relative frequencies of the variations of such traits, far from being the legacy of imaginary ‘pure’ ancestral stocks, as is still widely believed, are the results of past and present adaptations to specific environmental and cultural pressures.

The fourth section is a country-by-country survey of the living peoples of Europe; it summarises what is known of the prehistory of each country and describes some of the physical features that are, at

present, characteristic of its inhabitants. It is hardly necessary to point out that the distribution of gene frequencies and, consequently, of hereditary physical traits, corresponds in no way with the imaginary lines drawn on the map of Europe by statesmen to divide the Continent into political entities; our survey takes the countries of Europe one by one for convenience's sake alone. It would be as ludicrous to think of them in terms of ethnically discrete units as it would to envisage Europe itself as being genetically watertight from its neighbours, Asia and Africa.

The fifth section recalls some of the many attempts on the part of anthropologists in the past to classify the Europeans into discrete taxonomic categories: the traditional – and mythical – 'Races of Europe'.

It is in no way intended that *The Europeans* should supersede the two established textbooks on European physical anthropology, Ripley's *The races of Europe* and Coon's monumental work of the same name. *The Europeans* does, however, make use of much new material that has come to light since the first appearance of these classics in 1900 and 1939 respectively. I hope that this survey will serve as a reliable introduction, both for the student and the interested lay reader, to the apparent ethnic history of the Europeans.

May 1968

John Geipel

Introduction

In the not so distant days of 'classical' anthropology, before the disclosures of Mendelian genetics were generally known, it was widely believed that mankind could be sliced into several more or less discrete units, each occupying a particular portion of the earth's surface, whose members could be identified on sight by certain aspects of their physical appearance. The shape of a man's skull, the form of his hair, his stature and often his skin colour alone were considered to be sufficiently reliable criteria for determining his 'racial provenance'.

Thus, in Europe, a man could be classed as an 'Alpine' if he happened to be stocky and to possess a round skull, a blobby-tipped nose and brown hair, whilst another individual, his brother perhaps, who chanced to be tall, long-headed, blue-eyed and fair-haired, could be hailed as a definitive specimen of the 'Northern' or 'Nordic' race.

Whilst the exact number of human racial categories was disputed – some authorities recognising as few as half a dozen, others upwards of a hundred – the existence of at least three large 'Major Races' or 'Primary Stocks' was almost universally taken for granted. These 'Primary Stocks' were the Caucasoid or White, the Negroid or Black and the Mongoloid or Yellow. Others, such as the American Indians and aboriginal Australians, were sometimes awarded the exalted status of a 'Major Race', sometimes the more lowly rank of 'Secondary Races', the products of admixture between the three Great Races.

According to this system, all the inhabitants of Europe, except, occasionally, for the Lapps, Finns and some of the peoples of Russia, were classified as Whites or members of the Caucasoid Primary Stock. As such, they were believed to be distinguishable from the representatives of other races by the possession of an assemblage of visible features that included: thin lips, a straight facial profile without protruding jaws, a thin, frequently high-bridged nose and fairly profuse hair on the face and the body. Later, less conspicuous details were added to the list of alleged Caucasoid diagnostics: peoples of 'Caucasoid ethnic affinity' were, it was claimed, more likely to have sticky than crumbly wax in their ears and to display a prevalence of loops and whorls over arches in their fingerprint patterns. Again, when the geographical distribution of blood-groups was plotted, certain types of

blood (notably A2 and Rhesus Negative) were, on account of their frequent occurrence among European populations, also taken as characteristically Caucasoid.

Apart from the fact that none of these features was in any way peculiar to those labelled Caucasoids, a hypothesis of this type, based on the assumption that the members of each so-called 'race' inherit a common assemblage of physical characteristics *en bloc*, is bound to be misleading. Mendelian genetics has demonstrated incontrovertibly that all the attributes formerly held to be the collective earmarks of a 'race' – stature, skin colour, hair form, skull shape and the like – are inherited quite independently of one another and are by no means always found in conjunction. There is thus no reason on earth why a fair-haired person should be expected to have blue eyes and a long skull as well, or why another should be stocky merely because he has a round skull and hazel eyes. Only those who, whatever their motives, persist in the pointless pastime of trying to pigeon-hole their fellow men on the basis of a complex of physical characteristics can afford to ignore the basic genetic principle, first demonstrated by Mendel over 100 years ago, of the segregation of inherited traits.

But to return to the Caucasoids, the mythical 'Primary Race' of which most of us Europeans were once supposed to be representative. It was asserted that the domain of Caucasoid man extended into North Africa, with the Arabs, Berbers and others, and reached east from Europe through Asia Minor to India, where the race was represented by the descendants of the legendary Aryans, a 'pure Caucasoid stock' who had migrated there from the west at some bygone time.

Caucasoids, then, were found from Iceland to Ceylon, from the southern fringes of the Sahara to Siberia. When it was pointed out that the multifarious peoples collectively designated Caucasoids (and these ranged from tall Scandinavian blonds to diminutive, chocolate-brown Veddahs) differed strikingly from one another in such obvious somatic features as stature, body-build, hair form and colouring, these discrepancies were glibly explained as expressions of the 'great variability' of Caucasoid types.

Nowadays, we recognise such differences to be expressions, not of

the 'great variability' of a particular segment of humanity so much as of mankind as a whole.

The most important single revelation of genetics when applied to populations is that, whilst various groupings of man do tend to differ in the frequency of certain hereditary features—an understandable state of affairs when we recall that ours is the most widespread of mammalian species—these differences, far from being absolute and immutable, are merely relative: they are simply variations on themes that are common to the entire species.

Indeed, the handful of physical features that were once considered to be racially important are now known to be among those most susceptible to alteration through the interaction of a variety of biological and environmental factors.

Today, probably no one but the crassest racial bigot would argue with the statement that mankind is a single, genetically united species: if it were not, the members of different 'racial groups' would be incapable of interbreeding; they would no longer be merely geographic varieties with slightly differing genetic constitutions, they would be separate species and this they manifestly are not.

The so-called 'races of man' can most realistically be envisaged as populations, intergrading with and spilling into one another, sections of which, at a given moment in time, are found to display a number of hereditary features not necessarily so typical of other sections with which they are compared. These features, however, and the genetic endowment of the population whose members display them, are derived from a great reservoir of genes that is the common inheritance of all mankind and they are capable of adjustment and change should the conditions which brought them about alter in any way.

Genetics has shown that each individual represents the end product of an almost astronomical number of gene equations, inherited, through his parents, from the section or sections of the gene-pool from which they themselves are derived. Of these equations, only a minute fraction, perhaps less than five per cent, are responsible for determining the dozen or so observable features once held to be racially significant. Apart from a further five per cent, which make for individual and

sexual differences, the remainder, some 90 per cent, are genes common to all mankind – and probably to our nearest animal cousins, the anthropoid apes. Were they not, many of us might well sport two noses, one eye, hair-covered palms and have a normal body temperature of 150°F.

All this makes nonsense of the theory, still current in some circles, that the 'Primary Races' of man, the Negroids, Caucasoids, Mongoloids and others, are the result of independent lines of evolution from separate ancestors. In point of fact, the various groups of man have never, throughout the 100,000-odd years since the emergence of *Homo sapiens*, been entirely out of contact with each other for very long, if at all. There has been a constant flow of genes from one population to another; if there had not, it is reasonable to assume that the genetic constitutions of the 'races of man', at any rate the most widely separate varieties, would by now be sufficiently different to hinder or prevent fertile intermixture from taking place and to make impossible, or extremely hazardous, the successful transplant of such internal organs as hearts and kidneys from a donor of one 'race' to a recipient of another.

When we think of human differences and similarities in these terms, it becomes clear that the similarities far outnumber the differences. In fact, there often appears to be more physical variation between individuals belonging to the same geographical population than between representatives of the different 'Major Races'.

With these few observations in mind, it is possible to see that the old concept of hard and fast human races could scarcely have been less accurate. Furthermore, if the findings of population genetics have shown this concept to be untenable, what then of the races that are still believed by many historians, some human geographers and even a few reactionary anthropologists to inhabit Europe? These, if they exist, must be regarded as 'races within a race', and it is as such that they are described by those 'experts' who still claim to be able to identify them, although even they have to admit that this task is vastly more difficult than distinguishing between representatives of the different 'Major Races'.

Although it is hardly necessary to point out, in the light of what we now know of the processes giving rise to the physical variability of man, that the hunting down and describing of imaginary races is a fruitless exercise, to put it mildly, it is interesting to compare, in brief, the methods employed by the pre-genetic anthropologists of the past with those of today's population geneticists in studying the peoples of Europe. The radical differences between the old approach and the new will readily be appreciated.

In the days when classifications based on a few haphazardly chosen observable traits were still acceptable, the Caucasoids in Europe were believed to be divisible into three principal racial types: Nordic, Alpine, and Mediterranean. A string of secondary races – Dinaric, East Baltic, Littoral, Celtic and so on – was also recognised by most taxonomers. These secondary races, it was claimed, arose from early crosses between the three principal European stocks, which had at some undetermined time in the past been 'purer' but were now much diluted. A résumé of how these types were 'invented' and how they were supposed to look, will be found in the section 'The search for the races of Europe'.

Having succeeded in isolating what they considered to be the 'races of Europe', the typologists soon found that very few of the individuals whom they examined were able to shape up to any of these idealised physical types. This embarrassment was hastily overcome by explaining that the vast majority of the Europeans could be regarded as hybrids, the product of admixture between two or more purer strains. Even the existence in a single family of children who could be classed separately as perfect Nordic, Alpine or Mediterranean specimens caused little consternation; these, it was explained, merely recapitulated, *in toto*, the physical earmarks of the undiluted ancestral strains from which that particular family was derived.

Again, in instances where men and women displaying the characteristics of one 'race' were found to be living in the territory allotted to another 'race', historical and archaeological sources were consulted in order to justify their presence on the grounds of past migrations. In

this way, such apparent anomalies as fair, blue-eyed Spaniards could be explained away as the descendants of Visigoths, whilst the existence of dark Danes only went to show that a brunet strain introduced into northern Europe in Neolithic times by the supposedly brown-haired, brown-eyed 'Megalith-Builders' was still an important racial ingredient in the population of Denmark.

This kind of thinking, which is based on a belief in genetically 'pure' and 'mixed' human stocks, is still very much alive in some quarters. Several recent anthropological textbooks dutifully reiterate the nineteenth-century catalogue of European races, the stereotype Nordics, Alpines and others, without pausing to question the reality of such categories. Others pay lip-service to genetics by redefining 'races' as 'populations which differ from one another in the frequencies of certain genes' – although the exact number of gene-frequency differences two populations are required to show in order to qualify as separate 'races' is never stated. The frequencies, for example, of genes producing different types of antigens in the blood often differ quite appreciably over a short distance; should the possessors of the two or more different blood factors, enzyme variations and other minutiae therefore be classed as racially distinct from one another, even though they are otherwise indistinguishable? The 'races' arrived at by these new taxonomers, who claim to be able to identify them by such invisible factors as blood types, differ very little from those based on observable features. Thus, the 'North-west Europeans' are merely the Nordics in disguise, whilst the 'Central Europeans' still bear all the hallmarks of the old Alpines.

Non-specialist writers on race, hardly less excusably, also help to keep alive the myth of pure and mixed human stocks. 'The Celts', remarks a recent *Sunday Times* article ('The First Irish', 19.11.67), 'have remained a remarkably pure race', whilst the *Observer* series, 'Who are the British?' (12.2.67), hails 'dark, brown-eyed' Britons as 'the descendants of the Mediterranean people who came to Britain in the New Stone Age', suggesting that two genetically unconnected traits – hair and eye colour – have passed together down some 300 generations in one particular section of the British population. This

article, incidentally, equates – no doubt with the best of intentions but nonetheless in a style reminiscent of the Nazi racial theories – behavioural traits with bodily attributes. Thus 'The Celts brought with them' both 'the large heads, transparent, freckly skins' and 'the fiery spirits and love of music still found among their descendants'.

Such statements, which still go largely unchallenged, reflect a complete ignorance of the most basic hereditary processes. Besides being misleading, they are also potentially dangerous; we are all aware of what may happen when theories equating physical types with nations, cultures, language groups and even religious communities are put to political ends.

It seems, unfortunately, that the simplest revelation of genetics – that each individual is the result of a series of chance combinations of hereditary particles (the genes) – is still not generally acceptable. If it were, there would no longer be attempts to hail certain individuals or groups of people as living carbon copies of hypothetical ancestral stocks. A person's hereditary endowment is strictly his own; the chance of its being exactly duplicated in another person is unthinkable, as is the possibility of its repeating the total genetic complement of any of his forebears.

In the last few years, more and more anthropologists, aware of the confusion that must inevitably accompany the traditional notion of 'races' as more or less discrete entities, have ceased to apply the term 'race' to human varieties. This is not to say that they are blind to the very obvious fact that geographically widely separated populations differ in genetic constitution, and consequently in certain aspects of their outward appearance. It would be absurd to deny that dark skins, woolly hair, everted lips and low-bridged noses are at present commoner in parts of Africa than elsewhere; that straight, black hair, almond-shaped eyes and yellowish skins are more often found in conjunction among east Asiatic peoples than among Europeans, or that, within Europe itself, individuals combining tall stature, blond hair and blue eyes are more frequently encountered around the Baltic and North Seas than around the Mediterranean.

However, whereas anthropologists in the past were likely to regard

the coincidence of selected features in certain individuals as evidence of distinctive 'racial' entities, such traits are now looked upon as the separate expressions of specific evolutionary processes whose understanding is the principal aim of physical anthropology. All the features once held to be racially significant are now acknowledged to be capable of undergoing alterations if and when their possessors are subjected to new selectional pressures brought about by such factors as famine, disease, a change of dietary habits, migration to a fresh habitat, random genetic drift resulting from comparative isolation, the breaching of linguistic and cultural barriers and intermixture with outsiders. When viewed in this way, the inhabitants of a particular region, the peoples of Europe, for example, emerge, not as a group of sharply demarcated entities, each the proud possessor of an assemblage of distinctive physical features, but as a reticulum of imperceptibly intergrading populations whose outlines, far from being merely blurred, are impossible to determine on account of the wholly discordant distribution of individual hereditary traits.

Anthropology has, by and large, outgrown the useless practice of sorting mankind into neat compartments; although the distribution of specific, genetically determined traits, both visible and invisible, can tell us an enormous amount about the response of our species to different environmental conditions, attempts are nowadays seldom made to use these traits as a basis for typological classifications.

As for the old 'Races of Europe', they were nothing more than figments of the imagination and are best forgotten. Man arrived in Europe a mongrel and mongrels we remain.

The peopling of Europe

Four times during the last million years, much of Europe has been in the grip of the ice sheets that sprawled outwards in all directions from Scandinavia, the Alps and such smaller mountain systems as the Urals, Carpathians and Pyrenees. During the long, warm intervals between these four Ice Ages, plants, birds and animals, that had been forced south into Africa by the Arctic conditions of the glacial optima, were able to return to Europe. A few hardy species even managed to maintain themselves in the habitable parts of Europe during the periods of most advanced glaciation; among these were some early forms of man.

Although we know that manlike creatures have occupied Europe for half a million years at least, the available evidence suggests that men physically identical with ourselves did not arrive until as recently as the first break in the final Ice Age, a mere 40,000 or 50,000 years ago. We are fortunate in having a considerable and slowly accumulating amount of skeletal and archaeological material, dating from this time onwards, with which we may attempt to trace in broad outline the development of man in our continent. It would, however, be naïve to claim any of the fossil men discussed in the next few paragraphs as our direct ancestors, for we still know lamentably little about how they may

The peopling of Europe

have looked in the flesh and about their part in the formation of the later peoples of Europe.

Until very recently, there was no fossil evidence to suggest that any positively pre-*sapiens* form of man, resembling either the African Australopithecines or such Asiatic Pithecanthropoids as Java and Pekin man, had ever lived near Europe. Then, in 1954 and 1955, Professor C. Arambourg, a French palaeontologist, discovered three lower jaws and the parietal (side-bone) of a human skull at Ternifine in Algeria. These remains, and part of a fourth mandible also discovered in 1954 at Sidi Abderrahman in Morocco, were found in association with crudely worked stone chopping tools of a primitive and extremely ancient type (Abbevillian or Acheulian); they were all, on account of their close resemblances to the already well-known remains of Java and Pekin Man, classed as Pithecanthropine. It was now obvious that man-like creatures at the pre-*sapiens*, *erectus* stage of evolution, lived very close to Europe perhaps 300,000 years ago and it began to be asked: could not these early hominids have from time to time extended their range the short distance northwards into Europe? The fact that our continent was joined to North Africa by a land-bridge that sealed the western end of the Mediterranean for long periods of the Pleistocene made this conjecture at least feasible.

Nine years later, in 1963, it appeared that incontrovertible proof of the existence of a form of archanthropic man resembling both the Middle Pleistocene North Africans and the east Asiatic Pithecanthropines had been found when Dr Laszló Vértés brought to light some extremely ancient human remains from a Lower Palaeolithic occupation site at Vértesszőllős, a few miles west of Budapest. These fragments, one canine tooth, two molars (one a child's) and the two halves of an occipital bone, were handed over to Dr Andor Thoma of Kossuth University for identification. Thoma's first reaction was to proclaim them all, skull bones and teeth, the remains of Pithecanthropines of the same general type as Pekin Man. Here, at last, it seemed, was positive evidence that hominids at a more archaic (*erectus*) stage of physical development than ourselves, had lived in Europe

during the second Interglacial, between 200,000 and 500,000 years ago.

Closer inspection of the remains, however, caused Dr Thoma to revise his classification; although the Vértesszöllös skull bones are thicker than those of any living human being and have the well-defined ridge, present on all the *erectus* skulls, for the attachment of neck muscles, their form is quite advanced, whilst the estimated cranial capacity of about 1,400 cubic centimetres is considerably over that of the known examples of *Homo erectus*. Thoma is now inclined to classify Vértesszöllös Man, with his modern-sized brain and fairly progressive skull form, as a very early subspecies of *Homo sapiens*. This means that men closely resembling ourselves, at any rate in the size and shape of their skulls, may have lived here in Europe some 500,000 years ago, at a time when physically more primitive *erectus* populations still occupied other portions of the Old World.

Even older than the Vértesszöllös remains and, like them, equally elusive of precise classification, is the jawbone found in 1907 at an

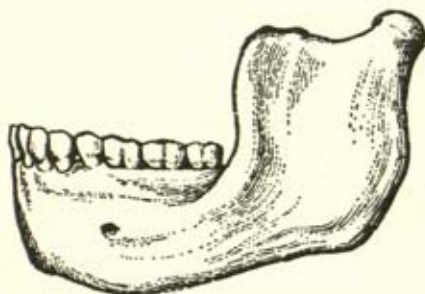


Figure 1. Heidelberg jaw

early Middle Pleistocene level at Mauer in Germany. Whilst this fossil is comparable in form to the jaws of the Java and Pekin Pithecanthropines, the teeth that it still bears are much more like our own in shape and size; because of this progressive feature, some taxonomers are still somewhat reluctant to claim the Mauer jaw unreservedly as that of an *erectus* specimen; it seems that Heidelberg Man – the owner of the

Mauer jawbone – may have reached the threshold between the *erectus* and *sapiens* stages of physical development.

Although it is impossible to say whether Heidelberg Man or the Vértesszőllős specimens can be counted among the ancestors of any of the modern Europeans, certain considerably later remains, which have been discovered during the last thirty-five years, may, with a little more justification, be claimed as having belonged to our possible fore-runners.

In 1933, a skull, crushed on one side and lacking a lower jaw, was discovered at Steinheim in Germany in an Acheulian cultural context. Apart from a low-vaulted skull, a smallish cranial capacity and heavy brow-ridges, Steinheim man – or woman – must otherwise have looked fairly like some of the more rugged European types of our own day. The forehead is less sloping than those of the Pithecanthropoids, the sides of the skull flattish and its back gently rounded.

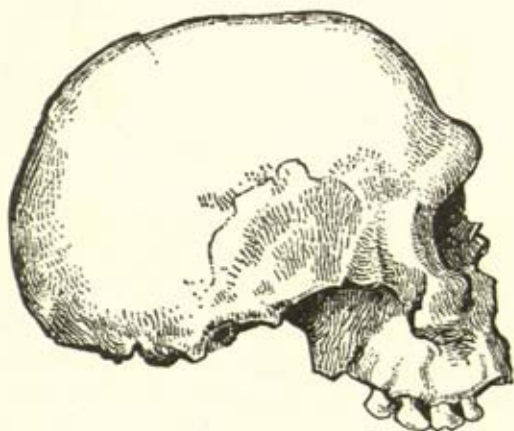
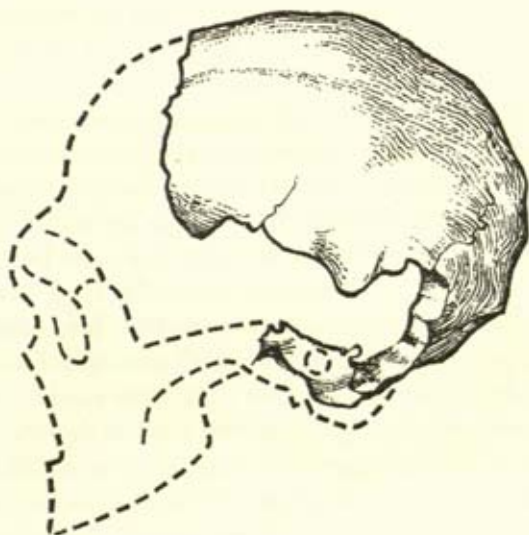


Figure 2a. Steinheim skull

The three bones found between the 1930s and 1950s in the Barnfield gravel pit at Swanscombe near Dartford in Kent appear to be about as old as the Steinheim fossil. The Swanscombe bones, which come from the back and sides of a young woman's skull, are, though thick by present-day standards, very similar in contour to those of most living Europeans. The roof of the skull is, like that of Steinheim, lowish, but the brain, as far as can be judged in the absence of the frontal bone, was as large as those of many of our contemporaries. A cast taken of the inside of the skull also shows that the folding of the grey matter was about as complicated as in modern man.

In 1947, the fragments of two skulls – a skull-cap and a small part of a frontal bone – were unearthed from the floor of a cave at Fontéchevade in central France. Close by, at the same level, lay flint tools of a type known to have been made in the area during a very early phase of the Middle Palaeolithic – perhaps 200,000 years ago. The bones of several



2b. *Swanscombe skull*

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long-extinct animals, including Merck's rhinoceros, were also at hand. It was clear from all this evidence that the skull-fragments belonged to two people – we cannot say whether they were men, women, or one of each – who lived in France during the warm tail end of the second and longest Interglacial, shortly before the third advance of the ice-sheets. Despite their comparative thickness, the Fontechévade bones are virtually indistinguishable in form from those of a modern European. The skull-vault is high, whilst the shape of the forehead portion indicates that the brow-ridges, so pronounced in such other early forms of man as the Pithecanthropoids, were as inconspicuous as ours.

The bones from Steinheim, Swanscombe and Fontéchevade are incontestable evidence that men of essentially modern appearance lived here in Europe as much as 150,000 years ago. It is therefore somewhat startling to discover that, several thousand years nearer our own time, physically more primitive-looking forms of man continued to be widespread in our continent. Neandertal man, the somewhat undeserving prototype of the brutish, slouching, hairy cartoon cave-man, appears to have been the predominant – if not the exclusive – human type in Europe throughout much of the first part of the last glacial, between 70,000 and 125,000 years ago.

When it was first suggested that such early European hominids as Steinheim and Swanscombe might have been the remote progenitors of both the Neandertalers and ourselves, many authorities hastily claimed the Neandertalers as a rare example of evolution in reverse. Certain allegedly anthropoid skeletal traits displayed by the Neandertalers, such as rugged, low-vaulted skulls, beetling brows, sloping foreheads, receding chins, massive, prognathous jaws and large teeth, were cited as proof that these Middle Palaeolithic Europeans were physically regressive when compared with more recent forms of man. The fact that certain early Neandertalers, such as those whose remains were found at Krapina in Yugoslavia, were clearly more modern-looking than certain later, west European specimens, such as La Ferrassie, also enhanced the impression of the Neandertalers' becoming more and more ape-like as time wore on.

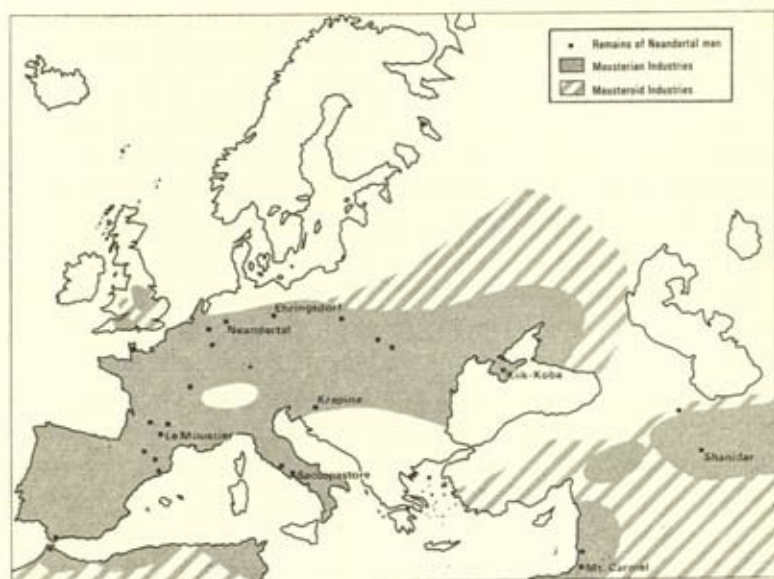


Figure 3. The Neandertal range in Europe

It is, however, just as likely that the Neandertal skeletal traits that appear, at first glance, to be 'regressive', were, on the contrary, highly specialised and developed in response to specific environmental requirements, at whose nature we can only guess. They probably served the Neanderthals better than would the comparatively frail bone-structures characteristic of later forms of man.

The Neanderthals can no longer be regarded as doltish brutes. Archaeologists have shown that they knew how to make fire, that they dressed in animal hides prepared with flint-core scrapers and that they buried their dead with great care. What is more, although bulky brains are not necessarily a sign of high intelligence, those of the Neanderthals were somewhat larger on average than most of ours. The Neanderthals are now generally considered to have been close cousins of modern man – a subspecies of *Homo sapiens* – and there is no longer

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much doubt that they played an important part in the formation of some of the later European peoples.

During the first warm break in the final (Würm) Ice Age, when the glaciers contracted and forests covered much of the Continent, the traditional hunting-grounds of the Neandertalers began to be encroached upon by bands of newcomers. These intruders were on the whole taller than the Neandertalers, longer in the arm and leg, and had flattish-sided, high-crowned skulls with vertical foreheads, jutting chins and reduced brow-ridges. Their entry into Europe, from perhaps as early as 80,000 B.C. onwards, is marked by the spread of an efficient blade-culture, the Aurignacian, which gradually superseded the Mousterian core-tool tradition of the native Neandertalers.

Aurignacian techniques were almost certainly introduced to Europe from outside, probably through the Balkans from western Asia, and were everywhere associated with a hefty, raw-boned type of humanity, skeletally identical in every respect with many of the living Europeans. The type-specimen, the 'Old Man of Cro-Magnon', must have been thoroughly modern in appearance when compared with the Neandertalers. He was nearly six foot tall, powerfully built, with a narrow, craggy skull, wide face, square jaw, strong chin and high-bridged nose. He and his kind, although uniformly burly, were no more so than many of the more rugged Irish or Scandinavians. Dressed in overalls rather than their customary animal hides, few of the Cro-Magnards would look out of place on a modern building-site in north-west Europe.

It seems increasingly likely that men of the Cro-Magnon type assimilated rather than exterminated the Neandertalers in Europe. The two types of man were almost certainly genetically close enough to interbreed and they appear to have done so. The skeletons of mammoth hunters from Brunn and Předmost in Czechoslovakia display a combination of Neandertaloid and more familiarly *sapiens* features that strongly suggests hybridisation between the two stocks, as does the considerably older Combe Capelle skull, whose owner may have preceded the Cro-Magnards in France by several hundred years. These specimens are all notably stockier than the definitive Cro-Magnon people and are long and narrow in the face as well as in the

Time chart

(showing main cultural industries and fossil men in Europe)

	Pleistocene glaciations (with approximate dates in central Europe)	Industries	Neanthropic, 'Sapiens', types	Neander- taloid types
	A.D. 400- onwards 800 B.C.- A.D. 400 2500-800 B.C. 4000-2500 B.C. 8000-4000 B.C.	HISTORICAL TIMES IRON BRONZE NEOLITHIC MEBOLITHIC	 OFNET	
UPPER PALAEOLITHIC	25,000 B.C. 72,000 B.C.	MAGDALENIAN SOLUTREAN GRAVETTIAN AURIGNACIAN	CHANCELADE PREDMOST/BRÜNN CRO-MAGNON GRIMALDI COMBE-CAPELLE	CHAPELLE AUX SAINTS
MIDDLE PALAEOLITHIC	115,000 B.C. c. 60,000 years	PERIGORDIAN (flake) MOUTRIAN (core)		KRAPINA EHRINGSDOF (<i>H. sapiens neander- talensis</i>)
LOWER PALAEOLITHIC	187,000- 230,000 B.C. ← c. 200,000 years → 435,000- 476,000 B.C. MISSEL c. 60,000 years 550,000- 1,000,000 B.C. GLINZ	LEVALLUISIAN (flake) ACHERIAN (core) ABRIVILLEAN (core) CLACTONIAN (flake)	FONTÉCHEVADE ZWANSCOMBE STEINHEIM (<i>H. sapiens</i>) VÉRTESZÖLLŐS (<i>H. sapiens?</i>) TERNIFINE (<i>H. erectus</i>) <i>mauritanicus</i> HEIDELBERG (<i>H. erectus</i>) <i>heidelbergensis</i>	

Based on Ashley Montagu's Table VII (facing p. 270) of *An introduction to physical anthropology*.

skull, whereas the typical Cro-Magnards combine long skulls with broad faces.

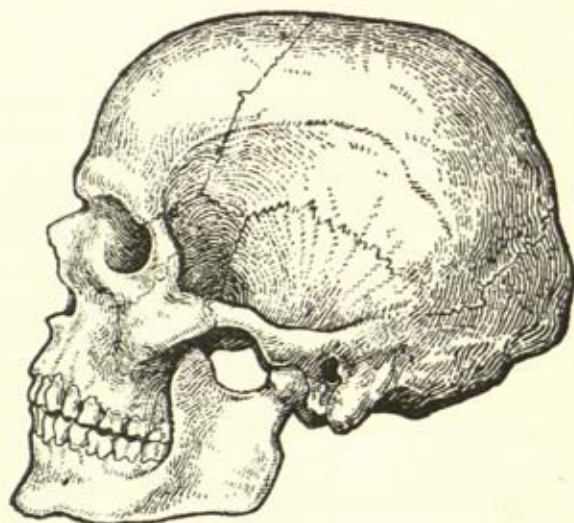


Figure 4. A Cro-Magnon skull

Archaeological evidence from central Europe and southern Russia strengthens the impression of intermixture between local Neanderthals and technically more proficient intruders. Advanced Palaeolithic cultures named after central European sites, such as the Szeletian, which evolved in Hungary and Slovakia, almost certainly arose from a melding of Mousterian with insurgent Aurignacian-type elements. Throughout this area, flint-making traditions of unambiguously Mousterian inspiration continued to exert a strong influence on certain of the later Palaeolithic industries.

The Aurignacians found Europe a boundless hunting-ground; the climate was genial, the forests and parklands teemed with game and the rivers were well-stocked with fish. Eventually, however, after the lapse of many generations, conditions deteriorated – howling winds, laden with glacial dust, began to scour the land, the forests retreated

southwards to expose the barren tundra and, by about 72,000 B.C., the mile-thick ice-sheets had reclaimed large portions of the Continent. Of the game animals, only the thick skinned and the hairy, the mammoth, bison and musk-ox, remained. Small bands of men, entirely dependent on these creatures for their food, clothing and fuel, managed to adapt themselves to Arctic living; clad in warm hides against the biting wind, they dogged the wandering herds incessantly across the snowy plains.

Unlike the Aurignacians, who had blazoned the walls of their subterranean cave dens with magnificent paintings of beasts, the Gravettians, who succeeded them in Europe during the second Würm optimum, found it easier, in the temporary snug of their reindeer-hide shelters, to carve on bone or antler or to whittle small figurines from soft stone or mammoth ivory. Most of these statuettes are of women and all suggest that our possible Ice Age ancestresses were buxom, to say the least – not merely because their menfolk liked them that way, but because they needed to be; a skinny physique is a poor insulation against the raw cold to which the Gravettians were almost constantly exposed. The hips, breasts and bellies of these little 'Venuses', the sexual features linked with fecundity and procreation, are always emphasised at the expense of limbs and facial portraits. Only one, a woman's head carved from ivory and found at Brassempouy in France, gives any impression of the appearance of a living person. Her hair is long and, though braided, looks straight; her nose is low-bridged and her eyes, like those of many living Asiatic peoples, are slanted – a feature further enhanced by her high, rounded cheekbones.

The girl from Brassempouy seems to have been by no means unique among the Upper Palaeolithic Europeans in possessing what we today might call an 'Asiatic' cast of feature. The skull of Chancelade man, who lived some 15,000 years ago, during the Magdalenian period, is somewhat like those of modern Eskimos, with its broad jaw and flaring cheekbones – features also displayed by the roughly contemporary skull from Obercassel in Germany.

In contrast, the two skeletons from Grimaldi in Italy are in some details like those of modern African Negroes, especially in the form of

the pelves, the long lower arm and leg bones, low-bridged noses and slightly projecting jaws.

Could it be that men and women resembling living Asiatic and Negro types lived alongside the apparently European-looking Cro-Magnards in late Glacial Europe? Perhaps, although as we possess only their bones, it is impossible even to guess at how the Chancelade, Obercassel and Grimaldi people looked in the flesh. There may have been as little difference between them when alive as there is between the various peoples of Europe today.

The few Palaeolithic self-portraits that survive, scratched or painted on antlers, fragments of bone and cave walls, suggest that perhaps the most familiar type of European at this time had many facial features in common with ourselves: a prominent nose and strong chin, thin lips and, often, a heavy beard. Unfortunately, as most of these caricatures were drawn in line and not coloured, we cannot say for sure that the Europeans of some 15,000 or 20,000 years ago were pale-skinned.

It is only possible to suggest in the sketchiest outline the folk movements that seem, from archaeological evidence, to have passed across our continent during the Ice Age. Whilst we may attempt to do this by noting the distribution and apparent dispersal centres of the various Advanced Palaeolithic cultures that have so far been identified, we must, as always, be extremely cautious of equating the spread of cultures with ethnic migrations; a new method of trapping animals or fashioning a stone tool, or a novel way of skinning a buffalo, might pass from band to band without any accompanying genetic exchange. It may, however, be supposed that exogamy, the practice of seeking a mate outside one's immediate group, was widespread, if not universal, in Palaeolithic Europe, as it still is among primitive hunting and gathering communities. It is therefore possible that intercourse between the few widely scattered tribes that wandered Europe at this time was frequent, and that, alongside the interchange of new ideas and techniques, genetic intermingling also took place.

Relying on archaeological evidence alone, we may tentatively suggest that, whereas the Aurignacian blade industry was introduced to Europe from outside, the Gravettian, that succeeded it, appears to have evolved



Figure 5. Upper Palaeolithic representations of the human face

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among *sapiens* stocks, probably considerably mixed with indigenous Neanderthals, in central and eastern Europe before spreading south and west. The Solutrean culture, characterised by finely-worked flint arrow-heads shaped like leaves, seems, in contrast, to have been introduced to Europe, presumably by an intrusive people, some time during the eighteenth millennium B.C. It has been suggested that the 'Solutreans' migrated into Europe through Spain from North Africa;

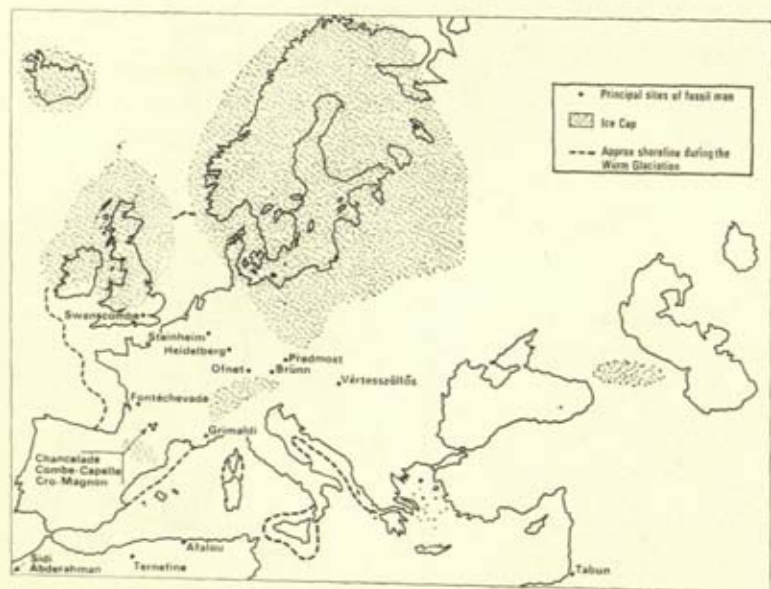


Figure 6. Europe during the final Ice-Age

wherever they came from, their influence, and perhaps their stay, seems to have been short-lived, for their easily identified industries were replaced by about 15,000 B.C. by the Magdalenian, a culture of unequivocally native European ancestry. Whether the 'Solutreans' were absorbed by the 'Magdalenians', or whether they moved out of Europe is as yet impossible to ascertain. The Magdalenian culture itself, typified by richly carved implements of bone and antler, seems to have evolved from local Aurignacian and Gravettian traditions in the

region between north-west Spain and the Alps, although Magdalenian cultural influences later penetrated far into central and eastern Europe. Once again, though we cannot say for sure that these cultural transmissions were accompanied by ethnic movements, a certain amount of genetic interchange can be assumed to have taken place.

The four thousand years that followed the final retreat of the Scandinavian ice-cap in *c.* 8000 B.C. cover the period known to archaeologists as the Mesolithic or Middle Stone Age. It was during this period that our continent slowly began to assume its familiar shape, The British Isles were finally severed from the Continent, and the Baltic, hitherto a huge inland lake, was united with the North Sea. The bleak tundra exposed by the shrinking ice-caps gradually gave way to dense forests and hitherto unfamiliar animals – otter, marten, beaver, wild boar and red deer – replaced the great herds of reindeer and musk-ox. Europe was now a temperate, no longer an Arctic, zone.

Culturally a time of transition from the old Palaeolithic economies, based exclusively on hunting, to the more sophisticated Neolithic way of life, the Mesolithic appears to have been marked by a number of fairly large-scale movements of peoples into and across Europe.

A considerable influx of newcomers may have accompanied the introduction of the Tardenoisian microlithic techniques into western Europe, possibly from North Africa, whilst the somewhat later Azilian culture, a degenerate successor of the artistically rich Magdalenian, was carried to the British Isles and into parts of central Europe by immigrants from Spain and southern France.

The more northerly Mesolithic industries appear, in contrast, to have arisen locally among the descendants of reindeer hunters who had followed the retreating glaciers northwards from southern, central and eastern Europe to settle in what are now the British Isles, the Low Countries, the fringes of the Baltic and the great sweep of sub-Arctic Russia to the Urals and beyond. Each year, as the ice withdrew, more and more land became inhabitable; forests, first of birch and pine, later, as the climate improved, mixed with broad-leaved trees, swathed the hillsides and choked the valleys. A whole

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succession of tribes, at a similar cultural level, stretched from western Ireland far into Siberia; all were nomadic for most of the year, wandering the shorelines, lake-sides and river-courses in their quest for game, birds, fish, nuts, berries and oysters; all knew the bow and stone-tipped arrow; all were skilled at weaving the cunning wicker fish traps; all pronged their eel-spears with antlers and all carried flint axes to clear their passage through the woods. Dogs were used for tracking, boats were made from animal skins or bark and sealed with birch-pitch, and sledges, drawn by both men and dogs, were known to all the tribes. Later, perhaps under the influence of the first farmer-settlers, they learned to make crude clay pots and to grow small quantities of grain.

Whilst archaeologists have reconstructed fairly accurately the various cultures that flourished in Europe between 8,000 and 4,000 years ago, Mesolithic human remains are scarce. Although most of those that do survive appear to be almost identical to, yet somewhat smaller than, Upper Palaeolithic forms, a few suggest that a considerable amount of intermingling between peoples of different physical type took place. This is hardly surprising, considering the widespread movements that we know crossed and recrossed Europe in early post-Glacial times. The population remained small and scattered, and the wandering life was still almost universal.

A clutch of thirty-three skulls, thought to have been thrown by head-hunters into a pit at Ofnet in Bavaria, reveals that the hitherto almost exclusively long-headed population of Europe was already beginning to show a diversity of head-shapes. Most of the Ofnet skulls and others from Portugal, Brittany, Denmark and Sweden are short and roundish. Should they be regarded as belonging to an intrusive people, newly arrived in Europe? The bringers of the Tardenoisian culture, perhaps? If some of the Tardenoisians did come from Africa, they may well have introduced a round-headed element, for brachycephaly is detectable even in some of the Upper Palaeolithic Afalou people of Algeria. The possibility of immigration being the initial stimulus for European brachycephaly should not be ruled out, although, as we shall see later, there is plenty of evidence to suggest that the tendency towards round-

headedness, which has affected a large number of the Europeans in historical times, may also have been a purely homegrown phenomenon. All in all, it would seem that the Mesolithic inhabitants of Europe were, with their already conspicuous physical variety, very much like ourselves.

As early as 7000 B.C., when most of Europe was still culturally in the Old Stone Age, the first signs of a new and more progressive way of life were already discernible on the plains about the rivers Tigris and Euphrates in what is now Iraq. Here, men were already abandoning the old nomadic hunting and gathering life, in favour of a more settled existence based on the domestication of plants and animals. The Neolithic way of life was, despite its painfully slow beginnings, the most significant cultural advance made by man and provided the basis for every subsequent civilisation, including our own. Among its immediate consequences were a prodigious burgeoning of the population of the Middle East and a series of mass migrations that washed in wave after wave into Europe, North Africa and east as far as India.

Those waves that broke into Europe were to modify profoundly the physical appearance of many of its inhabitants, who, in spite of various local, internal movements, had been relatively undisturbed since late Glacial times.

The people associated with the Natufian culture of Palestine, who made the transition from the Mesolithic to the Neolithic during the eighth and seventh millennia B.C., were typical of many of the denizens of the Middle East and North Africa at the time. The shortish, wiry, gracile physique characteristic of the Natufians and their neighbours seems to have sprung from local Pleistocene *sapiens* forms that may have been established hereabouts for thousands of years.

At first glance, the narrow, elongated skulls of many of the Natufians recall such Upper Palaeolithic European types as Combe Capelle; these Mesolithic Palestinians were, however, appreciably smaller-headed, finer-boned and more delicately built than the ponderous mammoth-hunters of Ice Age Europe.

A number of factors, including life in the warm sun and the switch

from an exclusively meat diet to one supplemented by cereal foods, may have influenced the general diminution in body size that seems to have affected many of the east Mediterranean peoples during the early post-Glacial period. Whatever the causes, a reduction of body proportions to present-day standards was eventually to alter the appearance of many of the inhabitants of Europe, North Africa and the Near East. It is, as yet, impossible to ascertain whether the physical refinement of the European peoples was a direct result of the intrusion of large numbers of Middle Eastern agriculturalists or whether it arose from a purely indigenous process of diminution; probably both factors contributed.

Figure 7. Neolithic stone statuette of woman from Blagoevo, Bulgaria



The task of retracing the routes taken by the earliest Neolithic pioneers into Europe is extremely complicated and our knowledge of

ethnic movements at this remote period is still sadly incomplete. Whilst archaeologists, by plotting the apparent spread of early farming cultures, have attempted to reconstruct a few of the major routes along which our continent was penetrated by the first herdsmen and crop-raisers, these can only represent a mere fraction of the total number of immigration routes.

One feature shared by all the early Neolithic impulses is the general direction of their spread; all of them quite clearly emanated from a source somewhere to the south and east of Europe. The evidence that leads to this deduction is abundant. It is known, for example, that few of the cereal crops and domesticated animals introduced by the Neolithic colonists were native to Europe, although all were found in the wild state in Anatolia, Syria, Palestine and further east. Again, the scattering across Europe of a variety of material objects, such as ornaments made from the shells of the east Mediterranean mussel, *Spondylus*, strongly suggests radiation from a dispersal centre beyond the eastern end of the Mediterranean.

Of the Neolithic cultures so far recognised in Europe, the earliest, conspicuous by its complete absence of pottery, has been identified in Thessaly and, tentatively, elsewhere around the Mediterranean.

These early pre-pottery cultures were gradually imposed upon by fresh impulses from beyond the Aegean. Using the Vardar–Morava corridor as a main artery of immigration into the Balkans, the bringers of what later matured into the Starčevo and its descendant cultures infiltrated the river valleys of south-eastern Europe, trickling east into Bulgaria and Transylvania, north-east across the Ukrainian parkland and northwards along the Körös and Tisza valleys into Hungary. Although the earliest Neolithic colonists of the Balkans were shifting agriculturalists, stockmen and planters of millet and onecorn, some of those who followed in their wake lived a more sedentary life in semi-permanent settlements; some of these occupation sites are marked, to this day, by tells – mounds of accumulated domestic waste.

A somewhat later influx passed through the Balkans before fanning north from the Hungarian Plain into the light-soiled oakwoods of central and eastern Europe. This was the route taken by the Danubians,

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culturally kindred groups of crop-raisers, who appear to have spread across the Continent at an astonishing rate and whose range, at its greatest extent, stretched from western Russia to the Low Countries.

The Danubians, 'slash and burn' cultivators who thinned the forest and fired the undergrowth to plant their wheat, barley, flax and beans for a season or two before leaving the soil temporarily exhausted and moving on to fresh sites, lived in villages of timber longhouses and, especially along the western frontier, ringed by ditches and palisades as a defence against surprise attack, particularly, no doubt, from the savage tribes into whose traditional hunting grounds they intruded. Physically, to judge from their skeletal remains, these pioneer farmers of central Europe were characteristically stocky and carried the high-vaulted skulls with short, rather low-bridged noses that are still typical of many of the living Russians, Poles, Czechs, Slovaks, Hungarians and East Germans.

Other early Neolithic immigrants came by sea to settle on the islands and peninsulas and along the coasts of Mediterranean Europe and North Africa. Their closely related cultures were all characterised by rough clay pottery decorated with the impressions of cardium and other shells. These earliest pioneer farmers of southern Europe appear, from their remains, to have been typically small and slender, with the narrow skulls and fine features still conspicuous among the circum-Mediterranean peoples, notably the Sicilians, south Italians and southern French.

Further west, influxes of stockbreeders, including the aptly named Swineherders, came by sea to settle around the coastal fringes of Spain, Portugal and the French Riviera before penetrating inland along the Rhône Valley. Some of these 'Early Western' Neolithic colonists pressed further north, finally reaching Brittany and the Channel coast, from where they crossed to southern Britain. Like their kinsmen who remained around the Mediterranean, these first agriculturalists to reach north-west Europe were also predominantly short and gracile, long in the skull, thin-nosed and narrow-faced.

The Mediterranean route into Europe was also followed, from about 2500 B.C. onwards, by the Megalithic religion, evidently a form of

sun-worship which involved the erection of stone monuments, often of enormous dimensions and popularly known as 'Dolmens', 'Long Barrows', 'Giants' Graves' and the like. The distribution of these Megaliths from Sicily and southern Italy through Iberia, France, the British Isles, the Low Countries, north Germany, Denmark and southern Sweden can no longer be interpreted, as it was at one time, as marking the migration route of a distinctive racial type, that of the 'Megalith Builders'. It is now generally agreed that the distribution of Megalithic structures mirrors the dissemination of a religious cult that seems to have originated in the eastern Mediterranean and was spread by missionaries among the natives of the lands in which they settled.

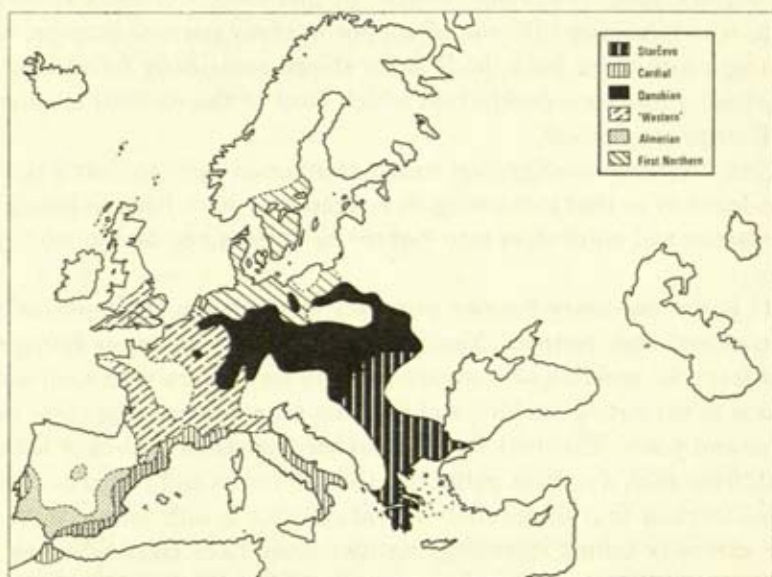


Figure 8. Primary Neolithic settlement of Europe

At the same time that the Megalithic religion was being adopted by the peoples of western Europe, fresh invaders were beginning to penetrate the heart of the Continent from the steppes of Russia. In contrast to the spread of the Megaliths, the incursions of these newcomers, variously named the Boat-Axe, Battle-Axe, Single Grave or

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Corded Pottery People, may be regarded as a large-scale ethnic movement. The peoples associated with the introduction of these closely related cultures, aggressive warriors, horsemen and stockbreeders rather than cultivators, were typically tall and powerfully built, with the narrow skulls, long faces and hatchet features so characteristic of many of the Iron Age central Europeans and of some of the living Scandinavians and north Germans, in whose lands they settled widely.

These newcomers seem at first to have avoided the areas already occupied by sedentary agriculturalists and adherents of the Megalithic religion. Gradually, however, they were absorbed into the surrounding populations and, in many places, appear to have been regarded as an aristocratic elite. It has been suggested that these Corded-Battle-Axe folk, who introduced the use of copper to many parts of Europe, also brought with them from the Russian steppe some early forerunner of the Indo-European speech from which most of the modern languages of Europe are derived.

The Neolithic immigration routes mentioned here are but a few of the dozen or so that archaeologists suggest may have been followed by herdsmen and cultivators into Europe between 4,000 and 8,000 years ago.

It is not necessary for our purposes to catalogue the multifarious 'secondary' and 'tertiary' Neolithic cultures that arose on European soil from the melding of intrusive farming techniques with each other and with the native catching and foraging economies during these four thousand years. The mere fact that archaeologists have already identified, from such details as pottery styles, axe forms and burial customs, some three or four dozen such hybrid cultures is sufficient to indicate the extensive ethnic intermingling that must have taken place as an accompaniment to the fusion of material traditions. New genetic permutations must have constantly arisen as land-hungry cultivators continued to stream into Europe, gradually blending, especially in backwoods areas, with the native peoples. Populations expanded and spilled into one another's territories, tribes fought, coalesced and split up to break new land, a network of trade routes spread over the Continent and the complex ethnic amalgam from which we, the living

Europeans, arose, slowly began to take shape. Under such conditions, any pure racial strain, if such a unit were biologically possible, would have very quickly lost its identity.

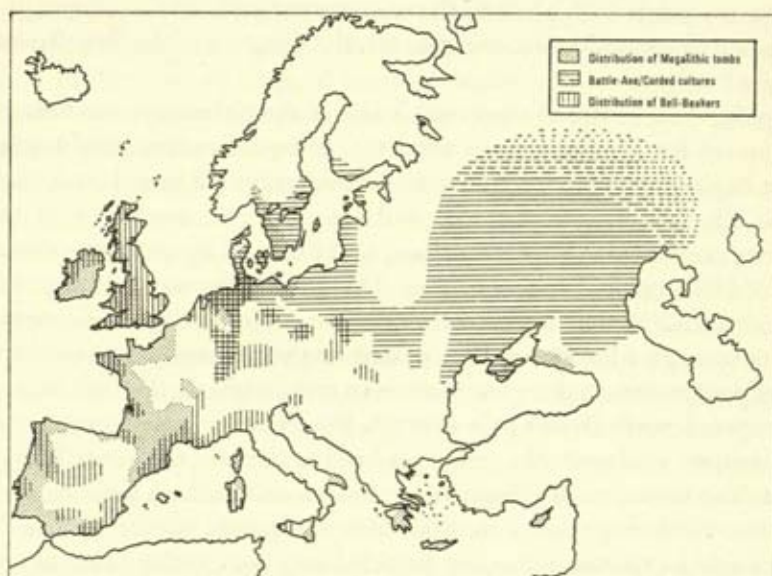


Figure 9. Late Neolithic settlement of Europe

Around the year 4000 B.C., at a time when the inhabitants of Arctic Europe were still leading the same crude hunting and fishing existences of their Mesolithic ancestors, the great Bronze Age civilisations of Sumer, Egypt and northern India were beginning to blossom under the sun. During the next two thousand years, cultural impulses emanating from these centres east of the Mediterranean seeped into every corner of Europe, reaching Britain and Scandinavia between 1900 and 1500 B.C.

The spread of the early metal cultures was associated with a series of migrations which profoundly altered the ethnic fabric in large areas of Neolithic Europe.

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Unfortunately for the palaeoanthropologist, cremation of the dead was practised increasingly as the Bronze Age advanced, culminating with the almost universal 'Urnfields' form of burial, in which the ashes were sealed in urns. Nevertheless, at least one of the most significant folk-movements took place in the western parts of the Continent, at a time before cremation became general: the diaspora of the Bell-Beaker people.

Spain, their centre of dispersal, is one of the richest copper-bearing regions of Europe; as early as 2000 B.C., prospectors from the Aegean were beginning to tap the Almerian coast of eastern Spain. It was from these adventurous people, who had long been in contact with the Bronze civilisations of the Near East, that the local Spanish population learned the craft of bronze-making. This knowledge was to make their descendants, the Bell-Beaker folk, welcome guests among the European tribes through whose lands they passed on their extensive wanderings.

As prospectors, tinkers and traders in metal objects, the Bell-Beaker folk spread north from Spain through France, their endless quest for tin, copper, gold and other minerals leading them to the lower Rhineland. The farmers and villagers must have received them with wonder, for the wandering traders showed them substances harder than stone that could be melted in fire and moulded into pots, tools, weapons and elaborate ornaments. It seems likely that these newcomers were respected not merely for their novelty wares, but also for their prowess as fighting men. Many have been found buried with their bows and daggers and nearly all with the finely-moulded cylindrical drinking mugs from which they have been named.

The Bell-Beaker people must have intermarried extensively with the natives amongst whom they sojourned; in the lower Rhineland they seem to have been in long and intimate contact with some of the descendants of the Neolithic Battle-Axe immigrants (themselves long since diluted by admixture with earlier local strains), from whom they acquired certain cultural trappings and possibly an early form of Indo-European speech, both of which they may have brought to Britain in about 1800 B.C. In the western parts of Britain, the Beaker colonists intruded into a countryside still ruled by the descendants of

Megalithic 'saints' who had settled here some thousand years earlier. Archaeological evidence suggests that, in some areas, Beaker chieftains adopted the Megalithic cult and may have married into local aristocratic families; elsewhere, it appears that they took steps to stamp out the old religion and replace it by their own. In Britain, the Beaker religion, whatever that may have been, involved the construction of sanctuaries, often in the form of rings of standing stones called 'henges' by later generations. Their characteristic form of burial also contrasted strikingly with that of the Megalithic folk; whereas the latter consigned their dead to communal graves, the 'long cists' and 'passage graves' so familiar in western Britain, the Beaker people were buried singly, with their favourite possessions, under round, turf-scalped barrows.

The Bell-Beaker folk, in Britain and elsewhere, seem to have been characteristically tall and sturdy, with large, round skulls, high-crowned and flattish-backed, that must have seemed outlandish to many of the small, slight, predominantly long-headed peasants whom they passed among. We can hardly claim, however, as past archaeologists have done, that there was a homogeneous, easily identifiable Beaker 'race'. By the time they reached northern Europe and Britain, they must have been considerably different in appearance from their ancestors who had left Spain perhaps two hundred years before; generations of intermixture with other peoples must have profoundly modified the original Beaker 'type', if such a type ever existed.

Although the widespread practice of cremation obliterated most of the skeletal remains of the central Europeans during the later Bronze Age, tradition records two important migrations to southern Europe in the second millennium B.C., those of the Phoenicians and the Etruscans, both of which are fully corroborated by archaeological evidence.

The Phoenicians (literally 'dark-skinned ones'), seafaring traders from Syria and Palestine, who almost certainly rounded the Cape of Good Hope and may even have reached Brazil, established garrisons along the Mediterranean coasts of Spain and North Africa and explored the Atlantic coasts of Europe perhaps as far north as Britain. Although the Carthaginians – Phoenicians from the garrison of Carthage in Spain – were defeated by Rome in the last century B.C., they were not

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annihilated, and must have left a genetic legacy throughout the western Mediterranean.

The Etruscans arrived in Italy from their traditional home, Lydia in Asia Minor, during the tenth, ninth and eighth centuries B.C. Although their non-Indo-European language was ousted by Latin and finally died out during the third century A.D., the Etruscans were absorbed, rather than extirpated, by the Romans and philologists claim that an Etruscan substratum still underlies the central Italian dialect of Tuscany. The Etruscans, judging by their portraits, seem to have been a characteristically sturdy, round-headed, hook-nosed, full-lipped and often heavily bearded people.

By no means all the ethnic movements that crossed Europe during the Bronze Age entered the Continent from outside. The spread of the Urnfields form of burial, which, from the thirteenth century B.C. onwards, began to replace the practice of inhumation under tumuli, appears to have accompanied a large-scale demographic expansion from central Europe of wholly indigenous peoples. Their nucleus seems to have been located between the Carpathians and the north Balkans and it was from this region that Urnfield-inspired cultures were transplanted, in the thirteenth century, to Poland and east Germany, to west Germany, eastern France and the Alps and to Italy. Later, from the tenth century onwards, Urnfields cultures spread further afield into north-west Europe and across the Pyrenees into Spain. The peoples responsible for the authorship and dissemination of these Urnfields cultures have been variously claimed, although with very scant justification, as the ancestral Illyrians and even as proto-Kelts, Germans or Slavs.

Apart from the substantial ethnic displacements that no doubt resulted from the expansions of the Urnfielders, a multitude of smaller, though equally wide-ranging movements, those of itinerant bands of traders in livestock, fabrics, metals, tools and other wares, served as links uniting remotely scattered peoples and helped to stimulate inter-tribal gene flow.

Despite the meagre skeletal evidence from the later phases of the Bronze Age, the widespread diffusion of objects and material influences,

often found far from their places of origin – Mycenaean artifacts in Britain, Irish axes in Denmark, Baltic amber in central European Urnfields and Etruscan Italy – indicate how lively the cultural connections between the remotest corners of the Continent must have been throughout this time. The rock-tracings of Norway and Sweden, with their representations of Mediterranean and North African fauna, also testify to the far-reaching trade-links that clearly flourished during the Bronze Age. Such contacts as are here implied must surely have been accompanied by a good deal of genetic exchange.

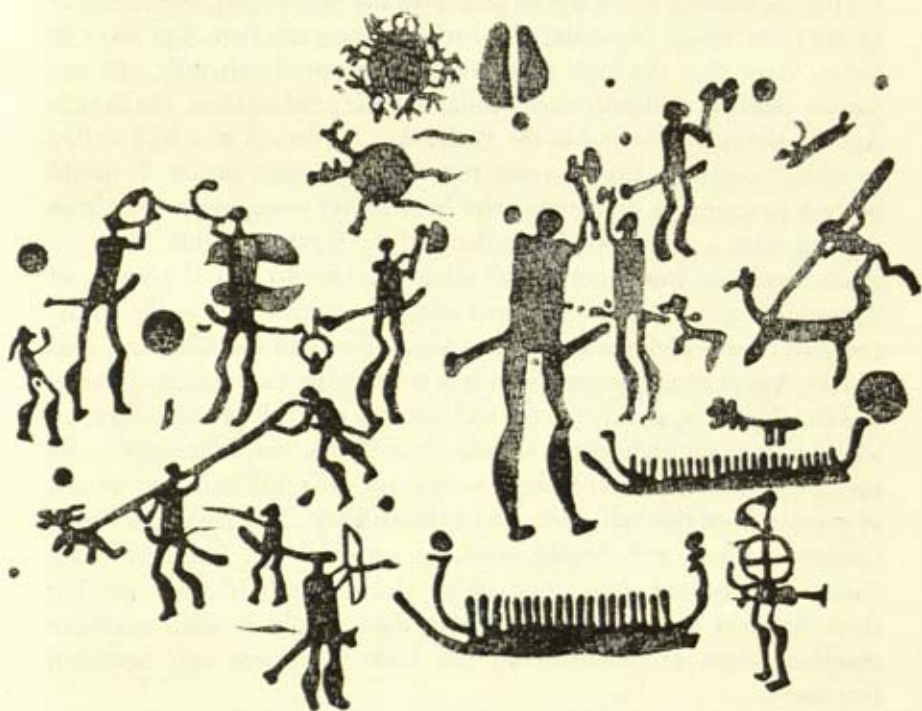


Figure 10. Rock carving from Fossum, Sweden

Hitherto, we have had to rely entirely on archaeological evidence in our quest for prehistoric ethnic movements in Europe. In the Iron Age, however, a number of factors, including the gradual abandonment of

cremation and the first appearance of written records, combine to make our task much easier. From now on, we may, with discretion, apply actual names to the various peoples who, in the full light of history, begin to pass across our continent.

As early as 1300 B.C., the Hittites in Asia Minor had begun to make tools from wrought-iron. Although iron objects of Middle Eastern provenance had been passed from tribe to tribe into Europe since at least 1200 B.C., a native iron industry was not established in our continent until the ninth century B.C.

Human remains from the large burial-site at Halstatt, the Austrian centre from which the initial phase of the European Iron Age takes its name, show that the local ironworkers were predominantly tall and narrow-skulled, skeletally very similar to their predecessors, the Bronze Age Aunjetitz people and to the Battle-Axe herdsman who had settled so widely in central Europe some two thousand years earlier. It would be rash to claim, as past authorities have rather sweepingly done, that the Halstattians were lineal descendants of the Battle-Axe folk. Plenty of other Neolithic immigrants, including the various mixed peoples of 'Danubian' cultural affinities, must also have contributed to the ethnic complex from which the Halstattians and, indeed, all the tall long-heads of Iron Age central Europe arose. It is noteworthy that dolichocephaly, low facial indices, aquiline noses and statures of 5 ft 8 in and above, all so ubiquitous throughout the Continent until less than a thousand years ago, are now scarce – increasingly so towards the south and east – apart, of course, from the 'tall' enclaves in the Balkans. The Iron Age Kelts, Gothones, Slavs and Scyths were, as we shall see, frequently tall, narrow-skulled and often blond, although today individuals displaying these features in association are conspicuous only in such northern marginal areas as Scandinavia, the Low Countries and northern Germany.

The Halstattians are believed to have spoken some form of Illyrian, an extinct Indo-European language, which they carried, together with their knowledge of iron-working, into many parts of southern and eastern Europe, notably Italy and the Balkans.

Culturally dependent on the Halstattians were their neighbours to the

north-west, the Kelts of the Upper Rhineland. Their name probably meant 'Hill Folk' (Keltic: **Cel* = to rise or mount), and many geographical features once included in their range, such as the Rhine itself (Gaulish: *Renos*) and the Alps (Irish: **Ailp* = a high mountain), still bear Keltic names.

Most authorities recognise the Iron Age Kelts as being at least partially inspired by the north Alpine Urnfielders who, during the later Bronze Age, diffused their distinctive culture over wide areas of central Europe and penetrated deep into Spain and Portugal.

The second, La Tène, phase of the Iron Age, which succeeded the Halstatt in *c.* 500 B.C., is closely connected with the spectacular expansion of Keltic-speaking peoples throughout Europe.

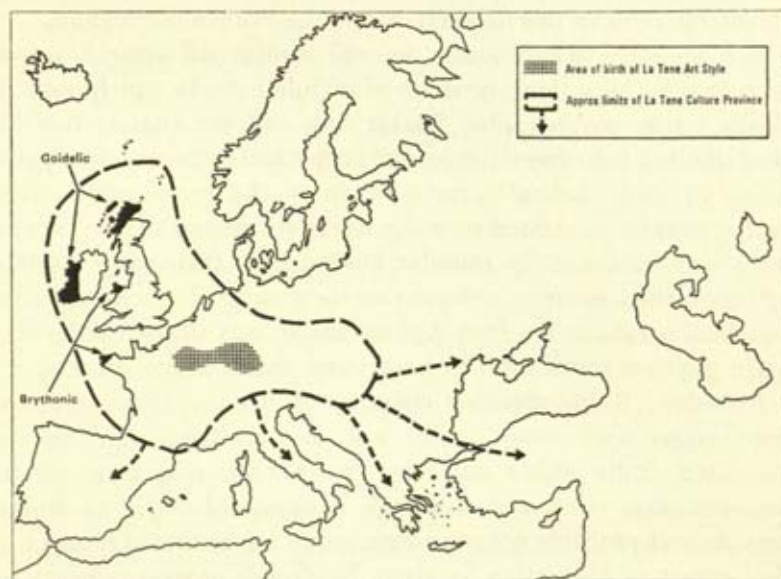


Figure II. The expansion of the Kelts

They crossed the Alps into Italy, where they sacked Rome in 390 B.C., settled large tracts of later Slavic country in eastern Europe (the original Bohemians were a Keltic tribe, the Boii), threaded the

Balkan passes as far south as Greece, and even crossed into Asia Minor, where they established the short-lived colony of Galatia. They spilled west into France, mingling with the indigenous peoples to become the ancestral Gauls, and passed through Belgium on their way to Britain, the only place in Europe (apart from Brittany), where their languages are still spoken. Goidelic-speaking Kelts possibly established themselves in Britain as early as the Bronze Age. Around 600 B.C., they were joined by their iron-bearing, Brythonic-speaking fellow Kelts from the Continent. The last historically attested settlement of Brythonic Kelts in southern England, that of the partly-Germanised Belgae (who carved many of the great white horses on the faces of the Wessex Hills), was made in 75 B.C., a mere twenty years before the first landing of Julius Caesar; indeed, small parties of Kelts may have continued to cross to Britain even during the Roman occupation.

The Kelts seem to have arisen, in their continental homeland, from a miscellany of local, long-established populations, to which both the typically burly, globe-headed Beaker folk and the characteristically narrow-skulled, long-faced Battle-Axe people had certainly contributed. Judging by their skeletal remains, most of the presumably Keltic-speaking peoples associated with the westward spread of the La Tène culture were substantially rounder-headed than their early Austrian neighbours, the Illyrians; evidence that the process of brachycephalisation, which spread as the Iron Age advanced, was already under way. Certain physical traits seem to have been characteristic of many of the Iron Age, Keltic-speaking colonists of Britain; these included: tallish stature and strong build, and mesocephalic, flattish-sided, low-vaulted skulls with a somewhat backward-sloping forehead and prominent nose. The hair, although it appeared blond to Roman observers, was probably not as conspicuously fair as that of some of the early German or Slav tribes. In short, Boadicea's Icenian warriors and the other native Kelts encountered by the Romans in Britain, can hardly – their styles of dress apart – have looked in any way different to the majority of the living British.

What of the Romans themselves? Is it possible to reconstruct their immediate ethnic background and to describe their characteristic

physical appearance? The Romans of the Imperial period, of course, were of extremely diverse origins; we are only concerned here, however, with the Italic, whose territory was the nucleus of the Empire.

According to tradition, the city of Rome was established in 753 B.C. The Latin language of its founders was closely akin to the Celtic group of dialects spoken north of the Alps. There is little doubt that a branch of the Urnfielders, from whom the bulk of the Celts appear to have arisen, crossed the Alps into Italy in late Bronze Age times; their descendants gave rise to a local Iron Age culture, the Villanova and thence to the Italic and the Romans of historical times. Considering their close early connections with the Celts, it is hardly surprising that the Italic resembled these people physically. Though not, as a rule, as tall as the prevailing transalpine norm, many of the Italic displayed, like many of the Iron Age Celts, flattish-sided skulls, with the sloping foreheads and salient noses so familiar to us from the portrait busts of eminent Roman patricians.

Despite the enormous and enduring cultural influence of Roman civilization in Europe, the Romans themselves appear to have contributed genetically little to the inhabitants of the conquered territories. In the remoter provinces, such as Britain and Iberia, the only true Romans present would have been a handful of administrators and high-ranking officers; the bulk of the militia and tradespeople would have been drawn almost entirely from the local population.

North and east of the Roman Empire, which, at its greatest extent, stretched from Britain to the Persian Gulf and from Spain to Armenia, lay Sarmatia: a wild, inhospitable country inhabited by elusive, wandering tribes who were feared even by the Romans for their ferocity. The Greek historian Herodotus, writing in the fifth century B.C., has left us graphic descriptions of these formidable braves, who tattooed their bodies and faces, scalped their enemies and were reputed to be cannibals. Closest to the civilised world lived the Scythians, who had, according to tradition, ejected an earlier people, the mysterious Cimmerians, from the plains north of the Black Sea during the eighth century B.C.

From a wide base in southern Russia, Scythian war-parties struck

north and west into Europe, where their distinctive weapons have been found as far afield as the Low Countries and the southern shores of the Baltic. Favoured Scythian targets were Poland and eastern Germany, where their increasingly damaging raids appear to have accelerated the final devastation, by about 400 B.C., of the formerly influential Lausitz culture, the authors of which have been variously claimed as the fore-runners of the later Illyrians, Kelts, Germans and Slavs – who, throughout the Bronze and early Iron Ages, had, on account of their central position, functioned as mediators between the Baltic amber-gatherers and the emergent Halstatt culture of the eastern Alps. Beyond the Scyths in their Euxine cradleland lived the Sarmatians proper, the Rhoddani, Siraci, Aorsi, Massagetae, Saka and others, all culturally and perhaps linguistically akin, whose range extended far east into southern Siberia and Kazakhstan. They are believed to have spoken varieties of an Iranian type of Indo-European speech, possibly mixed with Finno-Ugrian and other extraneous elements.

Some four hundred years after Herodotus' time, the Scyths were themselves forced westwards by the expanding Sarmatians. The Scyths and their highly distinctive culture were then displaced or absorbed by the Goths, whose wanderings had already brought them to the Carpathian region. The Alans, heirs of the Sarmatians, established a great kingdom between the Don and the Volga, but this in turn was destroyed during the fourth Christian century by the Huns. The bulk of the Alan nation then dispersed, partly to the Caucasus, where the modern Ossetes, their descendants, number a few dwindling thousands.

The skeletal remains of Scyths sacrificed at their Royal Burial Ground on the Dnieper, show them to have been in no sense 'Mongoloid', as was once supposed. They and evidently the Sarmatians, too, were thoroughly European in appearance, metrically identical to many of the early Germans, Kelts and Slavs and to the Battle-Axe folk, whose assumed homeland they continued to occupy. Portraits show them with heavy beards, long, wavy hair (often fair in colour, according to contemporary descriptions), deep-set eyes under heavy brow-ridges and strong, high-bridged noses. Their name appears to have been a

Greek corruption of the Persian 'Akhshaena', meaning 'pale' or 'pasty-faced'.

Another series of tribes, every bit as aggressive as the Scyths and Sarmatians and, like them, never completely conquered by Rome, lived along the north-western marches of the Empire. These were the Gothones, the linguistic and partial ethnic progenitors of the Scandinavians, Frisians, Dutch, Flemings, Anglo-Saxons and many of the Germans, Swiss and Austrians. A loose scattering of clans, linked only by certain common cultural trappings and mutually intelligible dialects, the Gothones were culturally dependent on the Kelts, their southern neighbours, throughout the early Iron Age. They did not begin to expand from their nucleus around the Baltic and North Sea until after the solid Keltic-speaking wedge across central Europe had been lacerated by the Roman legions.

As early as 500 B.C., widespread flooding, famine and disease in Scandinavia had driven whole tribes of Gothones south across the Baltic, where they settled in large numbers east of the Vistula.

The true Gothonic effervescence, however, the 'Folkwandering', occurred later, between the second and fifth centuries A.D. The first recorded Gothonic intrusion into southern Europe was the abortive assault of Italy in 101 B.C. by the Danish Cimbrians and Teutons, who had already been combing Gaul and Spain for plunder and adventure. Later, the Herulean pirates, also from Denmark, raked the Atlantic and Mediterranean coasts in true Viking style, entered the Black Sea and fought as mercenaries in many parts of the Roman Empire.

Throughout the third, fourth and fifth centuries A.D., Goths, Vandals, Burgundians, Gepids and their fellows, many of whose ancestors had left their northern homes some 700 years before, inflicted an increasingly damaging succession of blows on the marchlands of the Roman Empire, eventually storming Rome itself and setting up short-lived barbarian kingdoms in France, Spain and even North Africa.

At the same time, Angles, Saxons, Jutes and Frisians from northern Germany and southern Denmark crossed the North Sea to settle in England, where they proceeded to subjugate the native Kelts and

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drive their language and culture yearly westwards. Of all the parts of Europe invaded by the Gothic-speaking peoples, only in Britain, Switzerland, Austria and parts of southern Germany did they succeed in implanting their language. Elsewhere, these culturally uncouth, largely illiterate northerners were numerically overwhelmed; within a few generations both they and their Gothic tongue had been swallowed up by the indigenous populations of the lands they had overrun.



Figure 12. The Gothic-speaking peoples of 'Germania' at the time of Tacitus (first century A.D.)

The Gothic expansion culminated with the wide-ranging expeditions of the Vikings, in which, from the eighth to the eleventh centuries, Scandinavian seafarers carried their Norse speech to many parts of Europe and even to North America. Only in Iceland, Greenland and parts of Britain, however, did their language survive them by more than 500 years.

A great deal of nonsense has been written about the 'Teutonic' (an old synonym for Gothonic) peoples and the alleged 'Nordic' race from which they were once held to be derived. Although tall, long-skulled, blond, blue-eyed individuals are certainly more frequently encountered in Scandinavia and northern Germany than elsewhere in Europe, it is scientifically absurd to regard such people as representatives of a once pure racial stock. So-called 'Nordic' criteria are found among European peoples speaking many languages other than Gothonic, and, whilst many of the early Gothones were certainly 'Nordic'-looking (Tacitus described them all as having huge bodies, reddish hair and fierce blue eyes), they were probably, as they are today, always in the minority. Stocky, heavy-boned, round-skulled individuals with broad faces, strong brow-ridges and a variety of hair and eye colours must have been just as common among the Iron Age Gothones as they are among the living Scandinavians, Netherlands, English and North Germans.

Between the Gothonic north-west and the wilds of Sarmatia lived a congeries of tribes who spoke dialects of the same language and practised a simple form of agriculture. These were the ancestral Slavs.

Today, Slav-speaking peoples, Russians, Poles, Czechs, Slovaks, Yugoslavs and Bulgarians – almost 260 million souls in all – constitute the largest linguistic group in Europe. One thousand five hundred years ago, their linguistic progenitors were an obscure, little-known people, scattered thinly through the extensive woods and marshlands of east-central Europe between the Vistula, the Dnieper, the northern slopes of the Carpathians and, possibly, as far north as the southern rim of the Baltic.

The Slavic expansion, which began in the second century A.D., is still in progress. From about A.D. 150 onwards, the Slavs began to spill outwards from their nucleus in all directions. In the west, they penetrated far into Germany (where there are still pockets of Slav-speaking people: the Sorbs), reaching Holstein at the time of Charlemagne. Other tribes who moved west, the Poljane, Lenciczane, Mazowsze, Slenzane, Pomorze, etc., were the ancestral Poles, Czechs and Slovaks.

The southward expansion took the Slavs across the Hungarian plain

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to the eastern Adriatic and thence through the Balkan valleys as far south as Greece, which they reached early in the seventh century A.D. In the Balkans, they replaced the earlier Illyrian, Thracian and Phrygian speech of the natives by their own dialects – ancestral forms of Slovene, Croat, Serbian, Macedonian and Bulgarian. In Hungary, Slav speech was short-lived and did not survive the arrival of the Magyars in the ninth century.

To the east of their dispersal centre, Slav-speaking tribes moved across the Ukrainian steppe and infiltrated the forests of White Russia, fanning out in all directions along the ridges and waterways to populate the interior of Russia and mingling as they went with a variety of autochthonous peoples, most of them Baltic and Finno-Ugrian speakers. One such migratory Slavic tribe were the Krivitchi, who eventually settled west of Moscow and whose name is still remembered by the Latvians, to whom all Russians are known to this day as Krievi. Beyond the Urals, which they had already pierced by the end of the sixteenth century, the Slavs continued to spread eastwards from river to river through Siberia, finally reaching, in our own time, the Pacific Ocean at Vladivostok, and crossing the Bering Strait into Alaska and thence to California.

Skeletal remains from their presumed dispersal centre in eastern Europe and from sites along their migration routes, show the Iron Age Slavs to have been metrically in no way distinguishable from the majority of their Gothic, Baltic, Illyrian and Iranian-speaking neighbours. Like many of the central Europeans at this time, they were often tall, narrow-skulled, long in the face and sharp-featured. The Byzantine historian, Procopius, described them as being 'without exception long and stout of limb', with hair that was 'rather reddish in hue', whilst the Arab geographer, Ibn Fadlan, who encountered eastern Slavs on his visit to the Volga Bulgars in A.D. 921, says 'I saw none of better physique than them [the Slavs]; they were tall as palms, red-cheeked and handsome.' Although their own collective name for themselves seems always to have been 'Slavjane'¹ ('those who speak', as opposed to the 'Njemtsi', the Germans or 'Dumb ones'), the

¹ Polish: Slowiane. Czech: Slovane. Serbo-Croat: Sloveni.

physical appearance of their western representatives, at any rate, was evidently striking enough to earn them the name of 'Wends' (Old Norse: Vindr; Old English: Winedas; Latin: Venedae, etc.), from a Keltic root meaning 'fair' or 'white' (cf. Welsh: Gwyn; Irish: Finn).



Figure 13. Slavonic tribal divisions in the tenth century

Even at this early date, by no means all the speakers of Slavic dialects can have answered the descriptions of Procopius and Ibn Fadlan. The bulk of those living in the present Poland, Volhynia and Podolia, the assumed Slavic linguistic nucleus, were stocky – as, we

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may recall, many of the pioneer 'Danubian' settlers had been, and some were downright diminutive.

There is not, nor can there ever have been, any semblance of physical uniformity among the speakers of the various Slavic languages. This is especially true of those parts of Europe—notably the Balkans—where Slavic speech has only relatively recently been introduced. It would be hard to imagine two individuals more dissimilar than a stocky, snub-nosed, broad-faced, excessively blond Volhynian peasant and a gigantic, black-haired, eagle-nosed, long-faced Montenegrin mountaineer, yet both speak languages that are close enough to enable them to converse together with very little difficulty.¹

The eastward expansion of the Slavs into central Russia dislodged a number of indigenous tribes, for the most part trappers and fishermen, who spoke dialects of the Finno-Ugrian family, which some linguists claim may be remotely related to Indo-European.

The Finno-Ugrians were no more 'Mongoloid' than any of the peoples we have so far encountered. Indeed, archaeological and skeletal evidence implies that they were largely descended from the same blend of Mesolithic forest folk with early Neolithic farmer-settlers that gave rise to the ancestral Slavs. Characteristically stocky, broad-headed and frequently fair, they were probably generally indistinguishable from the Slavs who displaced them. Isolated enclaves of Finno-Ugric-speaking peoples, such as the Cheremiss and the Mordvins of the Upper Volga, survive in Russia, completely encompassed by Slav-speakers.

The Finno-Ugrians were never a cultural, let alone a political unity. Even before the intrusion of the Slavs into Russia they were widely dispersed. The Baltic Finns probably reached their present home in Finland, Estonia and Russian Carelia early in the Christian era. Besides acquiring many of the physical characteristics of the native

¹ Compare, for example, the almost identical terms for 'barley' in the various Slavic languages (Polish: *jęczmień*, Czech: *ječmen*, Slovak: *jačmeň*, Wendish: *ječmjeń*, Slovene: *ječmen*, Serbo-Croat: *ječam*, Ukrainian: *jačmin*, Russian: *jačmen*, Bulgarian: *ečemik*) with the widely variant forms in Gothonic (i.e. Frisian: *koarn*, Dutch: *gerst*, Scots: *bere*, Low German: *Gasten*, Danish: *byg*).

forest peoples, the Finns also absorbed a local, tall, long-skulled population of Scandinavian cultural affinities, who may have been living in Finland since the attested incursions of the Battle-Axe folk in Neolithic times.

The Finns were preceded to their Baltic home by the Samek or Lapps, who, although they now speak an archaic Finnic language, are historically distinct from the Baltic Finns. Both physically and culturally, the Lapps have more in common with the Finnish-speaking 'Perms' (Syryenians, Votyaks and Permyaks) of north-western Russia and with the Samoyeds east of the Urals, in whose territory the proto-Lapps may have learned their skill as reindeer herders. The Lapps, Perms and, especially, the Samoyeds, all display such features as short arms and legs, small hands and feet, globular skulls, broad faces, small teeth, uptilted noses, flaring cheekbones and almond-shaped eyes. These characteristics appear to be the result, not of any Asiatic invasion of Northern Europe, but of genetic tendencies that seem to have been endemic in our continent since Glacial times; such Upper Palaeolithic forms as Chancelade and Obercassel indicate the great antiquity of this somewhat 'Asiatic'-looking European type.

Further south, Asiatic peoples of emphatically 'Mongoloid' appearance (see Glossary) have several times intruded into Eastern Europe during the past two thousand years; there is little doubt that their presence has had a profound genetic effect on certain local populations.

The first and most terrible intrusion was that of the Huns under Attila. They overran the steppe empire of the Alans, routed the Ostrogoths and penetrated Europe as far west as Gaul, where they were defeated by Aetius in A.D. 451. Despite attempts to equate them with the Hiung-Nu, an aggressive people of evidently European appearance, who menaced the eastern extremities of the Chinese Empire between c. 400 B.C. and A.D. 200, when they were defeated and driven west towards Europe, the Huns who thundered into Europe during the fifth century A.D. were, by all accounts, overtly 'Asiatic' in aspect: short, squat, round-headed, broad-faced and snub-nosed, with slanting eyes, flaring cheekbones, ochre skins and lank, black hair.

In the wake of the Huns came the Avars, possibly but not assuredly identical with the Yuan-Yuan, whom Chinese chroniclers relate were, like the Hiung-Nu, driven westwards out of central Asia in about A.D. 461. Extreme 'Mongoloid' characteristics seem to have been less pronounced than among the Huns, perhaps because of early admixture on the part of the Avars with more European-looking peoples in central Russia. Indeed, of the Avars who managed to escape the almost wholesale slaughter of their people by the Turks on the Volga steppe in A.D. 555, and flee into Europe, only a minority, including the war-chiefs, were of far-Asiatic extraction. The rank and file were Uigurs, Turkic-speaking tribesmen who had been swept along with the Avars. It was these ferocious horsemen, more accurately described as 'pseudo-Avars' than Avars proper, who scoured the north Balkans and molested Byzantium for the best part of a thousand years. Later, in the company of packs of Gepids, Lombards, Bulgars and Slavs, they turned their attentions on Italy and Germany, both of which they ravaged summer after summer. At the time of their great Khagan, Baiar, the Avars held sway over an area that stretched from the Volga to the Elbe and the southern fringes of the Baltic. After their defeat at the hands of Charlemagne in A.D. 796, remnants of their polyglot horde streamed back into central and eastern Europe, where they can have hardly simplified the already intricate ethnic pattern in the area.

These Asiatic invaders, both Huns and Avars, left a lasting impression on the peoples of central Europe who suffered from their visitations. The Czech term for a monster, *Obr*, and its adjective, *Obrovsky*, monstrous, preserves the memory of the Avars, whilst the Huns, although in fact a diminutive people, live on as the *Hünen* or giants of German folklore.

Close behind the Avars came successive waves of Turkic-speaking warriors, horsemen who were of the same hybrid origin as the Avars. Characteristically, they were robustly built, with round, massive skulls, wide faces and, in contrast to the more exclusively Mongoliform Huns, often had strong noses, profuse beards and abundant body hair. Individuals of this type are still familiar in Russian Turkestan and

Azerbaijan. During the sixth century A.D., Turks settled thickly about the Caspian and sent their raiding parties across the South Russian steppe deep into eastern Europe. Collectively known to those they preyed upon as Tartars, they were divided themselves into a number of tribal entities: Kipchaks, Petchenegs, Polovtsians, etc.

The Seljuk Turks invaded Armenia during the eleventh century and swarmed southwards across Anatolia, where they settled in great numbers. For the next two hundred years, the Seljuks were regularly reinforced by fresh waves of Turkic-speaking nomads, pressed out of central Asia by the expanding Mongol empire, until the whole of Asia Minor was under Turkish domination. The Osmanlis or Ottoman Turks arrived in Anatolia in A.D. 1227. Although numerically small, they wrested power from the Seljuks and extended Turkish rule into Balkan Europe as far as Hungary, forcibly converting the local populations to Islam as they went. Until 1921, when they lost all their lands in Europe apart from Istanbul, the Turks remained in possession of the Balkans, where they left a palpable cultural legacy. Their influence on the ethnic composition of both Turkey and south-eastern Europe was, however, slight. Today in these areas, individuals displaying overtly East Asiatic features are rarely seen.

Another, somewhat earlier, influx from Asia was that of the Magyars, whose ethnic antecedents were as tangled as those of the Turks. The Magyars, whose Ugrian language is still the dominant speech of the Hungarian plain and adjacent parts of Roumania, arrived in their present location during the ninth and tenth centuries A.D. The original Magyar invaders were, to judge by their skeletal remains, physically similar to their linguistic congeners, the central Russian Finns. However, before leaving their homeland – between the Volga and the Urals – during the eighth century, the Magyars evidently intermixed to a considerable degree with various nomadic and partly-Mongolised Turkic peoples. Their language, the nearest living relative of which is Vogul (spoken some 1,500 miles to the north-east of Hungary), still reflects this intimate contact with Turkic culture at an early stage in their history. The Magyar invaders seem to have been rapidly and easily assimilated into the surrounding population of eastern Europe,

whom the bulk of them must have resembled in the first place; suggestively Asiatic-looking individuals are scarce, although by no means absent, in modern Hungary.

Closely akin to the Magyars, both genetically and linguistically, were the Bulgars, who, under Turkish leadership, invaded the predominantly Thracian-speaking lower Balkans (as yet un-Slavicised) during the sixth century A.D. Unlike the Magyars, the Bulgars soon lost their Ugrian speech, which has left barely a trace on the Slavic language of the modern Bulgarians. Any pronouncedly 'Mongoloid' features that the Turkic leaders of the Bulgar invaders may have introduced have also been completely eradicated.

Whilst all the comparatively recent folk-movements we have so far recalled came overland to Europe, other peoples continued to arrive by the old sea routes through the Mediterranean and across the Straits of Gibraltar and the Bosphorus. Among these were the Moors, an aggregation of Semitic- and Hamitic-speaking peoples, more Berber than Arab in origin, who crossed into Spain and Portugal from Morocco during the eighth and ninth centuries A.D. Although adherents of the Islamic faith were expelled from Spain in 1492, the Moors had already mingled to a great extent with the local Iberian population, from whom, with their slender build, narrow skulls, long faces and dark colouring, they must have been physically almost indistinguishable.

The Jews who, like the Arab Moors, originally spoke a Semitic language – Hebrew – have been genetically so thoroughly assimilated in Europe that they can hardly be considered, however much they might wish to be, as a distinct ethnic entity. Jews have been in Europe since the early Iron Age, when Palestinians sailed to Spain as traders on Phoenician vessels at the time of Solomon (c. 1000 B.C.).

Jews first entered Italy during the Consulship of Marius, in the last century B.C. As traders and merchants, they followed the victorious armies of Julius Caesar into Gaul and were well established in many of the Roman garrisons in the Rhineland by the second century A.D. During the eleventh century, these West European Jews (Ashkenazim) suffered persecution at the hands of the Crusaders and moved east into Poland and Russia, where large communities of their co-believers, the

Tshagataish, had been living for several generations. The Sephardic Jews were expelled from Spain during the Inquisition; many fled north to Holland and England, whilst others went east to the Balkans, where their descendants continue to speak Ladino, a form of Spanish permeated with Hebrew terms.

The original Palestinian Jews were almost certainly of the same small, lithe, long-skulled, presumably brunet type as so many of the Natufians. By the time they first reached Europe, however, the Jews must already have been an ethnically highly composite people. Successive invasions of Palestine by Hittites, Assyrians and others during Bronze and Early Iron Age times must have modified the characteristic local types profoundly. The large-headed, full-lipped, hook-nosed, abundantly bearded prototype of the caricature Jew is, in fact, not originally 'Jewish' at all; individuals of this type are and always have been far commoner in Anatolia and Armenia, old Assyrian country, than in Palestine itself.

'Race is everything', said Disraeli, but the Jews, about whom he is believed to have made this statement, are not, by any definition, a race. Despite their religious exclusiveness and their tenacious pride in being racially unique, the Ashkenazim and Sephardim have been as completely integrated into the ethnic fabric of Europe as were the Etruscans in Italy or the Bell-Beaker folk in Britain. Genetically, they conform entirely to the prevailing norm in whichever locality they are found; an inevitable state of affairs when one considers that they have been a small minority in Europe, united only by a common faith, for the best part of three thousand years. Their blood-groups, for example, match exactly those of the surrounding 'gentiles'. Most allegedly 'Jewish' traits that some observers claim to recognise are usually attributable to cultural rather than morphological factors. Indeed, if, as the Nazis claimed, it was possible to recognise a Jew by his physical appearance alone, why then did they find it necessary to force the Jews to wear the Star of David as a badge of identification?

It is, however, often argued that certain recurrent physical – notably facial – features are characteristic of some Jewish groups, especially those whose recent antecedents lay in the portions of Poland, White

Russia and the Ukraine, the so-called 'Jewish Pale of settlement', to which Jews were confined by a Statute issued by Tsar Alexander in 1804. Such features, which are said to be most conspicuous among the Ashkenazi communities lately transplanted from the Pale to western Europe, although once again neither specifically nor originally 'Jewish', are surely the outcome of the intensive intermarriage that inevitably occurs when a group of people is physically restricted to a specific area, prevented from pursuing certain trades and professions and advised by religion against marriage with outsiders.

Under such conditions, any number of chance mutations may spread fairly rapidly through a community by the normal process of random genetic drift. The two or three minor morphological features that were traditionally regarded as distinctively 'Jewish' earmarks, almost certainly arose in this way; they will, with little doubt, eventually be eradicated through intermixture between the Jews and the various peoples amongst whom they are now redispersed.¹ The European Jews, as we find them now, have been likened, rather aptly, by one American geneticist to an Indian caste, in that, whilst not intrinsically different biologically from their non-Jewish neighbours, they tend to show gene patterns, such as those conditioning susceptibility to certain diseases, that are at slight variance with those of their hosts. This is especially true of the members of old-established Jewish communities who have only recently dispersed.

Compared with the Jews, the Gipsies are recent arrivals in Europe and have far more claim to be considered genetically distinct than have the Jews. The Gipsies, or Romanichals, first appeared in the Balkans during the fourteenth century. As wandering tinkers, fortune-tellers and clothes-peg makers, the Gipsies spread, during the next 200 years, to every country in Europe. Scholars had long suspected that the secret language of the Gipsies, the Romani Chib, was of Indian provenance, a suspicion fully endorsed by recent anthropological investigations. Both in their outward appearance and in their blood-

¹ C. Coon, 'Have the Jews a racial identity?', in I. Graeber (ed.), *Jews in a Gentile World*, 1942. C. Seltzer, *The Jew, his racial status; an anthropological appraisal*, 1939.

group frequencies, the Gipsies show a strong affinity with some of the lower, itinerant castes of north-west India.¹

Although there have been no further major migrations into Europe from outside since the inruptions of the Asiatic Huns, Avars, Magyars, Turks and others, the population of Europe has by no means remained stagnant over the past thousand years. In east-central Europe, especially, internal folk-movements drastically altered the pattern of peoples and languages on several occasions during and after the Middle Ages.

A universal increase in population between the eleventh and the fourteenth centuries A.D., coupled with gradually improving methods of husbandry and land-utilisation, led to a demographic expansion into areas that had hitherto been shunned by cultivators as unworkable. All across Europe, forests began to be opened up, heathlands and heavy clay soils were put to the plough, fens were drained and salt-marshes reclaimed from the sea, whilst settlements of grazers and loggers crept higher and higher up the previously uninhabited hill and mountain slopes. The exploiting of new country for settlement was everywhere actively encouraged both by the lay lords, who stood to gain in power and prestige from the rising number of serfs on their domains, and by the Church, to whom new parishes and expanding influence meant a substantial increase in tithes.

Possibly the most spectacular of these medieval expansions was that

¹ G. Borrow, *Romano Lavo-Lil, word-book of the Romany or English Gypsy Language*, John Murray, 1874. J. Clebert, *The Gypsies*, Vista, 1963. R. Liebich, *Die Zigeuner in ihrem Wesen und in ihrer Sprache*, Leipzig, 1863. J. Sampson, *The Dialect of the Gypsies of Wales*, Oxford, 1926.

Because of their mysterious origin, the Gipsies have been called Bohemians, Egyptians, Tartars, Saracens, Ismaelites and even Assyrians at various times. But undoubtedly the best known and most widespread name for the Gipsies in continental Europe is 'Tsigans' in its innumerable guises (e.g. Russian: Ts'iganye, Roumanian: Tsigani, German: Zigeuner, Spanish: Zincali, Portuguese: Ciganos, Italian: Zingari, Czech: Cikány, Magyar: Ciganyok, etc.). The name is said to derive from that of the Athinganes (untouchables), a half-Christian, half-pagan sect of the Byzantine Empire, who shared with the Romanies a reputation for sorcery and other magical practices. Popular confusion led to the Gipsies' being dubbed with the name of the heretical sect, and the name has stuck to them ever since.

of the Germans, who, between the tenth and fourteenth centuries, spread yearly further eastwards into a central Europe which, since the departure of the Goths, Vandals and others, had supported only a thinly scattered population of Slav- and Baltic-speaking hunters and honey-gatherers.

By the thirteenth century, German pioneers had already reached the upper Oder and the Sudetes in the north and the Little Carpathians in the south; a hundred years later, German frontiersmen had thrust east to the Vistula basin and, following a trail blazed for them by the crusading Sword Brothers, Teutonic Knights and other Christian orders, Saxons, Holsteiners, Westphalians and Netherlanders in their hundred thousands eventually rounded Danzig Bay and swarmed north through country hitherto occupied by Prussians and other Baltic peoples.

The expansions that took place during the 250 years between 1050 and 1300, called by historical geographers 'The Age of Clearing', are marked everywhere by distinctive place-name elements (such as *-ley*, *-den*, *-worth*, *-set* and *-cot* in England; *-skov*, *-holt*, *-rød* and *-tved* in Denmark; *-wald*, *-hain*, *-ried* and *-schlag* in Germany), all of which occur in country shown by archaeological evidence to have been unoccupied or, at most, only sparsely inhabited up to a thousand years ago.

The spread of our species into all the inhabitable parts of Europe did not, of course, come to an end after the Age of Clearing. Even today, the occupation of the remoter portions of certain Scandinavian and East European countries is still going on.

It should also be recalled that entire communities have, within living memory, been forcibly transplanted to regions far from their original home. Such was the fate of many of the Kalmuks, Balkars, Karachays, Chechen-Ingush and other Turko-Tartar peoples exiled from European Russia to Siberia during the Stalin era for alleged complicity with the Nazis, and the *kulaks*, wealthy Russian peasants and their families, who paid for their resistance to the collectivisation of agriculture under the Soviets by mass deportation. To bring this brief historical survey up to date, mention must be made of the very considerable numbers of immigrants, most of them from former European dependencies in Africa, India, Indonesia and the West

Indies, who have, during the last two decades, been steadily streaming into parts of Western Europe. In contrast to the great majority of ethnic groups that have settled in our continent over the past 10,000 or more years, these latest arrivals are not products of what zoologists call the Palearctic zone (i.e. the northern portion of the Old World) and consequently differ from the long-established European peoples in certain aspects of their genetic constitution. However, whilst the few hereditary physical traits, such as pigmentation, hair form and certain facial features, that distinguish them from most native Europeans are conspicuous, these newcomers are, of course, biologically perfectly assimilable.

It is, nevertheless, conceivable that social and cultural differences between them and their hosts may act as barriers that could delay their integration, especially if, once here, they continue to settle only among their own kind. So far, they may have disturbed the established genetic equilibrium only in the large cities where most of them have taken root, but there is every likelihood that the gene pattern in certain sections of industrial Britain, for example, may be altered quite appreciably if they continue to arrive in their present numbers.

It must, however, be stressed that there is, as yet, no really convincing proof that they have brought with them any genes that may be disadvantageous in their new environment, either to them or to the offspring of their unions with native Europeans.

Whatever their long-term influence and whatever their contribution to the European gene-pool, these latest arrivals almost certainly constitute the largest and most concentrated single immigration to Europe since the beginning of recorded history. By 1964, for example, there were already 'about one million coloured people' in Britain alone,¹ probably more than the total number of native English at the time of Alfred the Great.

The population of Europe is in as much a state of genetic flux today as ever in the past. Indeed, modern travel facilities, having made a mockery of the old natural barriers restricting human movement and free gene-circulation, enable contacts to be made between peoples who,

1 Michael Barton, *Race Relations*, Tavistock Press, 1967.

a mere two generations ago, may not even have known of each other's existence. In much of Europe – especially in the west – large-scale convergence on the big industrial centres has had the effect not only of draining the population of certain country districts but also of breaking up the old isolated rural communities. As a result, certain hereditary physical traits, which, in Ripley's and Deniker's day, may have been much more typical of some areas than of others, have less chance today than ever before of becoming localised through unions between close kinsfolk.

Finally, to what extent do we, the living Europeans, owe our physical characteristics to the various peoples who proceeded us in Europe?

The short answer to this question is that we owe our appearance entirely to them. Unfortunately, it is not possible to go further in an attempt to derive existing populations from specific prehistoric ancestors. Some anthropologists have constructed – often quite ingeniously considering the meagre skeletal data available – elaborate ethnic genealogies for particular groups of people. It would be, although entertaining, quite futile to indulge in speculations of the kind that hail the Basques as the lineal descendants of the 'Megalith-Builders' (a people whom we know very little about) or glibly explain all the central European round-heads as 'reduced', 'foetalised', or 'brachycephalised' Upper Palaeolithic survivors. Such pronouncements, apart from being irresponsible, are utterly unscientific.

Many factors, let alone the paucity of fossil evidence, must be considered if one wishes to embark on the quest for ethnic ancestors.

Firstly, no population, even when in total isolation (as none of the Europeans have ever been), is genetically stable; a variety of biological and environmental pressures – natural selection, mutation, random genetic drift, intermixture with outsiders, change of diet, habitat or way of life – can effect the most dramatic anatomical changes in a population within the space of a few generations.

Secondly, although we have some of their bones, we have very little idea of how our European predecessors looked when alive. Were they fat or thin? Were they hairy? What colour were their eyes and hair? Were their skins red, yellow, white or black? Contemporary descriptions of

ancient peoples, when they exist, tend to be prejudiced and unreliable. Furthermore, whilst it cannot be denied that individuals do exist who recapitulate, or closely approximate, in their skeletal proportions, certain prehistoric forms, there is no earthly reason for supposing that these individuals resemble the fossil form in anything but the dimensions and shape of their bones. Even those cases of men and women whose skeletal measurements match, or nearly match, those of some extinct form whose remains were found close to where they live, need be nothing more than coincidences. It could, of course, be argued that, if the population of which they are representative has been comparatively stable – not unduly stirred by irruptions of invaders or subjected to climatic or other environmental alterations that might tend to select in favour of new physical traits – then that population might reasonably be expected to include a certain number of individuals who in some respects resemble certain of the people who lived in the neighbourhood hundreds, or perhaps even thousands of years beforehand. In fact, however, such a hypothetical population – numerically small, geographically isolated and fairly sedentary, would be much more receptive to the influence of chance local mutations and random gene variations that might easily alter the gene-pool of that population – and, hence, the physical appearance of many of its members – than would a larger, wider-ranging, more mobile population.

Thirdly, it must be remembered that only a minute fraction of the movements and minglings of people that actually took place in the past were either recorded at the time or have since been reconstructed by archaeologists.

Fourthly, it is no good regarding certain living individuals, on the basis of their physical appearance, as surviving representatives of allegedly 'pure' ancestral stocks; genetically 'undiluted' races have never existed. As long ago as Palaeolithic times, as we have seen, the Europeans already displayed a variety of physical types, which make the concept of such later 'races' as the Nordics, Alpines and Mediterraneans of our old anthropological textbooks very hard to believe.

Together, these complications make ancestor-hunting an impossibly frustrating task.

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The languages of Europe

Let us at the outset avoid the error of confusing community of language with identity in race.

W. Z. Ripley, *The races of Europe*, 1899, p. 17

Despite a persisting belief to the contrary, race and language have absolutely no influence on one another. Whilst a man's physical attributes are genetically determined at the moment of his conception, his language is a purely cultural acquisition. Although he cannot alter his appearance, he may learn any language he chooses or any that will best serve his needs.

Accidents of history may cause one language to be spoken by people of widely different ethnic backgrounds. Thus, by no means all the present speakers of English are descended from the Germanic tribesmen who brought Anglo-Saxon to England in the fifth century A.D.; those who now speak English as their first language include not only the descendants of pre-Anglo-Saxon British peoples who originally spoke Keltic, but also millions of African and American Negroes, Indians, Malays, Chinese, Polynesians (Hawaiians, Maoris, etc.), American Indians, Eskimos, Australian aborigines and the American offspring of immigrants from every corner of Europe.

One language may be abandoned and another adopted for all kinds of reasons, the most significant being: subjugation by another people, the cultural influence of an allegedly superior foreign civilisation (i.e. the widespread use of French during the eighteenth and nineteenth centuries in aristocratic circles throughout Europe) and the need to communicate with speakers of another language for the purpose of trade.

There are no more 'pure' languages than there are 'pure' races; no language is without extraneous influences acquired from one or another of its neighbours, past or present. It is just these foreign ingredients in a language which, once recognized, can be of enormous value to the student of prehistoric ethnic movements by revealing sometimes hitherto unsuspected contacts between different peoples in the past.

During the ten thousand or so years since the end of the final Ice Age, a veritable babble of tongues has passed across Europe. Some

have been adopted, for one or other of the reasons given above, by communities who previously spoke other languages; others have died out or, at most, have left only scant traces of their former existence, whilst occasionally, as we shall see, two or more languages have coalesced to form new, hybrid vernaculars.

Sometimes, geographical shifts of language have accompanied ethnic migrations from one place to another, as occurred when the Magyars brought their language from central Russia into eastern Europe in the ninth century. More often than not, however, the acquisition of a language by, or its forcible imposition on, a community, causes not the slightest genetic disturbance to that community.

Thus, although the influence of Norman French on English has been profound and enduring, the adoption of French words by the English was a purely socio-cultural affair; the Normans themselves, who, at the most, numbered only a few thousand, can hardly have made much difference to the long-established ethnic fabric of the English nation.

Similarly, although a Gothonic language was imposed on the formerly Keltic-speaking people of these islands by the Anglo-Saxons, the latter were, in many districts, numerically in the minority. The fact that we call ourselves the English after our present language should by no means be taken as proof of unbroken descent from the Anglo-Saxons.

In this survey, such terms as Anglo-Saxon, Keltic, Slavic and the like are employed in their strictly linguistic sense; they apply only to peoples speaking varieties of the same language at a particular moment in time, regardless of whether these people share a common ancestry or not.

Bearing these factors in mind, we may proceed to examine the languages spoken in Europe since the late Bronze Age (we have no knowledge of any European languages prior to that time) and demonstrate how their proven mutual influences can reveal, often in a most striking way, much information concerning the past distribution and movements of peoples in our continent.

It is impossible even to guess when articulate language, as opposed to animal grunts and cries, was first spoken in Europe. The Upper

Palaeolithic *sapiens* peoples, who, perhaps as much as 80,000 years ago, began to replace the Neandertalers, almost certainly spoke; it is inconceivable that the Aurignacians and their successors, responsible for the masterly cave-paintings at Lascaux and elsewhere and for the exquisitely carved 'Venuses', were speechless brutes.

We shall, unfortunately, never know what languages these Old Stone Age predecessors of ours spoke, let alone how the Neandertalers communicated with each other. Whilst the large cranial capacities of the Neandertalers, indicative of a fairly evolved intellect, do not prove conclusively that they spoke, their cultural remains, which include evidence of a belief in a life after death,¹ suggest pretty strongly that they were capable of symbolic and conceptual thought, which, without some kind of language, are impossible.

Many of the old Palaeolithic tongues must have lingered on into Mesolithic times; the Azilians, partial cultural descendants of the Magdalenians, perhaps perpetuated their speech as well. Elsewhere, new languages may have been introduced from North Africa by the Tardenoisean immigrants, whilst in northern Europe some linguistic features may have been common to many of the culturally related tribes that stretched from Ireland to Russia during the early phase of the Maglemosean. But all this is sheer speculation.

The earliest Neolithic colonists of Europe brought with them a medley of languages and dialects, most of them presumably of Middle Eastern provenance. Although these languages are unknown to us, it is possible that Basque, confined now to a small corner of northern Spain, with extensions into the adjacent parts of southern France, may be the last vestige of one of the languages introduced into western Europe by early Neolithic settlers.

Basque has been hailed as a descendant of 'Iberian', a language apparently once widespread in Spain before the Iron Age incursions of the Kelts. A possible relative of 'Jacitanian', the form of Iberian said to be ancestral to Basque, was 'Aquitanian', a non-Indo-European language still spoken in large areas of France until as late as Roman

¹ See J. Maringer, *The gods of prehistoric man*, Weidenfeld and Nicolson, 1960, pp. 14-25.

times. Various isolated languages spoken in the Caucasus mountains have also been cited, without much justification, as being remotely akin to Basque.

Away from the Basque country, undecipherable place-names and inscriptions scattered throughout Europe may also represent the final traces of long-forgotten, early or pre-Indo-European languages.¹ Elements of these ancient tongues were undoubtedly absorbed by the ancestral forms of Greek and Latin and are probably present as substrata in many of the living languages of Europe.

Late in Neolithic times, possibly by about 3000 B.C., the older languages of eastern and central Europe began to be overlaid by a series of closely related dialects that apparently spread westwards, in association with various cultural innovations, from a nucleus assumed to have been somewhere north of the Black Sea.

The process was slow but inexorable; in the course of the last two millennia B.C., these intrusive dialects penetrated into every corner of Europe, swamping, although nowhere completely obliterating, the older, local languages.

From the resulting linguistic fusions arose all those languages that are collectively known as Indo-European. These include, with a few exceptions, all the living languages of Europe and many of the Middle East and north-west India.

Although the similarities between certain of these languages had long been noted, it was not until 1788, in an historic address to the 'Asiatick Society' in London, that Sir William Jones first suggested that they might stem from a remote, mutual ancestor. The affinities between Sanskrit, Greek and Latin were, proposed Sir William:

¹ The origins of such west European river names as Yealm (Devon)/Alma (Etruria); Alne (Northumberland)/Alauna (Gaul); Ayr (Scotland)/Aar (Holland)/Ahr (Germany); Shiel (Scotland)/Seille (France) and Ure (Yorkshire)/Isar (Germany) remain a mystery. Whilst, in outward form, they appear to be Indo-European, few of them have, as yet, been equated with any known cognates in the surviving Indo-European languages. Some authorities claim that they are derived from some early Indo-European speech that has long since been submerged.

So strong that no philologist could examine them all three, without believing them to have sprung from some common source, which perhaps no longer exists. There is similar reason, though not so forcible, for supposing that both the Gothick and the Celtick, though blended with a very different idiom, had the same origin with the Sanscrit; and the Old Persian might be added to the same family.¹

Subsequent investigations, conducted throughout the nineteenth and early twentieth centuries, and directly stimulated by Sir William's momentous proposal, not only confirmed the Indo-European provenance of the Gothonic, Keltic and Iranian (including Persian) language groups, but also demonstrated that many other living languages – Slavic, Baltic, Armenian, Albanian – and several extinct tongues, including Scythian, Illyrian and Hittite, were all ultimately akin.

Archaeologists and linguists agree in equating at least the initial diffusion of Indo-European dialects across our continent with the expansion, in late Neolithic times, of a pastoral, nomadic people, evidently long established in south-central Russia and of composite ethnic origin.

Their migration routes are traceable by the settlement-sites bearing the hallmarks of their culture, from which they themselves have been variously named the Corded Pottery, Single Grave, Kurgan (Russian for barrow) and Battle-Axe folk. They appear to have intruded somewhat abruptly into the earlier-established cultures of Neolithic Europe and there is ample evidence to show that they arrived as aggressive warriors, bent first on conquest and later on colonisation.

The earliest speakers of Indo-European dialects were illiterate; consequently, in the absence of written records, our knowledge of the primeval, undifferentiated Indo-European language (if such a tongue ever existed), of the first homeland of its speakers and of their way of life, must be drawn from inferences in the living Indo-European languages. If, for example, a word is found to be common to all or most

¹ Quoted on p. 16. of J. T. Waterman, *Perspectives in linguistics*, University of Chicago Press, 1963.

of the historical Indo-European languages, or if obviously indigenous cognates occur in widely separated members of the phylum (e.g. Keltic and Indian), it is reasonable to assume that, in its original form, the word designated a concept known to the earliest Indo-European speakers.

Thus, the fact that so many of the later Indo-European languages share kindred names for such animals as the bear, wolf, otter, beaver, squirrel and marten, for such trees as the beech, birch and willow, for honey and the bee and for snow, winter, ice and frost (but not for the sea or for such sub-tropical flora and fauna as the palm, bamboo, lion, tiger, elephant, monkey, crocodile or parrot) strongly suggests that the Indo-European dialects were, before their dispersal, spoken by the inhabitants of a temperate, well-wooded region in the interior of a continent. The broad stretch of southern Russia, between the Danube Basin and the Urals – the locality which archaeological evidence indicates as the nucleus of the Kurgan/Corded/Battle Axe cultures – is just such a region. We may, therefore, tentatively claim this area as the cradleland of Indo-European speech.

The presence in the modern Indo-European languages of common terms for such domesticated animals as the ox, sheep, goat, pig and dog, confirms our impression of the earliest Indo-European speakers as pastoralists. Linguistic and archaeological evidence also combine to indicate that the Kurgan peoples of southern Russia, assumedly the earliest speakers of Indo-European, were agriculturalists, that they had a well-established, patriarchal clan system, that they worshipped a pantheon of gods to whom they made human and animal sacrifices, that at least some of them lived in settled village communities where the women wove and made pots, that they tamed wild horses and used oxen as draught-animals and that they had a rudimentary knowledge of copper – and possibly even bronze – metallurgy.

Even before its dissemination from its apparent cradleland on the South Russian steppe, the Indo-European language was fragmented into dialects, between which the differences – especially in phonology – were drastic enough to make inter-tribal communication extremely difficult.

One of the many phonological cleavages between the early Indo-European dialects was the treatment of an original guttural initial *k*. Whilst one group of dialects, from which sprang the later Illyrian, Greek, Italic, Keltic and Gothonic languages, retained the original *k*, another group, ancestral to the later Baltic, Slavic, Indo-Iranian, Albanian and Armenian, 'palatalised' the *k*, making it a sibilant *s* or *sh*. Thus, from a hypothetical proto-Indo-European **km'tom* = 100, the Western group showed such forms as *centum* (Latin), *he-katon* (Greek), *cant* (Welsh) and *hund* (Gothic – with the characteristic change of *k* to *h* that took place in all Gothonic dialects during the last three centuries B.C.), whilst the Eastern group displayed the shift to *s* or *sh*, giving such forms as *šimtas* (Lithuanian), *sto* (Russian) and *satam* (Sanskrit). Earlier comparative philologists named these two groups *kentum* and *satem* (from the Latin and Avestan forms for 100) respectively.¹

Two extinct Indo-European languages, Tokharian (spoken in Chinese Turkestan until as recently as A.D. 1200²) and Hittite (introduced into Asia Minor from the nineteenth century B.C. onwards) both displayed striking similarities to such western Indo-European *kentum* types as Keltic and Italic rather than to such geographically closer types as Indic, Iranian or Balto-Slavonic – all of them *satem*. At one time,

1 Other examples are the various forms of the names of the dog (Indo-European: **kuōn*) and the horse (Indo-European: **ekyos*). *Kentum* names for the dog, which preserve the original Indo-European guttural, include Latin: *canis*, Gaelic: *cu* and Tokharian: *ku* as against such *satem* forms as Armenian: *sun* and Latvian: *suns*, whilst such *kentum* horse names as Latin: *equus*, Old English: *eoh*, Gothic: *aihwā*, Runic Old Norse: *ehwu*, Old Saxon: *ehu*, Gaelic: *each*, Tokharian: *yuk*, *yakwe*, may be compared with such *satem* counterparts as Sanskrit: *āśvas*, Lithuanian: *ashva* = mare, Armenian: *esh* = ass.

2 It may be that a number of words were adopted by the Chinese during the period A.D. 600–1200 – from some Indo-European-speaking people with whom they were in contact. Hans Jensen has proposed Indo-European cognates for the Chinese words: *Mi* (honey), *Ch'yan* (dog), *Yen* (goose), *Ma* (horse) and others. It is, incidentally, now generally agreed that the people responsible for the Indo-European inscriptions in Chinese Turkestan were *not*, as was once believed, the 'Tokharoi' mentioned by ancient Greek geographers. The language of the inscriptions, however, will continue to be referred to as 'Tokharian' until a satisfactory alternative is suggested.

The most important Indo-European languages, living and dead

Gothonic	Keltic	Ligurian*	Italic	Greek	Illyrian*
<p>Gothic*</p> <p>Vandal*</p> <p>East</p> <p>Langobardic*</p> <p>Burgundian*</p>	<p>Brythonic</p> <p>or 'P'</p> <p>Gaulish*</p> <p>Welsh</p> <p>Cornish</p> <p>Breton</p>		<p>Faliscan*</p> <p>Hernician*</p> <p>Pracnestinian*</p> <p>Latino</p> <p>Faliscan</p>		<p>Venetic*</p> <p>Messapic*, etc.</p>
<p>Old Norse*</p> <p>Icelandic</p> <p>Faeroese</p> <p>Norwegian</p> <p>(Riksmål & Landsmaal)</p> <p>Danish</p> <p>Swedish</p> <p>North</p>	<p>Goidelic</p> <p>or 'Q'</p> <p>Irish Gaelic</p> <p>Scots Gaelic</p> <p>Manx Gaelic</p>		<p>Latin*</p> <p>Romansh</p> <p>(including Engadinisch)</p> <p>Ladin</p> <p>Friulian)</p> <p>Roumanian</p> <p>Dalmatian*</p>		
<p>High German</p> <p>(including Yiddish)</p> <p>Low German</p> <p>Dutch</p> <p>Flemish</p> <p>Frisian</p> <p>English</p> <p>West</p>			<p>Paelignian*</p> <p>Marrucinian*</p> <p>Vestinian*</p> <p>Volscian*</p> <p>Marsian*</p> <p>Aequian*</p> <p>Sabine*</p> <p>Sabellian</p>		
			<p>Oscan*</p> <p>Umbrian</p> <p>Osc-Umbrian*</p>		
					Sicel (?)

Anatolian*
 Thracio-Phrygian* Hittite,* etc.
 Albanian (?)

Albanian (?)

{
 Baltic

Galindian*
 Sudorian*
 Old Prussian*
 Latvian
 Lithuanian

{
 Slavonic

East
 Old Church Slavonic*
 Russian
 White Russian
 Ukrainian
 Polish
 Pomeranian
 (including
 Kashubian)
 West
 Polabian*
 Czech
 Slovak
 Wendish
 South
 Slovene
 Macedonian
 Serbo-Croat
 Bulgarian

Indo-Iranian
 Indic
 Iranian

Sanskrit* Persian
 Hindi Pushtu
 Urdu Ossetian
 Bengali 'Scythian' (?)*
 Gujarati 'Sarmatian' (?)*
 Marathi
 Romani
 etc.

Extinct languages marked thus: *

attempts were made to explain these baffling resemblances between the furthest removed Indo-European language types (Hittite and Tokharian and Italo-Keltic) by suggesting that the ancestral Hittites and Tokharians migrated to the east from a homeland that lay near proto-Italo-Keltic-speaking country or that they forsook the Indo-European heartland at a time before the *kentum-satem* rift. It is now believed, however, that both the Italo-Keltic and Hittite and Tokharian groups of languages, on account of their marginal positions on the remotest peripheries of the Indo-European speech area, preserved certain archaic features that ante-date some of the later innovations, such as the shift from the guttural *k* to the spirant *s* that affected the more central, *satem* groups.

Hittite, which has left more records and is consequently better known than Tokharian, certainly displayed enough archaisms not testified in any of the later recorded Indo-European languages, to merit the obvious assumption that it was separated from the main stream of Indo-European development at a very early date. The same appears to have been true of Tokharian and of various dead languages of the Middle East – Luwian, Palaic, Lycian, Lydian and others – all of which to some degree seem to have resembled Hittite, with which they are usually bracketed as ‘Anatolian’ languages – for want of a better name.

At about the same time as the Hittite invasions of Asia Minor, other nomadic peoples, remote linguistic relatives of the Hittites, were crossing from the Russian steppe into the region of the lower Danube. They penetrated the Balkan valleys and by as early as 2000 B.C., reached the Aegean, where they assailed and eventually absorbed the evolving Bronze civilisation centred on Crete, Mycenae, Knossos and Troy. Ventris's decipherment of the once enigmatic ‘Linear B’ tablets from Mycenae in 1953 proved that an archaic form of Greek was already ousting the earlier, non-Indo-European idiom of southern Greece by as early as 1500 B.C. The first apparently Indo-European-speaking invaders of Greece, bearers of the same Corded-Battle Axe cultures that were beginning to intrude into many parts of Europe at this time, were soon followed by kindred peoples from the same broad

region of southern Russia. Notable were the Achaeans, who reached Greece by c. 1500 B.C., and the Dorians, who arrived in c. 1200 B.C. From an admixture of their numerous Indo-European dialects with elements of the 'Asiatic' languages of the Cretans, Minoans and Myceneans, arose the various forms of historical Greek: Attic and Ionic (the basis of the later standard language), Central or Aeolic, Arcado-Cyprian and Western.

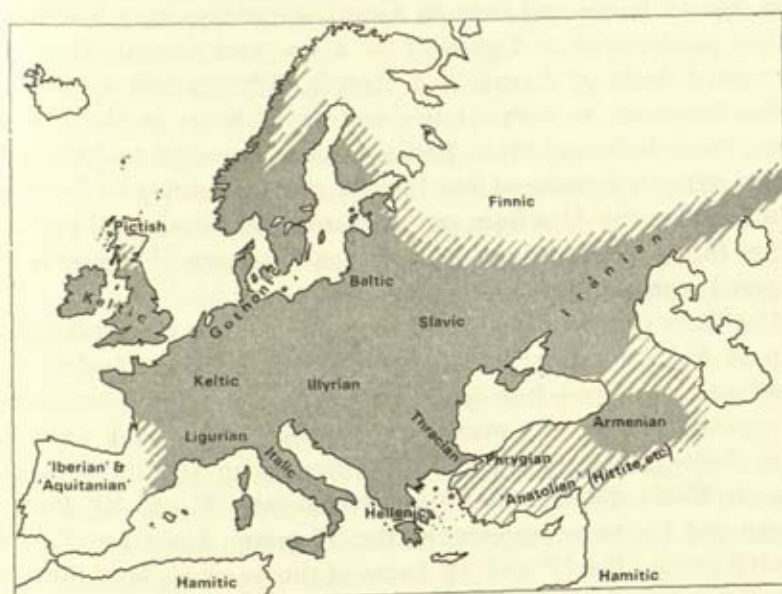


Figure 14. Iron Age language groups in Europe

Other Indo-European-speaking peoples had settled in the Balkan valleys further north, where they imposed their Corded-Battle Axe cultures and their evidently *satem*-dialects on the earlier inhabitants, who included the culturally important Painted Pottery people. In pre-Roman times, such Indo-European languages as Thracian, Phrygian, Dacian, Getic and Bithynian were widely spoken throughout the present Hungary, Roumania, Bulgaria, Yugoslavia and Albania. By

the end of the Roman millennium, however, all were extinct – save for the traces of Thracian that may survive in modern Albanian.

Groups of Indo-European-speakers had also coalesced in the eastern valleys of the Alps and on the Hungarian plain to form the nucleus of the later Illyrians, in whose territory the early Bronze Age culture of Aunjetitz and the first phase of the European Iron Age – the Halstatt – arose. The Illyrian language, once widely spoken in south-east Europe and with extensions in Italy, gradually lost ground during the later Iron Age to Keltic and then to Latin; it survives in a handful of Balkan place-names and possibly in a few rare loanwords in the German dialects of Austria and Bavaria. Illyrian was evidently a *kentum*-language, as were its two early neighbours in the Danube basin, Proto-Italic and Proto-Keltic. Dialects ancestral to Italic were almost certainly introduced into Italy by peoples bearing an Urnfields culture across the Alps from central Europe; archaeological evidence points to the present Czechoslovakia and western Hungary as the dispersal centre of these immigrants.

The Italic dialects were at this time (i.e. *c.* 1500 B.C.) still closely akin to Keltic (some scholars, starting with Antoine Meillet, have postulated a common Italo-Keltic prototype in pre-Urnfields times – though the concept of a prehistoric Italo-Keltic linguistic unity has been challenged by, among others, the Norwegian Marstrander), and, like the Keltic dialects, they were divided into 'P' and 'Q' forms – Oscan and Umbrian representing the 'P' group, Latin and Faliscan the 'Q' group. The 'P' and 'Q' forms of the numeral 'four' illustrate this difference; Latin: *quattuor* and Irish: *cethir* as against Oscan: *pettiur* and Welsh: *pedwar*. The Latins, descendants of the 'Q'-Italic-speaking peoples responsible for the early Iron Age Villanovan culture, were later (i.e. from *c.* 500 B.C. onwards) to spread their civilisation and language throughout Italy. Classical Latin displays elements drawn from all the other non-Latin Italic dialects, both 'P' and 'Q', from Keltic, from Illyrian, from Greek, from the non-Indo-European language of the Etruscans and from vestiges of the pre-Indo-European languages that still lingered in refuge areas around the Mediterranean until well into the Bronze and Iron Ages.

During the expansion of the Roman Empire (between c. 500 B.C. and c. A.D. 400) Latin was diffused throughout the occupied territories, from Britain to the Middle East and North Africa. The historical languages that arose as a result of the Roman occupation – French, Provençal, Catalan, Spanish, Portuguese, Italian, Sardinian, Rhaeto-Romansh, Friulan, Dalmatian (extinct since 1898) and Roumanian – should not, however, be regarded as lineal descendants of the classical language of Virgil and Ovid. They represent rather, a fusion of vulgar Latin – the grammatically lax and slangy *lingua franca* introduced by the militia and adopted by the tradespeople – with the pre-Latin local languages: Keltic in France, Iberian in Spain, Ligurian and Etruscan in Italy, Illyrian and Dacian in the Balkans.

Although corrupt Latin vernaculars of this kind continued to be spoken throughout large areas of Europe after the collapse of the Roman Empire, in certain regions – such as Britain – where Latin had never taken root outside the large towns, the language was quickly eradicated by local native idioms after the withdrawal of the Roman occupational armies.

To the north-west of the Italic-speaking peoples in early Iron Age times were the Ligurians, whose territory embraced the present Italian provinces of Liguria, Lombardia and Piedmonte, parts of Switzerland, the Rhône Valley, Corsica and northern Spain. Their language, formerly believed to be related to Iberian, has been identified by Whatmaugh as Indo-European. All that remains of Ligurian, which, like Illyrian, was superseded first by Keltic and later by Latin, is a scattering of place-names throughout the regions where it was once spoken – perhaps the best known being that of Turin, named after the Taurini, an important Ligurian-speaking people who, until Roman times, occupied the valley of the Po.

During the Urnfields phase of the Bronze Age, when the ancestral Italici crossed the Alps into Italy, their possible former neighbours in east-central Europe, the proto-Kelts, moved west into south Germany and eastern France. In this region they remained, throughout the early part of the Iron Age, to some extent as cultural dependants of the Illyrians to their south-east. Then, from the sixth century B.C. onwards,

as the transmitters of the evolved La Tène Iron Age culture, they began to spread outwards in every direction: south into Italy, north-west across France into the Low Countries and thence to Britain, south-west into Spain and Portugal, and south-east through the Balkans, across the Bosphorus and into Asia Minor. During the five hundred or so years before the northward surge of the Roman Empire, Keltic dialects were spoken in a solid belt across central Europe, from the Atlantic to the Black Sea.

Now, two thousand years later, Keltic languages are confined to the westernmost fringe of Britain (western Ireland, western Scotland and north Wales) and to Brittany. The only reminders of their former presence in continental Europe are place-names scattered profusely from Spain through France and southern Germany into the now Slav- and Magyar-speaking lands of the east.

Because of their highly individual syntax, certain features of which appeared quite unrelated to their equivalents in other Indo-European languages, the Keltic dialects were for long excluded by philologists from the Indo-European family. It was generally believed that Keltic reflected an early, pre-Indo-European speech, tentatively connected by some with Iberian or Aquitanian, whilst similarities between the vocabularies of Keltic and the other Indo-European groups were dismissed as borrowings by Keltic. It was not until 1817 that the Danish scholar, Rask, who had himself been in some doubt as to the provenance of Keltic, unreservedly claimed it as a branch of Indo-European. Even today, the distinctive Keltic syntax is attributed by some scholars to a non-Indo-European substratum, which has been variously identified as a North African Hamitic language similar to Berber and Ancient Egyptian, or as an Iberian language akin to Basque.

Although it is tempting to ascribe this allegedly non-Indo-European substratum to some early Neolithic migration into Spain from North Africa via the Straits of Gibraltar, there is scant justification in doing so. Despite its superficially eccentric appearance the syntactic structure of Keltic has been proved, by extensive investigation, to be of wholly Indo-European derivation. As Holger Pedersen observes: 'Celtic has great significance because it shows us a strongly divergent type of

linguistic structure developed in Indo-European territory, a structure which is astonishing both in the individuality of its final development and in the remarkable fidelity with which its peculiar forms often preserve traces of their origin.¹

Of the surviving Keltic languages in Britain, three—Irish, Scots and Manx Gaelic (the latter obsolescent)—represent the 'Q'-type, whilst Welsh is the sole representative of the 'P'-branch (Cornish having died, with Dolly Pentreath, in 1777). Breton is not, as might be expected, a derivative of the old Keltic language of Gaul, but was carried to its present location some 1,500 years ago by Cornish immigrants fleeing from the Saxons. 'P'-Keltic, or Brythonic, dialects were introduced into Britain during the La Tène Iron Age and were at one time spoken throughout England, Wales and Scotland. In the latter country, the 'P'-Keltic tongue of the Picts (which, apparently, also preserved fragments of some locally much older, possibly non-Indo-European speech) was gradually ousted by the 'Q'-Keltic, Gaelic speech of Irish settlers who began to arrive in western Scotland in the sixth century A.D.

Brythonic place-names, especially those of hills and rivers, still abound in all parts of England. 'P'-Keltic dialects akin to Welsh were spoken in Strathclyde, and probably elsewhere, until long after the Anglo-Saxon settlements. Even in such easterly counties as Norfolk, a system of counting (sheep, stitches, etc.) based on Keltic numerals is still remembered by elderly country folk: *yan, tan, tethera, pethera, pimp, sethera, lethera, hovera, covera, dik* (compare Welsh: *un, dau, tri, pedwar, pump, chwech, saith, wyth, naw, deg*). It has been suggested that such rigmaroles as 'eenie, meenie, minie, mo', 'hickory, dickory, dock' and the like, may also perpetuate, in highly garbled form, a counting system based on the numerals of some pre-Anglo-Saxon British language. Other terms of Keltic provenance are still plentiful in our rural dialects, though few have found their way into standard English.

A non-Indo-European substratum has also been frequently suggested as underlying the Gothonic languages, which were, in early Iron Age

¹ Quoted from *The discovery of language*, Indiana University Press, 1962, p. 62.

times, confined to a small section of northern Germany and southern Scandinavia. Two consonant-shifts (named Grimm's and Verner's Laws respectively), which profoundly altered the sound-system of all the Gothic dialects between *c.* 200 B.C. and *c.* A.D. 600, have been attributed to the persistence of the phonemes of some prehistoric language, spoken in the present Gothic area. Archaeological evidence shows that relict Stone Age cultures gave way more gradually to Neolithic innovations in the remote north-west than elsewhere in Europe, so that the persistence of pre-Indo-European speech-traits in the region cannot be entirely discounted.

In vocabulary too, the Gothic dialects differ markedly from the other Indo-European languages; it has been estimated that some 30 per cent of the common Gothic lexicon is of non-Indo-European derivation. This discrepancy need not, however, be automatically attributed to a hypothetical substratum; the Indo-European languages have been separated over a wide area for the best part of 4,000 years, long enough for striking differences in vocabulary to have arisen between the various groups, through the action of such universal semantic processes as metaphor, extended or restricted meaning and linguistic taboo.

In the early Iron Age, the Gothic peoples were largely dependent for cultural inspiration on their southern neighbours, the Kelts, from whom they learned the art of iron-working and their name for the metal itself.

We have already followed the great migration of the East Gothic-speaking peoples from Scandinavia and the Vistula region during the Iron Age and into historical times, and have noted how such 'nations' as the Goths, Vandals, Langobards and Burgundians were rapidly absorbed by the indigenous populations of the countries in which they settled. The somewhat later movements of the West Gothic-speaking peoples were, if less spectacular, to have a more enduring linguistic influence. During and after the withdrawal of the Roman occupying forces from central Europe, Franks, Thuringians, Bajuvars, Chatti and others carried their West Gothic speech into the former Celtic parts of central and southern Germany, where it still prevails. At the

same time, their early neighbours, the Angles and Saxons of Schleswig-Holstein, implanted their very similar West Gothic dialects in England.

Whilst both Keltic and Gothic display traits uncharacteristic of the Indo-European languages as a whole, their early neighbours to the east, the Baltic and Slavic dialects, represent perhaps the most conservative of all the branches of the family. The Baltic languages especially, Lithuanian, Latvian and Old Prussian (the latter extinct since the early eighteenth century), preserve more of the assumed phonological and inflectional features of the hypothetical ancestral Indo-European than do any other recorded members of the family – Sanskrit included.

Several factors may account for the retention of so many archaic Indo-European traits by the Baltic languages, notably Lithuanian, although the one most often cited – that the Balts and their old neighbours, the Slavs, have stayed closer to the assumed linguistic cradleland than any other surviving Indo-European group – should not be taken too seriously. Archaic features are, as we have seen in the cases of Tokharian and Hittite, as likely to be preserved in marginal areas as in a linguistic heartland. It seems likely from the archaeological record, however, that the Baltic lands were comparatively little disturbed by folk-movements during the Bronze and Iron Ages; indeed, the area in which proto-Baltic and proto-Slavic appear to have matured would seem to have been, until historically fairly recently, one of the most inaccessible parts of Europe. It is for this reason, therefore, and not because of their continued proximity to the hypothetical Indo-European nucleus, that the Slavic and, more especially, the Baltic tongues have retained so many ancient features.

Both Balts and Slavs evidently had frequent cultural contacts with Gothic-speakers (probably the ancestral Goths, Burgundians, etc., who began settling the south-east Baltic area from *c.* 500 B.C. onwards), for Gothic loanwords of a demonstrably archaic type are plentiful in all the Baltic and Slavic languages; the common Balto-Slavic terms for bread, ale, plough, cattle, helmet, prince and the verb 'to buy' are all of Gothic derivation. Later Gothic loanwords in Russian, bearing

The languages of Europe

a Norse stamp, are attributable to the Vaerings or Scandinavians, Swedes mostly, who settled at Novgorod and along the middle Volga during the ninth century A.D. Several personal names were borrowed from the Scandinavians (Oleg, Igor, Ingivlad, etc.), whilst partly

The cardinal numbers, 1 to 10, 100 and 1000, in one representative of each of the living Indo-European language families in Europe

	Gothonic (West Frisian)	Keltic (Scots Gaelic)	Italic (Provençal)	Greek	Albanian
1.	Ien	Haon	Un	Ena	Nji
2.	Twa	Dha	Dui	Dhio	Dy
3.	Trije	Trí	Trei	Tria	Tre
4.	Fjower	Ceithir	Catre	Tessera	Katër
5.	Fiif	Cóig	Cinc	Pende	Pesë
6.	Seis	Sia	Seis	Exi	Gjashtë
7.	Saun	Seachd	Set	Efta	Shtatë
8.	Acht	Hochd	Och	Okhto	Tetë
9.	Njuggen	Naoi	Nau	Ennia	Nâno
10.	Tsien	Deich	Detz	Dheka	Dhiet
100.	Hundert	Ciad	Cen	Ekato	Qint
1000.	Tuzen	Míle	Mil	Khilia	Mijë

	Slavic (Slovak)	Baltic (Lithuanian)	Armenian	Iranian (Ossetic)	Indic (Welsh Romany)
1.	Jeden	Vienas	M'eg	Yu	Yek'
2.	Dva	Du	Yergu	Diwa	Dui
3.	Tri	Trys	Yerek	Ärtä	Trin
4.	Štyri	Keturi	Chors	Yippar	Shtor
5.	Pät'	Penki	Hinq	Fondz	Pansh
6.	Šest'	Šeši	Vets	Äkhsäz	Shov
7.	Sedem	Septyni	Yo't'n	Avd	Trin t'a shtor
8.	Osem	Aštuoni	Ou't'n	Ast	Dui shtor
9.	Devät'	Devyni	Inn	Farast	Shtor t'a pansh
10.	Desat'	Dešimt	Das	Däs	Desh
100.	Sto	Šimtas	Hariur	Sada	Shel
1000.	Tisíc	Tūkstantis	Hazar	Min	Boro shel

Norse place-names scattered thinly along the river routes of western Russia testify to the presence of Swedes here in the early Middle Ages, some of these actually contain the names of Viking settlers, as at Inarovo (Einar's place), Yakunovo (Haakon's), Bernovo (Björn's) and so on.¹

Whilst the Balts have not moved from their homeland in the south-east Baltic, the Slavs, as we have seen, expanded in all directions. In White Russia they absorbed former Baltic-speaking peoples (Baltic place-names are still distributed well beyond the boundaries of the present Latvia and Lithuania) and drove westwards into former Gothonic country, which, however, was largely reclaimed by the medieval German 'Drang nach Osten'. Slavic loanwords still abound in the dialects of eastern Germany, whilst Slavic place-names identified in Holstein (and possibly even in southern Denmark) mark the extent of the westward Slavic thrust.

Just as the West Slav languages – Polish, Czech and Wendic – have assimilated a large number of Gothonic words, the vocabularies of Russian and the Balkan Slav dialects have been profoundly influenced by Altaic (Turko-Tartar) languages. Bulgarian and Serbian are particularly rich in Turkish loanwords, a result of the prolonged Ottoman occupation of the Balkans.

Both archaeological and linguistic considerations indicate that the Slavs, before their dispersal from their homeland, had for long been in cultural contact with the westernmost extension of a series of semi-nomadic tribes that once ranged from the Carpathians across the central Russian steppe as far as China. These peoples, variously referred to by Greek and Roman observers as Cimmerians, Sarmatians and Scyths, were, as we have seen, very likely speakers of the Iranian group of Indo-European languages represented today by Persian and Pushtu. In historical times, this belt of Iranian-speaking peoples was shattered, first by Mongols, then by Goths, Turks and other invaders and finally absorbed by the expanding Slavs. Today, the sole linguistic descendants of these formerly widespread peoples – the Tokharians

¹ M. Vasmer, 'Wikingerspuren in Russland', *Sitzungsberichte der Preussischen Akademie der Wissenschaften*, 1931.

spoke a *Kentum* language, as established above – are the Ossetes, a fast-dwindling community who claim descent from the Alans (themselves a branch of the Sarmatians) and who are now confined to a small area in the north Caucasus.

A number of cultural and linguistic similarities between these ancient Iranian-speakers and Iron Age Scandinavia have been cited as proof of direct links between South Russia and north-western Europe in pre-Christian times. It is more realistic, however, to regard these apparent contacts as having been transmitted by the geographically intermediate Slavic- and Celtic-speaking peoples.

The Caucasus mountains, between the Black and Caspian Seas, represent the most ethnically and linguistically complicated part of Europe. Not only were the Caucasus continually criss-crossed by cultural impulses and migrations from the Middle East to southern Russia and vice versa, their more inaccessible valleys were refuge areas where successive populations and their languages continued to exist in isolation until our own times. Today, in this comparatively small area, twenty or more languages – of vastly different origins – are spoken: Indo-European (including Russian, Armenian, Ossetic, Kurdish and Tat), Turkic (Kirghiz, Nogai, Kumik, Azerbaijani, etc.), Mongol (Kalmuk) and pre-Indo-European. Of the pre-Indo-European group, the oldest stratum of Caucasian languages, the most important is Georgian, or Kartvelian. Georgian has often been cited as a remote cousin of Iberian, Aquitanian and, consequently, of Basque, whilst the Georgian scholar, Marr, includes all the pre-Indo-European languages of the Caucasus (which, besides Georgian and its kindred Mingrelian, Laz and Svan, comprise the thirteen Chechen-Lesghian and four Abasgo-Kerketian languages – each with a string of dialects) in a hypothetical 'Japhetic' family, of which, he claims, such extinct languages as Etruscan, Pelasgian (the language of the pre-Helladic Greeks), Sumerian, Elamite and Asianic were all members.

Armenian, long regarded as a member of the Irano-Indian division of Indo-European because of the large number of Iranian loanwords in its vocabulary, is now recognised as an independent branch of Indo-European. The linguistic ancestors of the Armenians appear to have

migrated from east of the Caspian, passing north of the Black Sea and then via the Balkans into Asia Minor, where they settled in the Hittite Empire in the region of Lake Van. From here, large numbers of them were driven, under pressure from Persians and Turks, to their present location in the southern Caucasus. Armenian has no immediate relatives among the living Indo-European languages, although the extinct Thracian and Phrygian of the pre-Roman Balkans (and, so, perhaps Albanian) have been named as possible congeners. Both were, like Armenian, *satem* languages and may have been introduced into the Balkans by peoples akin to the proto-Armenians.



Figure 15. The Indo-European language groups in Europe

Whilst most of the important modern languages of Europe belong to the Indo-European phylum, nine representatives of the Finno-Ugrian family still survive in isolated enclaves. Of these, only two, Finnish and Hungarian, are spoken by more than three million people.

Languages of the Caucasus region

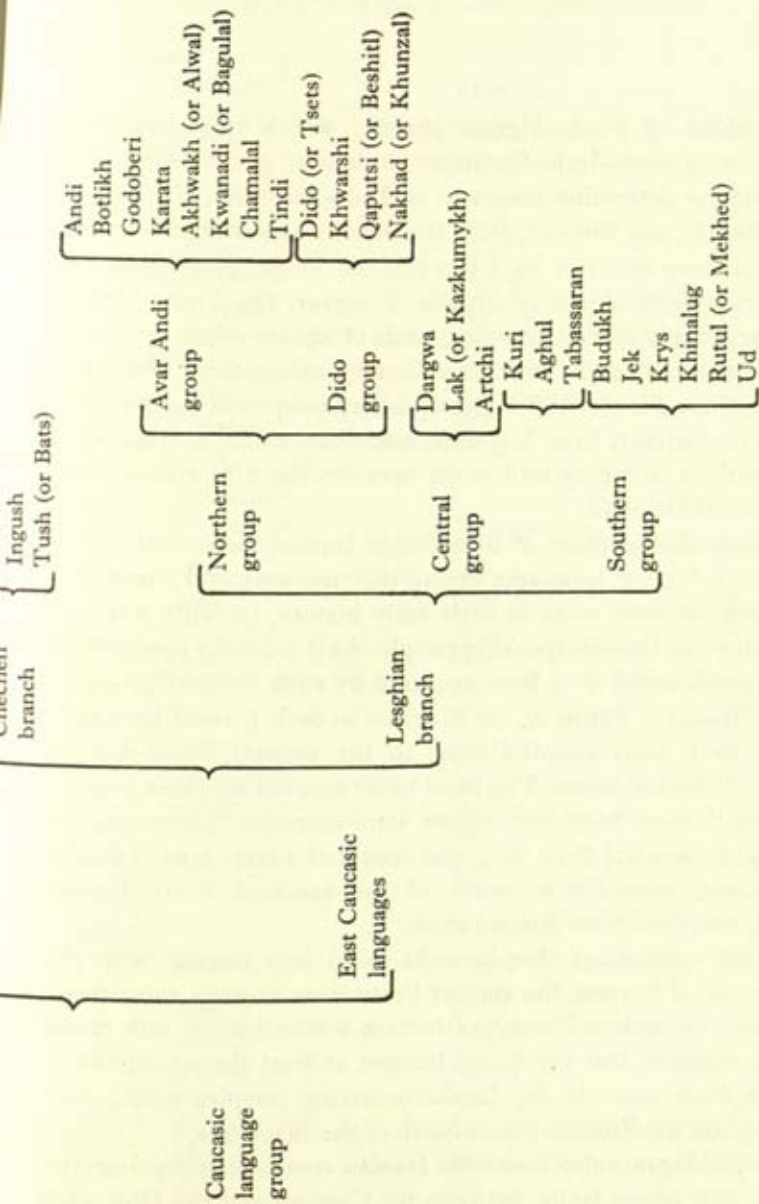
(Based on pp. 452-3 of A. Meillet's *Les Langues dans l'Europe nouvelle*, Payot, 1928.)

Indo-European family	{ Slavonic group	
	Armenian	
	{ Iranian group	
	{ Russian	
	Ukrainian	
	{ Ossetic	
	Tat	
	Talış	
	Kurdish	

Turco-Tatar family	{ Turkmen (or Turcoman)	
	{ Tatar { Nogai	
	Azerbaijani	
	{ Karapapakh	
	{ Karatcha	
	Kumyk	
	{ Southern branch	
	{ Eastern branch	

Mongol family Kalmuk

South Caucasian languages	{ Georgian	
	Mingrelian	
	Laz	
	Svan	
	Abkhazic	
West Caucasian languages	{ Adighe	
	{ Shapsu	
	{ Cherkess (or Circassian)	
	Kabardian	



The heartland of Finno-Ugrian speech, which may have had connections with proto-Indo-European in remote prehistoric times, is even harder to determine than that of Indo-European. In the last few centuries B.C., the Finno-Ugrian linguistic nucleus seems to have lain in a broad area between the Urals and the Volga; even before the Slavic encroachment of central Russia, however, the Finno-Ugrian peoples were already spread over thousands of square miles.

Although archaeological and documentary evidence of the early movements of the Finnic- and Ugric-speaking peoples is meagre, it is possible to reconstruct, from linguistic testimony alone, at least some of the migrations that they undertook between the fifth century B.C. and the tenth century A.D.

The considerable number of identifiable Iranian loanwords in the modern Finno-Ugrian languages shows that the ancestral Finns and Ugrians were, at some stage in their early history, in fairly intimate contact with some Iranian-speaking people. As it is hardly conceivable that these words could have been acquired by such Finno-Ugrians as the Baltic Finns, the Perms or the Magyars in their present locations, they must have been adopted prior to the general Finno-Ugrian dispersal in historical times. The most likely sources for these Iranian words seem to have been the various semi-nomadic plainsmen, the Scyths, Sarmatians and their like, who occupied a large area of south-central Russia, immediately south of the assumed Finno-Ugrian cradleland, until well after Roman times.

Before the wanderings that brought them into contact with the settled peoples of Europe, the ancient Finns were hunters and fishers. The presence in modern Finnish of Iranian words dealing with cereal cultivation suggests that the Finns learned at least the rudiments of agriculture from some of the Iranian-speaking peoples whom they encountered on the Russian plains north of the Black Sea.

The proto-Magyars also borrowed Iranian terms, possibly from the Alans, through whose lands, between the Caspian and the Don, they passed during their westward migration. The Hungarian words: *asszony* (woman), *hid* (bridge), *tölgy* (oak) and *ezüst* (silver) are of Iranian inspiration and have cognates in modern Ossetian.

The cardinal numbers, 1 to 100 and 100, in nine European languages of the Finno-Ugrian family

West Finnic

	Lappish	Finnish	Estonian
1.	Okta	Yksi	Üks
2.	Guokte	Kaksi	Kaks
3.	Golbma	Kolme	Kolm
4.	Njälja	Neljä	Neli
5.	Vitta	Viisi	Viis
6.	Gutta	Kuusi	Kuus
7.	Tsiežda	Seitsemän	Seitse
8.	Gavtse	Kahdeksan	Kaheksa
9.	Ovtsa	Yhdeksan	Üheksa
10.	Lokke	Kymmenen	Kümme
100.	Tšuoete	Sata	Sada

Permian
(Syrjenian)

Volga Finnic

(Cheremiss) (Mordvin)

1.	Ötik	Iktä	Veike
2.	Kik	Kok	Kavto
3.	Kujim	Kum	Kolmo
4.	Njol	Nel	Nile
5.	Vit	Vis	Vete
6.	Kvait	Kut	Koto
7.	Šizim	Šešem	Sisem
8.	Kökjamis	Kändekse	Kavkso
9.	Ökmis	Indekse	Veikse
10.	Das	Lu	Kemen'
100.	Só	Šüdö	Šada

Ugrian

	Magyar	Vogul	Ostyak
1.	Egy	Ükh	It
2.	Kettő	Kiteg	Katken
3.	Három	Khorem	Kolem
4.	Négy	Njilä	Njel
5.	Öt	Ät	Vet
6.	Hat	Kat	Kut
7.	Het	Sat	Labet
8.	Nyolc	Nalou	Njilekh
9.	Kilenc	Ontelou	Iereng
10.	Tíz	Lou	Jong
100.	Száz	Sát	Sat

Linguistic evidence alone betrays the fact that, before their arrival in their present locations during the first century A.D., the linguistic ancestors of the modern Finns (including the Vespians and Votes), Carelians, Livonians and Estonians sojourned among both Baltic- and Gothonic-speaking communities to the south-east of the Baltic Sea. Both these Indo-European-speaking peoples had reached a higher cultural level than had any of the Finns and both lent the Finns a substantial number of words. The fact that the cardinal numbers from one to six are common to all the Finno-Ugrian languages, strongly suggests that, before coming into contact with Indo-European-speakers, who employed a decimal numerical system, they used a system based on a count of six. In most of the modern Finno-Ugrian languages, the words for ten, 100 and 1,000 are based on Indo-European terms.

The contact of the Finns with the Balts must have been particularly long and intimate, for the Finns even forsook their native words for such common concepts as hair, tooth, mother and sky in favour of their Baltic equivalents. Cultural loanwords from the Baltic languages, denoting concepts hitherto unfamiliar to the Finns, include the terms for ship, sail, bridge, wool, shepherd and pea. Baltic religious concepts, including the names of mythological beings, were also adopted by the early Finns, whose own religion seems to have been a form of shamanism similar to that still practised by their linguistic relatives in northern Russia, the Voguls, and Ostyaks. Perkene, the Finnish name for the Devil, was originally the name of the Lithuanian sky-god, Perkunas.

The presence of Baltic words in such Volga Finnic languages as Mordvin and Cheremiss – both of them spoken some 800 or 900 miles east of the Baltic – has been attributed to transmission by some intermediary Finnish people, submerged by the expanding Slavs in historical times. These may have been the linguistically extinct Merya or Merens, near relatives of the proto-Cheremiss, or the Muroma, probably akin to the ancestral Mordvins, who seem to have occupied the country between the Volga and the Baltic-speaking area. Finnic place-names are still significantly abundant throughout the former Merya and Muroma territories.

The Finnic languages, when compared with such Indo-European

groups as Keltic and Gothonic, have a remarkably stable sound-system; words are liable to remain virtually unchanged in form for many centuries. Thus, Finnish words borrowed from the Balts and Gothones have remained substantially unaltered since the time when they were first adopted, often two thousand and more years ago. The extremely archaic forms of many of the Gothonic loans in modern Finnish show that they were adopted by the Finns at a time long before the differentiation of the historical Gothonic languages – the ancestral Norse, Anglo-Saxon, German, etc. The Finnish word *kuva*, a picture, has preserved the medial *v* (or *w*) of the proto-Gothonic **skuggwan* (cf. Gothic: *skuggwa*, a mirror), which was lost from the later North and West Gothonic languages during the period 500–400 B.C. (i.e. Old Norse: *skuggi* = shadow, Old English: *scua* = mirror). Some 400 of these proto-Gothonic words have so far been identified in modern Finnish. Others, including a large number of terms dealing with shipbuilding and seafaring, were adopted during the early centuries of the Christian era from the Scandinavians, who by this time were speaking a more localised variety of Gothonic, the forerunner of Old Norse. Again, the archaic form of these proto-Norse words gives an indication of the time at which they were borrowed by the Finns. The Finnish word: *sakko*, a fine, was adopted by the Finns at a time before the so-called 'U-mutation' had modified the first vowel of the Primitive Norse: **saku* to *Q* (the Old Norse form was *spk*). As 'U-mutation' was not widespread in Scandinavia until the seventh century A.D., such words as *sakko* must have been borrowed by the Finns prior to that time.

Archaeological evidence shows that some at least of the pre-Finnish-speaking inhabitants of Finland had strong cultural connections with Scandinavia, notably with the central Swedish province of Uppland. It seems reasonable to assume that these people, like their kinsmen west of the Baltic, spoke a Gothonic language and that it was from these Gothonic-speaking inhabitants of Finland that the Finns acquired the bulk of their proto-Norse words in early post-Christian times. This assumption is supported by the fact that many Finnish place-names, evidently of great antiquity, are Finnish renditions of originally

Gothonic names. Thus, the Finnish name for the Baltic Åland Islands, *Ahvenanmaa*, contains as its first element a scarcely altered form of the Primitive Gothonic word for water: *ahwa* (compare Latin: *aqua*).

Although loanwords of Baltic and Gothonic provenance also abound in Lappish, it seems unlikely that the ancestors of the Lapps, before their arrival in their present location in northern Scandinavia, ever lived among Baltic or Gothonic-speaking peoples south of the Baltic Sea.

The origins of the Lapps are obviously different from those of the modern West Finns; their closest ethnic affinities appear to lie, as we have seen, with the Samoyeds and other nomadic peoples of Arctic Siberia. It has been suggested that the ancestral Lapps adopted their present Finno-Ugrian language, together with its early Baltic and Gothonic loans, immediately prior to their arrival in Scandinavia (perhaps between 2,000 and 3,000 years ago), from contact with 'Chudes' – the term by which many of the early Baltic Finns – Carelians, Livonians, Votes, Vepses – were generically known. These 'Chudes', incidentally, still figure as ogres and monsters in Lapp folklore.

Just as the Baltic and Gothonic loanwords in all the West Finnish dialects indicate some of the otherwise unrecorded movements of the Finns in prehistoric times, so the large numbers of Turkic loanwords in the language of the Volga Finns (Mordvins and Cheremiss), and of their early neighbours to the south, the Magyars, testify to contacts between these peoples and Turkic invaders before the removal of the Magyars to central Europe in the ninth century A.D.

The Turkic-speaking Bulgarians, who first appeared in European Russia to the north of the Caucasus during the fifth century A.D., divided into two groups: one continued south-westwards through the Balkans to the present Bulgaria, whilst the other remained in central Russia, where a Turkic Empire – with its nucleus near the confluence of the rivers Volga and Kama – was established. The Turkic-speaking Chuvash, the sole survivors of the old Volga Bulgarians, still inhabit the country between the territories of the Mordvin and the Cheremiss.

Although there is little doubt that, by the time of their settlement in Hungary, the Magyars were, culturally and genetically, profoundly influenced by prolonged contacts with Volga Turks, the Magyar

The cardinal numbers, 1 to 10, 100 and 1,000, in six non-Indo-European languages currently spoken in Europe

	South Caucasian (Georgian)	North-east Caucasic (Avartsian)	North-west Caucasic (Cherkessian)
1.	Ert'i	Tcho	Zeh
2.	Ori	K'i-go	T'u
3.	Sami	Hlab-go	Sh'eh
4.	Ot'xi	Unqo	P'l'eh
5.	Xut'i	Shu-go	Tfeh
6.	Ek'vsi	Anhl-go	Kheh
7.	Svidi	Anng-go	Bleh
8.	Rva	Ming-go	Yi
9.	Cxra	Itch'-go	Bghu
10.	At'i	Antch'-go	P'sh'eh
100.	Asi	Nuss-go	Sheh
1,000.	At'asi	Azar-go	Min

	Iberian (Basque)	Uralic (Samoyed)	Altaic (Turkish)
1.	Bat	Ngopoi	Bir
2.	Bi	Sideh	Iki
3.	Hirur	Näar	Üç
4.	Laur	Tet	Dört
5.	Bortz	Somlängg	Beş
6.	Sei	Mat	Alti
7.	Zazpi	Siv	Yedi
8.	Zortzi	Sidndet	Sekiz
9.	Bederatzi	Hasavo-yu	Dokuz
10.	Hamar	Lutsya-yu	On
100.	Ehun	Your	Yüz
1,000.	Milla	Yonnar	Bin

language bears, to this day, a strong resemblance to those of the Ob-Ugrians, the Voguls and Ostyaks, who remained in central Russia after the departure of the Magyars. Whilst the Magyars migrated westwards from their earlier home, to become assimilated into the ethnic and cultural milieu of central Europe, the ancestral Voguls and

Ostyaks moved north and east into country previously inhabited only by nomadic bands of Samoyeds. It was from these peoples – long resident in northern Siberia – that the Ob-Ugrians learned the art of reindeer-breeding and acquired a substantial vocabulary of Samoyed terms referring to specifically Arctic concepts. The exact linguistic position of Samoyed in relation to the Finno-Ugrian group is, incidentally, still somewhat disputed; most authorities now bracket the two, Finno-Ugrian and Samoyed, together as 'Uralic' languages.

The ancestors of the modern Perms (Votyaks and Syrjenians), whose descendants now inhabit a large, sparsely-populated area of European Russia between the White Sea and the Urals, were, to judge from the number of Iranian loanwords in the living Permian languages, early neighbours of the Ob-Ugrians and proto-Magyars in south-central Russia. The Iranian element in their living vocabulary suggests that the ancestral Perms were, in the early centuries of the Christian era, living to the north of the Causasus. It was from this region that they spread north, arriving on the middle Volga by the eighth century A.D. Here they came into contact with Turkish-speaking Bulgarians, by whom they were influenced culturally and linguistically. During the following century, the Perms split into two groups; the Syrjenians filtered north through an enormous area east of the Baltic Finns, eventually reaching the eastern shores of the White Sea; Syrjenian place-names scattered widely throughout North European Russia (including the ubiquitous suffix *-va* = water, as in *Mosk-va* = Moscow) testify to their former wide dispersal in country later colonised by Slav-speaking Russians. The Votyaks (or Ud-Murts) moved north-east from the middle Volga along the Kama, where they soon came under the domination of the Tartars – as evidenced by the number of Turkic loanwords in their language.

Most of the living languages of Europe have been spoken in approximately their present area for the best part of a thousand years. There are others, however, which are still on the move and not rooted in a particular locality. Among these are the languages of the Gipsies and the Jews.

The language of the European Gipsies, the 'Romani Chib', offers a striking illustration of the way in which an otherwise meagrely documented human migration may be retraced from linguistic evidence alone.

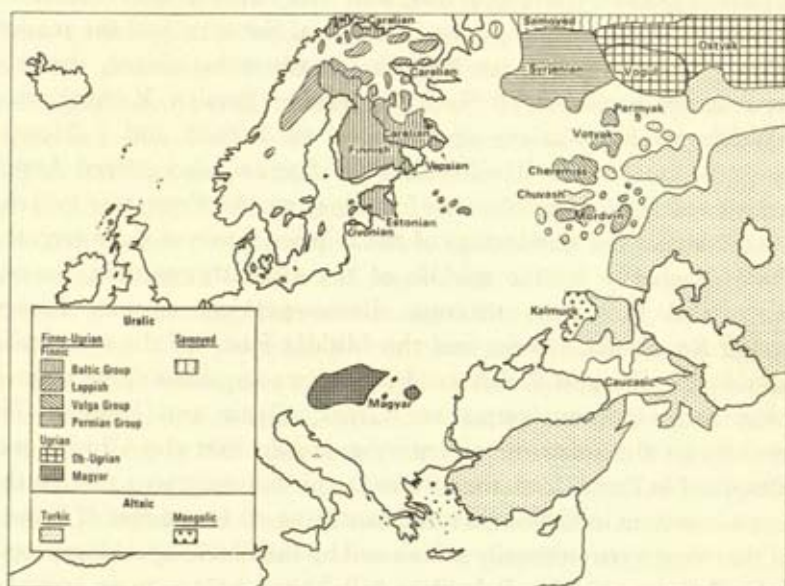


Figure 16. Distribution of Ural-Altaic languages in Europe

Until August Pott's systematic study of the Romani language, conducted during the early part of the last century, revealed its essentially Indian base, the Gipsies were traditionally believed to have originated in Egypt (whence the name Gipsy and the Spanish *Gitano*), in Russia (whence the Scandinavian epithet *Tartars*) or in eastern Europe, where Bohemia and Roumania were most often cited as their original home. The investigations of Pott, and of later philologists, proved conclusively that, contrary to popular belief, the Gipsies and their *chib* were of ultimately Indian provenance. The identification of later, foreign loanwords in their language showed not only the route that they must have taken before and after their arrival in Europe, but

also the relative time they must have spent in each country and the degree to which they were culturally influenced by the various peoples amongst whom they sojourned.

Of the thousand-odd Romani words recorded by John Sampson in his *Dialect of the Gypsies of Wales*, well over half are of demonstrably Indian derivation, with cognates in classical Sanskrit and the modern Indian vernaculars, 155 are English (mostly substandard, dialectal, cant or slang), 81 Greek, 56 Slavic, 54 Iranian (Persian, Kurdish, etc.), 36 Welsh, 20 Roumanian, 17 German, 14 French and 1 Mongol. George Borrow, in his *Word-book of the Romani*, also offered Arabic, Turkish and Hungarian etymons for Gipsy words. From this evidence we may retrace the wanderings of the Gypsies, prior to their arrival in Britain (probably by the middle of the fifteenth century), through France and Germany, through Slavic-speaking eastern Europe, through Roumania, Greece and the Middle East. Of the non-Indian (and non-English and Welsh words, of recent acquisition) the majority of the Anglo-Romani terms are Greek, Slavic and Iranian. This corroborates the scant documentary evidence that the Gypsies were widespread in Persia from the fifth to the ninth centuries A.D., that they spent some time in Greece before journeying on to the rest of Europe, and that they were culturally influenced by the Slavic-speaking peoples of the Balkans, Russia, Poland and Bohemia before their arrival in Western Europe.¹

1 A gipsy street seller of lucky charms recently told the author in the Portobello Road, 'Well, if you putches me, baw, cheeros is vassavo just now. We on'y bickins about desh cawlie matchkers in a sawler. Gi's a coupla tringeroo-shies for a cuppa mooter an' a packet o' toooves, wontcher?' (Well, if you asks me, mate, times is hard just now. We only sells about ten black cats in a morning. Give us a couple of bob for a cup of tea and some cigarettes, won't you? - a fantastic mixture of English, cant, Sanskrit, Turkish, Slavic and possibly German!)

Incidentally, a few formerly cant words of ultimately Romany origin have found their way into English slang at various times. Familiar examples of those still in use are: *cock* (mate, literally 'uncle'), *moosh* (mate, literally 'man'), *pal*, *dad*, *cove* (fellow, literally 'That one'), *cosh*, *lolly* (money, literally 'red stuff'), *stir* (prison), *cushie* (easy, literally 'a little'), and *rum* (queer).

Past movements are similarly reflected by Yiddish, the language of the Ashkenazim or central European Jews. Although basically a form of medieval Rhineland German, Yiddish teems with expressions drawn from the many Slavic languages with which the Jews have been in contact during the past thousand years. A Yiddish term like *Shlimmezalnik* (an unlucky person) illustrates a complete synthesis of the three most important elements in the language: German (*schlimm* = bad), Hebrew (*mazl* = luck) and Slavic (the suffix *-nik*).

The innumerable 'secret' languages employed by petty criminals, beggars, tramps and pedlars in almost every European country are, like Yiddish and Romany, also made up of elements drawn from an astonishing variety of sources. Germania, the 'flash talk' of the Spanish thieves, abounds in French and, especially, Italian terms, as does the German Rotwelsch or Gaunersprache. All these argots, which appear to be fast dying out, employ Romany and, to a lesser degree, Yiddish terms, whilst Shelta, one of the jargons employed by British tinkers, contains as much Gaelic as English. Perhaps the most multifarious of all these argots is 'Smechereasca', a cant employed by Transylvanian vagabonds and a veritable ragbag of Roumanian, Hungarian, German, Russian, Yiddish and Gipsy. The mongrel vocabularies of these argots show clearly that they developed among vagrant peoples, whose extensive wanderings throughout Europe brought them into contact with a great number of often wholly unrelated languages.

As a final example of the way in which otherwise meagrely attested migrations may be reconstructed from linguistic evidence we should mention the recent investigations of the Roumanian scholar Nandriş. By means of Roumanian place-names and sheep-herding terms in various Slav-speaking areas of eastern Europe, Nandriş has retraced the wanderings, in medieval times, of Vlach shepherds and farmers to Moravia, Bohemia and even Silesia, all of them districts far from the Vlach homeland in the Balkans.

Languages whose vocabularies become mixed in this way, i.e. as a result of the wandering of their speakers from one language area to another, should not be confused with 'pidgins' or 'contact vernaculars'. These latter are auxiliary jargons, improvised in a hurry by the speakers

of two mutually unintelligible languages as a makeshift vehicle of communication, often, though not always, for the purpose of trade. Unlike such 'true' languages as Yiddish and Romany, contact vernaculars are virtually grammarless and their lexicon is a fluid mixture drawn from the two native vocabularies of their creators. Typical European pidgins of this sort were Gic-Gog (see p. 163 below), Sabir, a hybrid of Italian, Spanish, French, Greek and Arabic extraction that was employed by polyglot Mediterranean seamen and merchants during the Middle Ages, and Russenorsk, a mongrel of Russian and Norwegian parentage, which, until as recently as 1917, was used by Norwegian fisherfolk in their dealings with Russian traders in the Arctic ports of Norway. Even closer to our own time, during and after the Second World War, incipient contact vernaculars, with German, Yiddish, Slavic and other lexical ingredients, led an ephemeral existence in the concentration and D.P. camps of central and eastern Europe. Genetic exchanges between the speakers of the two or more source languages of such half-breed tongues need not, of course be suspected as having taken place, unless, as has happened several times in the past, the contact vernacular itself is adopted as the native idiom of an entire community. We cannot disregard the possibility that such pidgins may have played a part in the remote, prehistoric development of many, if not all, of the later languages of Europe. Hittite, for example, is one member of the Indo-European family which, in the opinion of several authorities, may have developed from a rough and ready pidgin originally used for communication between speakers of Indo-European and non-Indo-European languages in Anatolia.

There are a few instances of one language preserving, not merely individual words, but whole fragments of another language that was formerly spoken in the district. Naturally, these fragments, which may be nursery rhymes, riddles, oaths or magic formulae, are usually highly garbled and often quite incomprehensible to those who, unaware of their origins, continue to utter them. Such apparent trivialities are nearly always the last vestiges of a submerged language to go under. One of the best-known examples of this type of thing

was the continued use of Etruscan formulae for spells, curses and the like by soothsayers in Roman Italy until as late as the fourth and fifth centuries A.D. Henry Baerlin, who visited the Danish island of Anholt in 1949, heard the local children reciting a rhyme that was, to them, pure nonsense.

*Jekk og Jill
vent op de hill
og Jill kom tombling efter.*

English soldiers had been quartered on Anholt during the Napoleonic wars, and the familiar English nursery rhyme had survived them by five or six generations. Similarly, many decades after the old Norn language had died out in Shetland, riddles, curses and snatches of ballads in that language continued to pass from father to son and from mother to daughter. The lines:

*Barn vil ikka teea,
Barn vil ikka teea,
Tak an leggen, slog an veggen,
Barn vil ikka teea,*

whilst meaningless to an Englishman – and no doubt to the last of the Shetlanders to recite them – still make perfect sense to any Scandinavian; they mean:

The child will not be quiet,
The child will not be quiet,
Take it by the leg, hit it against the wall,
The child will not be quiet.

Many examples of the preservation of intimate expressions derived from a locally extinct language – in this case Danish – are offered by the long-since Germanised dialects of North Schleswig.

In certain parts of Schleswig, where Danish has not been spoken for several generations, village children still use an old Danish formula when counting their fingers: 'Tommeltot, Slikpot, Langemand, Stak'

Jehan [stakket = short], *Lütje Peder anne Enn*' (Jutish: *Lill' Pae'er ve' ae End*), whilst their elders still resort to Danish oaths – '*Saamaend! Minsandten! Gudskelov!*' and the like – when cursing. In the Schleswig district of Angel, farm animals are, to this day, called at feeding time in Danish; ducks – so Claus Eskildsen tells us – only respond to the Danish: '*Rap! Rap! Rap!*' whilst the local pigs, deaf to the German: '*Bösche! Bösche!*' instantly react to the Danish call, '*Gisse! Gisse!*'¹ Even in the town of Flensburg, where the old Danish dialect was eclipsed by Low German much earlier than in the surrounding countryside, street-vendors could still be heard hawking their wares in Danish less than a hundred years ago – the street-cries having become traditional formulae. It is hereabouts, incidentally, that a large number of originally Danish proverbs and saws have survived in Low German guise. Typical are: '*Dat is nich gud un lehrn ole Hunne bellen*' (It's not good to teach an old dog to bark) – which mirrors, word for word, the Jutish: '*Det er it godt at laer' gaml' Hund' at gjaeff*', and the classic: '*He is so doll as en Dütscher*' (Danish: *Han er saa gal som en Tysker* = He's as mad as a German) – outspoken evidence that the local Angelboer, although German nationals since the time of Bismarck, still regard themselves as Danes and the Germans as foreigners.

Apart from exchanging words and expressions, there are other more subtle ways in which languages may influence each other.

There is every indication that sounds, like words, pass from one language to another, regardless of whether the languages are closely or remotely related, or even related at all. The transmission of speech-sounds between languages must always be regarded as a much more intimate process than the exchange of words. Whilst words are consciously adopted, usually with the introduction of a new object or concept, a phoneme may pass from one language to another gradually and imperceptibly.

This almost invariably occurs when a new language is imposed upon or assumed by a community who previously spoke another language, especially when the recipient community is numerically superior to the bringers of the new language. An adopted language very seldom

¹ Claus Eskildsen, *Dansk Graenselaere*, Reitzel, 1946.

escapes being influenced to some degree by the idiom which it has displaced. Speech habits, especially established modes of pronunciation, die hard; even when the words and structure of the usurped language are forgotten, its familiar sounds live on to colour the pronunciation of the new language.

In this way, the marked differences in pronunciation that exist among the various Romance languages (French, Italian, Spanish, etc.) – all of them derived from a single source, Latin – can be best understood as the result of the lingering phonemic influence of such pre-Roman idioms as Gaulish, Iberian and Illyrian. Similarly, it is hard to believe that Keltic speech-habits did not influence to a certain extent the pronunciation of the Gothonic dialects brought to England by the Anglo-Saxons. It is, at any rate, clear that the different pronunciations of English heard in Scotland, Wales and Ireland reflect old Keltic speech-traits. Could it not be that these, too, lurk behind many of our country 'brogues' and 'burrs' and even behind some features of our standard language? It may, in this connection, be significant that the only two Gothonic languages to have retained the 'dental fricatives' (the *th* sounds, as in *this* and *thin*) are English and Icelandic, whose speakers lived, until historically recently, in close proximity to various forms of Keltic, all of which have also preserved these phonemes.¹

A few more examples from other parts of Europe may illustrate how universal this 'substratum' process of phonemic influence between sometimes totally unrelated languages can be.

Several modern dialects of Russian use sounds that may be attributed to the persisting influence of such Finno-Ugrian languages as Syr-jenian, sounds that standard Russian and the other Slav languages altogether lack.²

1 It is interesting to note, in this connection, that the modern Scots dialect of Shetland does not make use of dental fricatives. The islanders pronounce, for example, 'this' and 'that' as 'dis' and 'dat' and 'thick' and 'thin' as 'tick' and 'tin'. This habit is clearly a carry-over of a Norwegian speech-trait, dental fricatives having been discarded by Norwegian as long ago as the fifteenth century.

2 See W. Veenker, 'Die Frage des finno-ugrischen Substrats in der russischen Sprache', Indiana University Press, *Uralic and Altaic Studies*, Vol. 82, 1967.

The sound-system of Lappish, too, which is much richer than that of the other modern Finnic languages, is believed by some authorities to perpetuate the phonemes of whatever pre-Finnic tongue the Lapps may once have spoken.

However, by no means all the cases of the exchange of phonemes between languages can be attributed to the 'substratum' process, outlined above, by which one language perpetuates certain features of the sound-system of another, otherwise dead, language. Equally often, particular sounds pass from one *living* language to another, merely because the two are geographically contiguous and often, though not always, because their speakers are culturally akin. This process of linguistic osmosis or seepage, which enables the transfer, not only of phonological but also, as we shall soon see, of structural features, is made possible by the existence, mostly along a border between two languages, of bilingual individuals, who, albeit often unconsciously, pick up some of the sounds of their second language, B, and begin to use them when speaking their first language, A. The sounds thus incorporated from B into the daily speech of the bilinguals may then be taken up from them by the monoglot speakers of A and eventually find their way to areas in A's territory where B itself is never heard. It is inevitable that, when two neighbouring languages are in close enough contact to enable the transfer of speech-sounds from one to another, a good deal of two-way gene-flow between the speakers of both languages also takes place.

By the process of linguistic osmosis, identical phonemes may often be shared by adjacent languages that need not even be remotely related to one another. Such a grouping of unrelated languages that share a common stock of phonemes and other features is said to be part of a 'linguistic area' or *Sprachbund*.

In the Caucasus, for example, two Indo-European languages, Armenian and Ossetic, make use of certain phonemes which, whilst quite unknown in any other Indo-European groups, occur in many of the non-Indo-European languages that surround the Ossetes and Armenians and these phonemes can be said to be features of the Caucasian *Sprachbund* or linguistic area. Nearer home, it is hardly

accidental that two Keltic cousins, Welsh and Breton, have each taken on some of the phonic features of their respective neighbours, English and French. Thus, modern Welsh shares with English such features as dental fricatives, diphthongs and central vowels, whilst modern Breton has absorbed from French such phones as Z, SH, ZH (as in *rouge*) and the front rounded vowels, Ö and Y (as in *peu* and *vue*). An example of a speech-sound that has become common currency throughout a large galaxy of neighbouring, but not necessarily kindred, languages in central and eastern Europe is the initial affricate *ts*. It occurs in all the languages of the Balto-Slavonic cluster, in High German, in some Romance languages (Italian, Roumanian, Sardinian and some of the dialects of Provençal), in Finno-Ugrian (Hungarian), in Greek, Albanian and in some of the North Caucasian languages but in none of the relatives of these languages that lie outside this particular geographically-united 'linguistic area'.

As well as being unconsciously preserved or assimilated in these fashions, phonemes are sometimes purposely borrowed from a socially admired foreign language and cultivated as a mark of refinement.

The story of the velar R which is used today by several European languages, French, Danish and certain varieties of Dutch, German and Swedish, will serve to illustrate this process of conscious phonemic borrowing. This type of R, produced by vibrating the uvula rather than by rolling the tongue, began life as an affectation among the *Précieux* of Molière's Paris. It was soon transplanted to Prussia by Huguenot schoolteachers and by the intensely Francophile Court-circle of Frederick the Great and was later adopted by the largely German-speaking Danish nobility at the time of Struensee. In Denmark, this *drøbel* R, which, as recently as the early nineteenth century, was still being proscribed by purists as 'that hawking sound' or 'the R at the back of the throat', has now almost completely ousted the older, trilled R. It is also steadily gaining ground in Sweden and Norway, where, as in parts of Germany, it is often regarded as more refined than the trilled R, and has even gained a toehold in Iceland.

The geographical distribution of speech-sounds has been closely studied by a number of authorities, notably Professor C. D. Darlington,

who has demonstrated how several phonemes have spread across Europe in comparatively recent times, in defiance of seemingly impenetrable language barriers. A predilection for certain phonemes by the speakers of different languages need not, as Professor Darlington suggests they may, be genetically conditioned. It seems more reasonable to assume that, in most cases, such preferences are attributable to the three causes we have discussed: membership of a geographical *Sprachbund*, socio-cultural influences and the persisting sound-systems of defunct languages once spoken in territories now occupied by others.

Morphological and syntactical features may also pass from one language to another regardless of whether or not the two languages are related. The exchanges of such structural features must suggest as intimate contacts between peoples as does the exchange of phonemes.

The possession of identical or similar structural features by two or more neighbouring languages may, like the sharing of speech-sounds, be attributable either to the influence of an underlying substratum or to the fact that these languages are both, or all, members of a geographically united *Sprachbund*. In many instances, both explanations may be equally applicable.

In a few cases, it is possible to attribute the occurrence of the structural features of one language in another to the substratum influence alone. This is particularly so when we have actual documentation of the submergence of one language by another, as in the case of the forcible replacement in Schleswig during the 1870s and 1880s of the old Danish dialect by German. The persistent use of Danish grammatical constructions in the now otherwise wholly German dialect of the area is a classic case of substratum influence.¹

On the other hand, the possession by three historically only remotely connected languages in the Balkans – Albanian, Roumanian and

¹ Typical examples are: *Se sind to fuul to doon dat* (They're too lazy to do it) and *Dat schul ik nich ha doon* (I shouldn't have done it). Likewise, the father who tells his son: '*Du bis noch nich groot noch un drinken 'n Buddel wien ud*' (You're not yet big enough to drink a whole bottle of wine) is using Platt German words in a thoroughly Danish fashion.

Bulgarian – of a suffixed definite article is perhaps more easily explained by invoking the *Sprachbund* concept (see p. 96 above) as a feature that has spread from one living language to another.¹

The concept of a *Sprachbund*, or aggregation of geographically contiguous languages that share common features, has for long intrigued comparative linguists. Recently, one German philologist, Ernst Lewy, has gone so far as to propose a new system of classification for the languages of Europe, one based, not on historical or 'family' relationships, but on similarities in grammatical structure. The five 'geographico-typological' language zones which Lewy identifies are vastly different from the traditional clusters of historically connected language groups; they include a 'Central' zone, which lumps German and Hungarian together, a 'Balkan' (Greek, Albanian and Roumanian), an 'Eastern' (Russian and the like) and an 'Arctic' (Samoyed).

To the anthropologist, the implications suggested by such a concept, which wholly disregards the family connections between language groups, are stimulating. In emphasising the geographical rather than historical factors in language-resemblances, it highlights the dangers of confusing ethnic groups with language families and suggests that reciprocal gene-flow as an accompaniment to the spread of such linguistic intimacies as speech-sounds and structures, as opposed to words, has been taking place across language frontiers on a much larger scale than was supposed in the days when the speakers of cognate languages were *ipso facto* assumed to be biologically closer akin than those speaking adjacent, but none the less unrelated, languages. To take an example, the Roumanians are still popularly referred to as a 'Latin' people, solely because they speak a Romance language, and are thus believed to be genetically more closely related to such other Romance-speakers as the distant Spaniards and Portuguese than to their long-standing Slav-, Magyar-, Greek- and Albanian-speaking neighbours in the Balkans. This utterly unrealistic assumption

¹ The suffixed definite article, with other structural features common to two or more of the Balkan languages, has also been claimed, however, as the vestigial relic of some long-submerged idiom – specified, with scant justification, as Thracian or Illyrian.

is squarely countered by the idea of the *Sprachbund* which, by its very nature, mirrors the biological concept of a geographical gene-pool.

There are plenty of other examples in Europe of the exchange of structural features between living neighbouring languages; all involve the influence of bilingual individuals who are responsible for the dissemination among their monoglot fellows of traits drawn from the second language. Thus, Gaelic syntax has had an influence on the variety of English spoken in Ireland, the Polish dialects spoken by the so-called 'Water-Polaks' of Silesia show German constructions, Estonian syntax has been influenced by that of German, and the German of Austria in its turn by that of Slovene, whilst Yiddish has assimilated many of the syntactical and morphological features of Slavic – especially of Polish and White Russian. Again, some of the Romansch patois in Switzerland employ German constructions clearly calqued, not on standard German, but on local Schwyzerdütsch prototypes.

One of the most striking examples of the influence of one language on the structure of another was that exerted on English by Norse. Between the ninth and the eleventh centuries A.D., large numbers of Danes were settled in northern and eastern England, and whilst their Norse vocabulary and that of the local Anglo-Saxons were practically identical, the two languages, Norse and Anglo-Saxon, had widely divergent inflectional systems. In order to facilitate communication between the two peoples, words were shorn of their affixes, suffixes and other inflectional niceties and the complex grammatical system of Anglo-Saxon disintegrated. Early Middle English manuscripts confirm that this process of simplification was most advanced in just those parts of England where Danes and English lived side by side.¹ Even without

1 One or two Runic inscriptions in a hybrid Anglo-Scandinavian language have in fact been identified at, for example, Kirkdale and Alborough in Yorkshire. Such bilingual inscriptions are extremely rare and can be taken as dating from a time when the two languages were becoming fused together in almost equal parts. These two Yorkshire examples are from the eleventh century but there are others, from the Lake District, that are at least 100 years more recent.

the additional evidence of Scandinavian loanwords and phonological influences in English, the fact that Norse, a foreign tongue, was able to exert such a profound effect on the very grammatical structure of our language indicates how intimate the relations between the Danes and the English must have been.

Compared with the lending and borrowing of words, such intimate influences between languages can only arise when different peoples are in very close contact over a long period of time and plentiful genetic exchanges may unreservedly be assumed to have taken place.

A study of the dialects of a single language may also provide the anthropologist with a number of valuable clues concerning the possible ethnic affinities of various segments of a particular language community. It sometimes happens that a large number of changes in pronunciation and in lexical and structural features is found to divide rather abruptly the speakers of a common language. On occasions, these differences are so great as seriously to hinder mutual intelligibility. Where sever also-called 'isoglosses'¹ (that is, imaginary lines separating different linguistic features – identical in concept with the clines of population genetics) occur together in a compact bundle, they are always found to coincide either with some natural obstruction (mountain range, forest, swamp, etc.) that may have hampered communication in the past, or with some artificial boundary that at one time divided the people into two culturally, socially and sometimes religiously separate entities. The more complete the one-time severance of the two communities, the more dense will be the bundle of isoglosses, which will often be found to coincide with a bundle of 'isogrades' – lines representing differences in folklore, architectural styles and other cultural traits. Such an isogloss bundle runs across central France from

1 Strictly speaking, the term 'isogloss' refers only to imaginary lines drawn between areas in which different words are used. Some authorities (starting with Migliorini) have proposed other terms to describe more accurately geographical differences between strictly lexical items (isolexes), grammatical forms, inflections and other morphological features (isomorphs) and speech sounds (isophones).

east to west, still clearly marking the line of demarcation between the medieval provinces of France and Provence, and across north Germany, dividing Low German from Middle and High German. For the anthropologist, the significance of these isogloss-isograde bundles is clear; the obstructions producing them, whether these were natural or man-made, must also have been strong enough to impede unrestricted gene-flow between the two segments of the population which they divided.

Dialect studies may also reveal unexpected weaknesses in past communication between two segments of a single micropopulation. On the small Danish island of Samsø in the Kattegat, for example, two strikingly different dialects were spoken until recently; that of south Samsø still has much in common with the dialects spoken on the large island of Fyn to the south and in east Jutland, whilst that of north Samsø shares peculiarities with the Mols dialect, spoken on the Djursland peninsula to the north. There was evidently very little intercourse in historical time between north and south Samsø (the church registers record very few marriages between North and South Samsings), the outside contacts of the south being almost exclusively with Fyn and east Jutland and those of the north with Mols. Although there is scant historical documentation of this cleavage between the occupants of north and south Samsø, the dialect differences reveal clearly that such a cleavage existed, and we may reasonably assume that north-south gene-flow between the two communities was slight.

Anthropologists have also found linguistic geography useful in substantiating theories concerned with the provenance of peoples known to have arrived in certain districts from elsewhere in historical times. Intensive examination of the forms of German spoken in East Prussia, Brandenburg and Pomerania, for example, has enabled investigators to pinpoint fairly confidently the places of origin in west Germany of medieval settlers in the south-east Baltic. Closer to home, studies of the modern Northern Ireland dialects have indicated that the speakers of two distinct regional varieties of English took part in the Jacobean Plantation of Ulster, those from south-west Scotland settling chiefly in the north and east, those from the English West Midlands and from Somerset

and Devon concentrating in Middle Ulster. These findings are fully in accord with what we know from historical records. It would, of course, be naïve to assume that everyone in County Antrim who says 'hoose' for 'house' is of unbroken Galloway stock, or that every East Prussian who says '*Funt*' for '*Pfund*' (pound) is of pure Silesian extraction. We know that those responsible for the planting of English in Ulster and of German in East Prussia were colonial minorities, and that the languages they brought with them were adopted by the established, numerically superior peoples amongst whom they settled – Gaelic-speaking in the case of Ulster, Baltic-speaking in the case of East Prussia.

It should be clear, even from this cursory survey, that comparative geographical and historical studies of language can offer some valuable clues about the possible movements and contacts of peoples in the past. It must be kept in mind, however, that any information revealed by such studies should always be handled with utmost caution by the anthropologist anxious to demonstrate the degree of genetic relationship between two or more populations. The mere possession of similar language features by two peoples at a particular moment in time is not necessarily any stronger proof of their close genetic involvement than is the possession of similar cultural trappings.

Even the spectacular spread of Indo-European speech into almost every corner of Europe between 4,000 and 2,000 years ago must be regarded as a wholly socio-cultural phenomenon, with none of the racial implications, involving 'Aryans' and other imaginary peoples, so often equated with it in the past. Various forms of Indo-European were almost certainly adopted over the course of many generations by the peoples of Europe, first as the socially highly acceptable idiom introduced by a conquering warrior aristocracy (who may or may not have been the bearers of one or other of the kindred Corded-Battle Axe cultures), and later as a universally understood *lingua franca*, a handy medium for conducting inter-tribal trade.

It has been suggested that the Gothonic group of languages, for example, of which English is one, may have arisen as a trade jargon

acquired through contact between the inhabitants of north-west Europe and some more southerly or easterly people. The Veneti, mentioned by Herodotus as a branch of the Illyrians, living, in Roman times, north of the Adriatic, were said by him to be engaged as intermediaries in the amber trade between the 'Hyperboreans' (i.e. the autochthonous, proto-Gothonic peoples of northern Europe) and the Mediterranean, and Professor Feist proposes that it was these Veneti who were responsible for the passing on of their own variety of Indo-European to the proto-Gothones, who, during the course of the last millennium B.C., adopted it in place of their earlier languages, whatever these may have been.¹ Many of the other Indo-European groups of languages, both living and dead, may well have arisen in the same way, with only minimal genetic exchanges between the transmitters and the recipients.

All in all, it seems that, although the study of the reciprocal influences between different languages can yield much valuable information about population contacts in the past, such information tells us even less about the remoter origins of the European peoples than do the few dozen bones and the assemblages of prehistoric cultural remains discussed in the previous section.

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Some physical traits and their distribution in Europe

The different races of man are not distinguishable from each other by strongly marked, unified and permanent distinctions, as are the species belonging to any given tribe of animals. All the diversities that exist are variable, and pass into each other by insensible gradations.

J. G. Pritchard, *Natural history of man*, 1855

If we accept the biologist's definition of a 'race' or 'subvariety' of an animal species as 'a group of individuals, 75 per cent of which are taxonomically different from those of another group with which it is compared', then we can no longer speak of the 'Races of Europe'.

Whilst it is undeniable that a wide variety of physical types exists in Europe, no specific trait is found exclusively in a single population. Thus, though there are admittedly many tall individuals with long skulls and blond hair in Sweden, there are plenty of equally tall people in Yugoslavia, large numbers of equally long-headed people in Portugal and masses of even blonder people in Russia. It would be impossible to pick a Frenchman, a Greek or a Finn out of a crowd on the basis of his physical appearance alone; even a Lapp, bereft of his colourful costume, dressed in a pin-striped suit and carrying a rolled umbrella and an evening paper, would not necessarily be recognisable on the 5.30 out of Waterloo.

Most of the hallmarks by which we usually attempt to distinguish people from different parts of Europe are cultural attributes – clothing, hair style, gestures, etc.; actual physical differences are small and are far outnumbered by resemblances.

In this section, a few randomly selected physical features – stature, pigmentation, hair and eye colour, skull- and face-form and a number of inconspicuous traits – will be considered. It will be immediately apparent that the distribution of such features bears absolutely no relation to the old 'races of Europe' as envisaged by nineteenth- and early twentieth-century anthropologists. In contrast to the neatly delineated 'racial distribution' maps drawn up by these past taxonomers, an accurate map of Europe showing the distribution of all the known hereditary physical characteristics would resemble a bewildering jigsaw, a cat's cradle of clines running higgledy-piggledy across the Continent in sheer defiance of the territories once allotted to the

imaginary European 'races'. Even a map based on the distribution of a single trait, such as eye colour or a particular blood-group frequency, would correspond in no way to these fictitious entities. 'There are', as Professor Livingstone remarks, 'no races, there are only clines.'¹

Of course, such maps, however exact, would only tell us about trait distributions at one particular moment in time. Within a few generations of their publication they would have to be amended and brought up to date. Few of our physical attributes are immutable; almost all are capable of responding to a variety of biological and environmental pressures, which are, in some area or another, almost incessantly at work. An influx of outsiders, for example, bringing with them a somewhat different selection of gene variants to those typical of the resident population, are bound to cause repercussions in the local gene-pool and possibly a change in the local pattern of clines. Similar results may occur if a chance mutation, more often than not one with a neutral, non-adaptive effect, happens to spread through a certain section of the breeding group or if an epidemic disease (such as the Black Death, for example, which during the fourteenth century almost depopulated certain parts of Europe) is allowed to run its course through the population.

The importance of such factors as potential forces that may alter the gene-pool cannot be overstressed. In Europe, their influence and interactions appear to have always been particularly strong, and it is hard to imagine that the distribution of hereditary physical traits was the same five hundred or a thousand years ago as it is today.

In the following paragraphs, we shall note only the apparent distribution of a few selected traits in present-day Europe; the explanations offered for this distribution are tentative and nothing more.

The modes of inheritance for such phenotypical (that is, observable) characteristics as stature, head-shape, face-form and the colouring of skin, hair and eyes, are, because of their complexity, at present inadequately understood. These outward traits, on which past taxo-

¹ Frank B. Livingstone, 'On the Nonexistence of Human Races', p. 279 of *Current Anthropology*, 3, 1962.

nomers based their racial classifications, result from the combined action of several genes; the genetic mechanisms and interactions which result in them are, as yet, less simple to follow than those governing such traits as blood types, some of which will be mentioned briefly below.

STATURE

Many factors – hereditary, endocrine, environmental and dietary – influence a person's stature and physique. Environment is without doubt the most important of these factors, although the physique of modern man, who, with his use of clothing and central heating, has created his own, equable environment, is moulded less by climatic factors than were those of his remote forebears.

The nineteenth-century zoologist, Carl Bergmann, was the first to point out that the representatives of a wide-ranging, warm-blooded animal species who inhabit cold regions tend to be bulkier in the body than their cousins in warmer climates.

Early man was evidently no exception to this rule. Most of the hunters and gatherers of Glacial and immediately post-Glacial Europe, living in Arctic and sub-Arctic conditions, appear to have been massive fellows by modern standards. Sometimes tall, sometimes stocky, they seem to have been uniformly heavy-framed; the stone and ivory Venus carvings show clearly that the Europeans of 15,000 and more years ago were also well padded with flesh against the cold.

In contrast, the majority of the peoples associated with the introduction of early Neolithic farming techniques into Europe were typically smaller boned and more finely built than the hefty scions of Ice Age mammoth-hunters amongst whom they settled. The Old Man of Cro-Magnon, burly, big-boned, craggy-skulled and nearly 6 ft tall, would have seemed a veritable Gargantua to most of the small, slender peoples who, from about the sixth millennium B.C. onwards, drove their cattle and carried their grain into Europe. Generations spent under the hot sun would almost certainly have selected in favour of the lean, linear physique characteristic of these immigrants from the Middle East.

Among the living Europeans, stature ranges from 5 ft and below to

6 ft and above. There are today three zones in Europe where individuals standing 5 ft 8 in and above are common:

1. A large north-western area, embracing Iceland, much of Scandinavia, the British Isles, Denmark, the Netherlands, Finland, Estonia, Latvia and a wide tract of northern Germany. Maxima are reached in Iceland, the Scottish Highlands and north-east England, where individuals of 6 ft and more are frequently encountered.
2. A small part of the west Balkans comprising Montenegro and Bosnia in Yugoslavia, and parts of Albania.
3. South-western European Russia, north of the Black Sea.

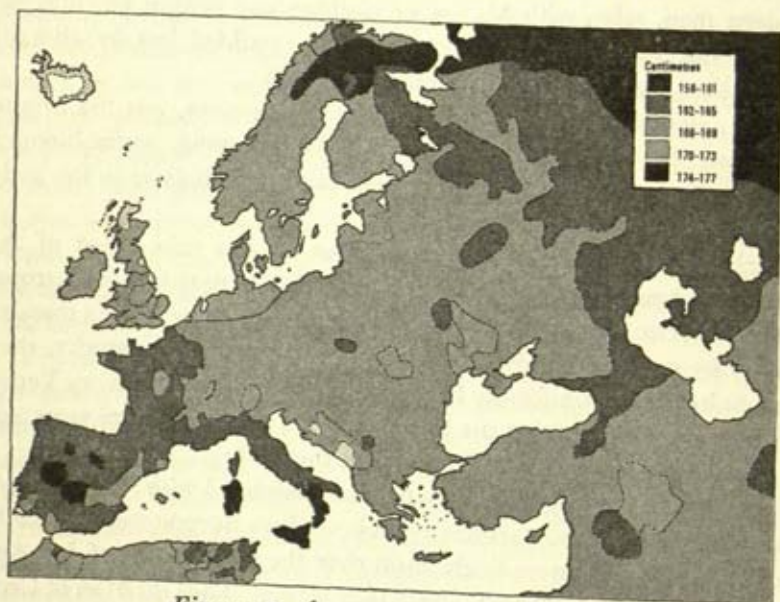


Figure 17. Average statures in Europe

The first of these three zones of high stature and heavy build corresponds very closely with the last portion of the Continent to be exposed by the retreating ice-sheets in post-Glacial times. Although it is impossible that any of the tall, large-framed peoples found in this area are genetically directly or even indirectly indebted for their physique to similar prehistoric types, it may be significant that this

part of Europe was a refuge area not only for relict Stone Age cultures that persisted almost until the introduction of metal, but also for relatively stable populations, many of whose representatives recapitulated the skeletal dimensions of certain fossil forms from the Upper Palaeolithic. Some authorities account for all the taller, rugged north-west Europeans as 'Upper Palaeolithic survivors', and whilst this stretches credibility a bit too far, it certainly seems, from the fossil evidence, that individuals of great body-build have been found in the area from Mesolithic times onwards. Later increments of predominantly tall people may have accompanied the introduction of the Megalithic religion into parts of western Britain and Scandinavia, whilst many of the Battle-Axe folk who settled in Denmark, southern Sweden, north Germany and the east Baltic, were also tall. Still later, the British Isles, the Low Countries and north Germany received substantial influxes of Bell-Beaker settlers, who once again were, on the whole, men of tall stature and generally powerful build.

The possible antecedents of the tall people of the west Balkans must be even more tentatively suggested. The Montenegrins and many of the Bosnians and Albanians are among the tallest and heaviest peoples in Europe; in parts of Montenegro, the average stature is at present 5 ft 10 in to 6 ft, as tall as many of the Icelanders and Highland Scots. Although both Montenegrins and Bosnians now speak Slavic dialects, there can be little doubt that lofty stature was established in the Balkans long before the infiltration of Slavic speech from the sixth century A.D. onwards. Many parts of the Balkans are still very difficult of access, with innumerable valley-communities living in comparative isolation both from each other and from the outside world. It is not altogether unreasonable to suggest that enclaves of preponderantly tall, massive people may have lived in such sequestered areas since very early – possibly even Glacial – times. Later accretions of prevaillingly tall invaders, known from skeletal evidence to have settled in the Balkans in Neolithic and early Metal times, may also have contributed to the already high stature in the region. It is hard, at present, to see why tall stature should be so widespread in this part of Europe, but it evidently has – or formerly had – some local selective advantage.

Many of the Ukrainians living north of the Black Sea are at present the tallest of the Slav-speaking Russians, although they seldom attain such a height as either the north-west Europeans or the Montenegrins and Bosnians. Whilst, as in the case of the Balkan giants, much more skeletal evidence must be examined before we can begin to postulate any historical factors that may have contributed to the high stature of these Ukrainians, they almost certainly perpetuate an ancient local tendency for tallness that very likely antedates the arrival of Slavic speech in the area. They may be in some way derived from the linguistically extinct Scyths and others who ranged the steppes until post-Roman times. The Scyths were, by all accounts, a characteristically tall, strongly built people, who may, in their turn have sprung from metrically similar predecessors whom skeletal evidence indicates were established in the region at least as early as the fourth millennium B.C.

Elsewhere in Europe, although individuals and entire families topping 5 ft 7 in–5 ft 8 in and more occur sporadically (as in parts of Switzerland, the Balearic Islands and eastern Spain), the average stature is nowhere as great as in the three zones discussed above. It must be pointed out, however, that stature has soared appreciably throughout most of Europe during the last century or more and that, as populations are becoming increasingly more mobile and fluid, local discrepancies in physique are tending to disappear.

From the tallest peoples in Europe we drop to the shortest; these are concentrated in the countries bordering the western Mediterranean – territory, incidentally, settled especially thickly in early Neolithic times by immigrants of the fine-boned, diminutive variety epitomised by the Natufians.

Individuals of 5 ft 4 in and below are in the majority in a broad belt of southern Europe from central France south through Spain and Italy to Sicily. Others, only slightly taller on average, are predominant throughout the parts of eastern Europe that constituted the 'Danubian' culture province in early Neolithic times and were densely settled by cultivators of the short, stocky physique still characteristic of many of the Greeks, Bulgarians, Serbs, Croats, Roumanians, Hungarians, Czechs, Slovaks, Russians and Poles. Influxes in later times of squat

Asiatics – Huns, Avars and Mongols – into these now predominantly Slav- and Magyar-speaking areas must surely have emphasised the already short stature that prevailed in the region.

Apart from these historical influences, which, of course, must always be purely speculative, there is no doubt at all that nutritional deficiencies and a low standard of living compared with that enjoyed in most of north-west Europe have contributed to the enduring short stature of the inhabitants of these areas, especially around the Mediterranean. As long ago as 1911, Franz Boas demonstrated how the first-generation offspring of diminutive Sicilians, Neapolitans and Sardinians in America, where living conditions were vastly superior to those of southern Europe as a whole, were almost invariably taller and more robustly built than their parents.

The extreme north of Europe is also inhabited by a small people, the Lapps, whose low stature (5 ft 3 in and below) may be attributable to factors very different from those responsible for the stunted peoples of southern Europe.

The Lapps conform to Allen's rule, which states that the extremities of a warm-blooded animal species subjected, for a period of time, to cold conditions, will tend to be short. The arms, legs, fingers and toes of the Lapps are, indeed, stumpy, as are those of such other Arctic dwellers as the Eskimos and some of the North Siberian peoples.

Although a sudden and dramatic difference in stature between geographically contiguous communities is not in itself enough to merit their being classed as separate 'races', it may (especially when found in association with other factors – somatic, cultural and linguistic – that differ markedly between the two peoples) sometimes be taken to infer that they have not been neighbours for very long. Such a marked discrepancy in stature as exists, for example, between the diminutive Lapps of Finnmark and the predominantly tall Norwegians who surround them, is but one of many somatic differences between the two peoples, differences enabled to persist by cultural, linguistic and, until historically fairly recently, religious barriers. In this particular instance, we have abundant documentary and archaeological evidence that shows that the Norwegians only completed the colonisation of

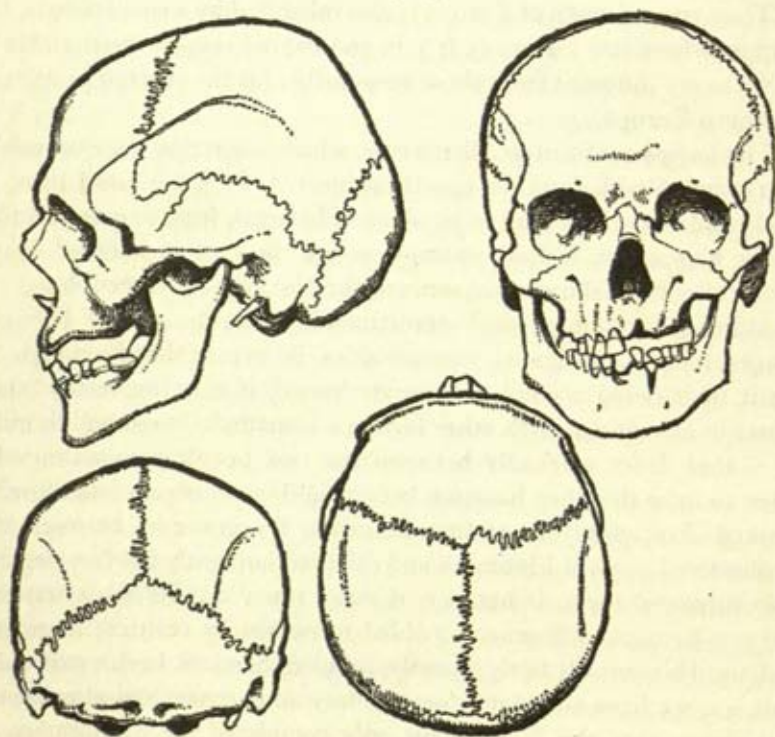
Finnmark – probably occupied by Lapps since pre-Christian times – during the Middle Ages.

HEAD- AND FACE-FORM

It was the Swedish anthropologist, Anders Adolf Retzius, who in 1860 first suggested that the shape of a person's skull might be of more significance in determining his ethnic provenance than the colour of his skin, hitherto regarded as the racial criterion *par excellence*.

Retzius proposed that the 'cephalic index', the ratio between the breadth and length of the skull expressed as a percentage, should be employed in diagnosing whether a head should be classed as long (i.e.

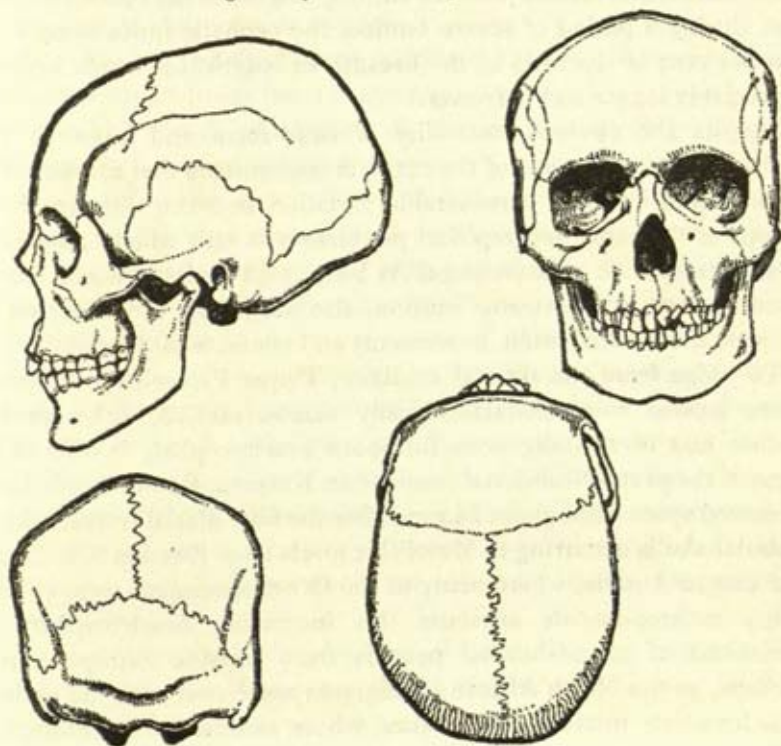
Figure 18. 'Brachycephalic' skull



'Dolichocephalic' – in which the breadth of the head is 75 per cent or less of its length) or broad (i.e. 'Brachycephalic' – in which the breadth of the head is 80 per cent or more of its length). Skulls with a cephalic index of between 75 per cent and 80 per cent were to be classed as 'Mesocephalic'.

We shall in the last chapter see Retzius's ingenious classification of the peoples of Europe into Dolicho- and Brachycephalae on the basis of their head dimensions. Here it is enough to say that the cephalic index soon came to be regarded by nearly all anthropologists as one of the most reliable means of identifying and classifying races, whilst racialists (notably the Nordicists) seized on certain suggestions implicit

Figure 19. 'Dolichocephalic' skull



in Retzius's theory as proof of the superiority of long- over broad-heads.

Later investigations, however, were soon to reveal the instability of head-shape and its limited reliability as a racial diagnostic. The findings of Boas, Shapiro and other American anthropometrists, based on their observations of the descendants of European and Asiatic immigrants in the United States and Hawaii, demonstrated in a most striking way the extreme plasticity of human head-form. Skulls were seen to be capable of undergoing changes in general configuration even in the space of two generations.

It was now clear that factors other than heredity and alleged 'racial provenance' played an important part in determining the form of the human skull. Radical environmental changes, as in the case of the offspring of immigrants in America, can profoundly modify its shape, as can nutritional factors. Russian anthropologists in the 1920s observed that, during a period of severe famine, the cephalic index shrank by two per cent of the ratio of the breadth to length: i.e. heads became appreciably longer and narrower.

Despite the obvious instability of head-form and although the cephalic index is but one of the many measurements that can be made of the skull, its often considerable variation between different local groups of the same geographical population is still widely employed as an intraspecific measurement. As long as its limitations are recognised, it may, with extreme caution, also aid in the identification of peoples, their distribution, movements and contacts in the past.

To judge from the skeletal evidence, Upper Palaeolithic forms of *Homo sapiens* were characteristically narrow-skulled, although the earliest hint of an indigenous European brachycephaly is offered by some of the proto-Neandertal crania from Krapina. Round-headedness advanced apace throughout Europe after the final glacial retreat; short, globular skulls occurring at Mesolithic levels from Sweden to Portugal and east to Austria, where many of the Ofnet specimens were round. Some anthropologists attribute this increasing brachycephaly to incursions of round-headed peoples from outside Europe; such, perhaps, as the North African immigrants associated with the various 'Tardenoisian' microlith techniques, whose assumed progenitors, the

Upper Palaeolithic people of Afalou in Algeria, were partially round-headed. Such theories, however, must remain hypothetical.

The later appearance of round-heads in hitherto prevailingly dolichocephalic country can with more confidence be linked to the attested invasions of characteristically brachycephalic peoples. Thus, the abrupt appearance of large, globular skulls at early Bronze Age sites in Britain has been tentatively attributed to the arrival of the Bell-Beaker folk.

The inhabitants of much of central-northern Europe continued, until the early Iron Age, to be largely long-skulled. Beginning in the first few Christian centuries, however, dolichocephaly began to disappear throughout much of the region. This dramatic shift from long- to broad-headedness, which has affected the entire population of central and eastern, and many of the peoples of northern Europe, may be ascribed to two possible causes:

1. Displacement of the older, dolichocephalic types by substantial influxes of broad-heads from elsewhere.
2. A gradual trend, as a result of still undetermined evolutionary processes, in favour of brachycephaly.

It is possible that both these influences have contributed to the phenomenon of head-rounding in Europe, although there is much more evidence to support the first explanation than the second. Abundant documentary and archaeological evidence testifies to several large-scale influxes in historical times of characteristically brachycephalic Asiatic invaders into the very parts of eastern and central Europe where the tendency towards round-headedness had advanced furthest. The second, evolutionary, explanation for the tendency is somewhat less easy to apply. There is no conclusive evidence for the assumption of many anthropologists that round heads are genetically dominant over long ones and the offspring of dolicho- and brachycephalic unions need *not* necessarily be invariably round- or medium-round-skulled.

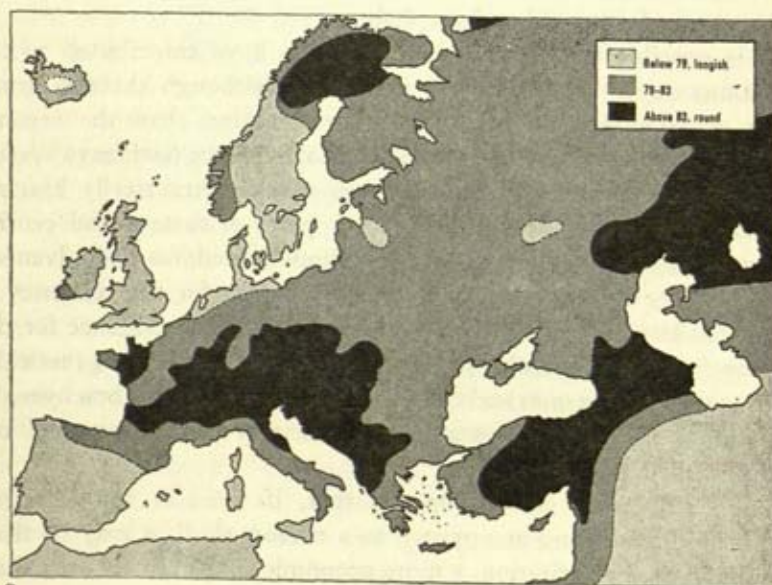
Some authorities have proposed that, if there *is* any selectivity advantage for a round as opposed to a narrow skull, it may be that, as a sphere is, by definition, a more economic shape of container than

an oblong, human skulls may be tending to become broader and rounder to accommodate the mass of the brain and it is sometimes stated as significant that some of the largest-brained of all the living varieties of man, the north Chinese, also have the roundest skulls. There is, however, little justification for this assumption, especially when we recall that many of the 'classic' Neanderthals and some of the Upper Palaeolithic forms of *Homo sapiens*, notably the Cro-Magnards, often housed large brains in hyper-dolichocephalic skulls.

The trend towards brachycephaly in Europe appears to be part of a general tendency that is simultaneously affecting peoples in other parts of the world; it is definitely extending its range in Asia and seems to have been doing so among the American Indians in pre-Columbian times.

The map below shows the relative distribution of head-shapes in Europe at the present time. It will be noted that a belt of fairly long-headed peoples, with cephalic indices of between 76 per cent and 79

Figure 20. Cephalic index in Europe



per cent, still extends from Iceland and the British Isles across Scandinavia and the North German plain to the fringes of the east Baltic.

A second area of long-headedness comprises much of the Iberian peninsula (cephalic indices of 76 per cent and less have been recorded in Portugal), the islands of the western Mediterranean, the toe of Italy and Crete. The Berber and Arab peoples of North Africa are almost exclusively long-headed, with cephalic indices of 74 per cent and below – far narrower than those of most of the living Europeans.

The bulk of the Europeans are, at present, meso-, sub-brachy- or brachycephalic, with cephalic indices of between 79 per cent and 85 per cent. The shortest, roundest skulls are commonest among the mountain peoples of the central region: the northern foothills of the Pyrenees, the Massif Central, the Alps, Carpathians, Balkans and Caucasus, which seem to represent individual cradlelands and diffusion centres of brachycephaly. Round skulls, often with the flattish sides that have earned their bearers the sobriquet 'Square-Heads', are also characteristic of the Finns, the Baltic peoples, many of the Poles and both the Slav- and Finno-Ugrian-speaking Russians. In early Neolithic times, meso- and brachycephalic peoples, including those associated with the so-called 'Comb-Marked' and 'Pitted-Ware' cultures, were widespread in the forests east of the Baltic. The modern north-east European roundheads may perpetuate this locally ancient cranial type, which, with its broad facial dimensions, low-bridged nose and widely-spaced orbits, often presents an incipiently 'Mongoloid' aspect.

Focal areas of high brachycephaly occur in southern France, the old Kingdom of Burgundy, the Hungarian plain, the east Adriatic, the Crimea, the east Caucasus and in territory now occupied by peoples whose fairly recent antecedents lay in further Asia – such as the Kalmucks.

The roundest heads of all are found in Lapland; among the north Swedish Lapps, the cephalic index is often higher than 88 per cent. The occurrence in western Norway, a pre-eminently dolichocephalic country of short-headed enclaves with average cephalic indices of 80 per cent and more, has been explained by Coon as a 'Palaeolithic

re-emergence'. More recently, in 1947, the Swedish Lappologist, Wiklund, has postulated both ethnic and archaeological connections between the round-headed peoples of west Norway and the hyper-brachycephalic Lapps of northern Scandinavia; these connections, he suggests, may have been broken at a very remote prehistoric period.

The bulk of the Gothonic-, Keltic- and Slavic-speaking peoples of the Folkwandering period (*c.* 500 B.C.-*c.* A.D. 500) were long-skulled; typically so were the many Gothonic tribes, including the Bajuvars, who, during the fifth and sixth centuries A.D., settled in central and southern Germany, an area of high brachycephaly today. Of the original Bajuvar colonists, only about 14 per cent were round-headed, as opposed to 83 per cent of the modern Bavarians. Similarly, whilst less than 10 per cent of the pre-twelfth-century Slav-speaking tribes of eastern Europe were brachycephalic, only 15 per cent of all the modern Slav-speakers have cephalic indices of under 80 per cent. Here and there in Russia, small interstices of long-heads are still found, reminders of the once almost universal dolichocephaly in the area, but these are dwindling fast.

The disappearance of dolichocephaly from northern Europe in historical times is, though not as dramatic and all-pervasive as that in the east, an undeniable fact. Even in Sweden, a predominantly long-headed centre since Neolithic times, the tendency towards brachycephaly is slowly but steadily advancing. It has been suggested that the process was accelerated by the large-scale departures from Scandinavia and northern Germany of long-heads during the migration period, the Viking expansions and, later, during the Thirty Years War of the seventeenth century, when quantities of long-skulled Swedes, Danes, Dutchmen and north Germans (formerly, although quite absurdly, believed to be more energetic and adventurous than their stay-at-home brachycephalic brothers) were drained from their homelands.

It is none the less still more realistic to attribute the tendency away from dolichocephaly to selectional pressures, though we can only guess at what these might be. We know, too, that round-headed types have been common in the North since Mesolithic times at least.

In respect of the dense brachycephaly of eastern and central Europe, it may be possible to invoke historical factors. Many of the Neolithic colonists responsible for the introduction of 'Danubian' cultural influences were shorter and rounder in the head than the more exclusively dolichocephalic peoples who implanted Neolithic techniques further west. Later, from the earliest Christian centuries until well into the Middle Ages, the region was infiltrated by considerable numbers of characteristically globular-headed Asiatics, who may certainly be responsible at least for reinforcing the endemic brachycephaly of the area.

Certain anthropologists have proposed that the shortening of the skull, notably in central and eastern Europe, may have influenced the dimensions of the face; noses, according to this theory, have become broader and lower-bridged and chins rounder, notably, as we have seen, among the Slav- and Finno-Ugrian-speakers of the north-east.

There are, however, other areas where short, round skulls have triumphed over long narrow ones without these accompanying adjustments to the structure of the face. As a result, a somewhat asymmetrical head type, combining a large and often positively globe-shaped skull with a long face, strong chin and salient nose, has arisen.

Centres where individuals combining round skulls with long faces are common include the north Balkans, the Carpathians, the Caucasus and Anatolia, all of them, incidentally, mountain regions. Similar individuals, with even more exaggeratedly long faces, hook noses and broad skulls, are ubiquitous in Armenia and Asia Minor. Many of the Bronze Age Sumerians, Babylonians, Assyrians, Hittites and Etruscans were also characterised by their large, round heads, prominent noses and disproportionally long faces, as were some of the Bell-Beaker immigrants who came to Britain from the 1900s B.C. onwards.

It was once permissible to classify all these types collectively as 'Dinarics', and to explain them as the result of hybridisation between local, round-headed stocks ('Alpines') and long-faced, narrow-skulled invaders ('Mediterraneans') in early Neolithic times. Such an historical explanation can neither be confirmed nor denied. All we can say

is that brachycephaly, clearly an old-established European phenomenon, has affected many previously predominantly long-headed populations in a variety of ways and has produced a great diversity of mixed cranial and facial types.

Recent investigations have revealed other differences in the structure of the skull, minuter than such gross dimensions as the cephalic, facial and nasal indices, that also seem to be subject to a certain amount of regional variation. These include the presence or absence of such superficial details as the coronal ossicle, parietal notch and bregmatic bone. Brothwell¹ has attempted to map the geographical frequencies of one such feature – the persistence into adult life of the medio-frontal suture of the skull – throughout the world. His findings indicate that, in Europe, this detail is commoner in specimens from southern Iberia than elsewhere, whilst it appears to be all but absent from the far north – Iceland, Lapland and Arctic Russia.

Head-size

It is hardly necessary to point out that there is no correlation between head-shape and absolute head size; large skulls occur among dolicho-, meso- and brachycephalic peoples. However, as the weight and size of the skull is naturally related to the total body bulk, heavy-framed individuals are correspondingly massive-skulled. The Cro-Magnards and other Upper Palaeolithic men were typical in this respect; their rugged skeletal frames being topped by huge, craggy skulls, many of them with cranial capacities far in excess of the averages found among most living populations.

In Europe, the largest-headed peoples are, as would be expected, the same heavily-built types we have seen to be commonest in Iceland, western Ireland, western Scotland, western Norway, Denmark and other parts of Scandinavia and northern Germany and the Low Countries. Other large-skulled individuals are frequently encountered in the Dordogne region of south-west France, where Coon explains them as an 'Upper Palaeolithic survival', and amongst the Montenegrin,

¹ D. R. Brothwell, 'The use of non-metrical characters of the skull in differentiating populations', *Deutsche Gesellschaft für Anthropologie*, 6, 103, 1958.

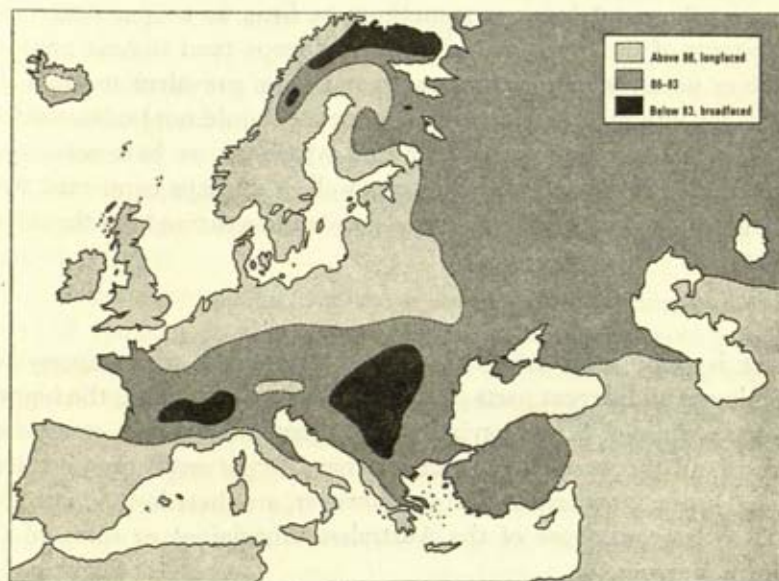
Bosnian and Albanian giants of the Balkans. Historically recent invasions of eastern and central Europe also introduced Asiatic types with the large skulls that are still sporadically met with in Russia and the Carpathians.

The face

The human face is composed of an assemblage of skeletal features, the most important of which are: the frontal bone of the skull, the supra-orbital torus (brow-ridge), the orbits (eye-sockets), the nasal bone, the malars (cheekbones), the mandible and maxilla (jaws), teeth and chin. Striking differences in the structure of these features and in their comparative proportions exist between individuals and local types.

As one of the main functions of the face is to provide a housing for the respiratory passages and the chewing apparatus, such features as the nose, teeth and jaws tend to be modified in response to different environmental and dietary factors.

Figure 21. Facial index in Europe



Noses

Although the noses of Europeans show some variation in form, they are characteristically leptorrhine, or long and thin, in comparison to the platyrrhine (flat, broad) noses of most African Negroes and Australian Aborigines and the mesorrhine (shortish, often snub) noses typical of many east Asiatic peoples. The thin, high-bridged noses of so many western and northern Europeans have often been explained in evolutionary terms as an adaptation to the breathing of cold, dry air. The long nasal passages sheathed by such a nose serve, it has been argued, both to warm and moisten the incoming cold air before it reaches the lungs, where it can cause bronchial upsets and even death. This, however, seems a very dubious explanation, when one considers that the Lapps, the most northerly people of Europe, have the shortest, lowest-bridged noses. Snub, often uptilted, sometimes positively platyrrhine, noses are also characteristic of many of the Slav- and Finno-Ugrian-speaking peoples of eastern Europe, a region of long, intensely cold, dry winters.

At present, both north-western Europeans and the circum-Mediterranean peoples have the thinnest, most prominent noses; east of the Adriatic, the nasal index is sometimes as little as 60 per cent. The inhabitants of the more central parts of Europe tend to have shorter, snubbier noses, which become more and more prevalent towards the east. Here, although Asiatic genetic influence should not be discounted, the general reduction of facial features which, as we have seen, may have affected the shape of the nose as well, is perhaps connected with the widespread trend towards round-headedness throughout the whole region.

Teeth

There is some local difference in the size of the teeth among the inhabitants of different parts of Europe. Naturally enough, the bigger-headed peoples of Scandinavia, Iceland, Scotland, Ireland, south-west France and the west Balkans tend to have larger teeth than smaller-headed types. Nowhere in Europe, however, are there individuals with teeth as large as those of the Australian Aborigines or some of the African Negroes.

The great reduction in tooth-size, which, from Neolithic times onwards, has affected nearly the whole spectrum of humanity, is the result of selective pressures, the most important of which was exerted by the transition from a diet consisting exclusively of meat and tough, wild roots to one based on cultivated (usually ground or otherwise softened) vegetables. It is significant that the smallest teeth are to be found amongst the peoples of central and eastern Europe and the Middle East, the very localities which first underwent the change from a hunting and gathering to a crop-raising economy.

Peoples still living in a Mesolithic cultural state (such as the Eskimos and Australian Aborigines) use the teeth as tools for gnawing, tearing and manipulating substances other than food (i.e. hides, root-fibres, etc.); this secondary use of the teeth was gradually abandoned with the adoption of hand-held implements.

Some of the backward mountain-peoples of the Dinaric range – the Albanians and Montenegrins – are among the last of the Europeans to retain the level-bite, in which the incisors of the two jaws meet edge-to-edge. The level bite was characteristic of most of the Europeans (as it still is of most of the living hunters and gatherers) until medieval times.

Elsewhere, in all but the most sequestered rural parts of Europe, the level bite has given way to the overbite, in which the upper incisors bite in front of the lower incisors. The overbite was originally an adaptation to a change in eating habits occasioned by the supplanting of a largely meat diet by one consisting predominantly of cereals and vegetable matter.

The importance of the incisors as rending and tearing tools was gradually reduced as the molars became increasingly used for the grinding and chewing of grain. The tips of the incisors, which, among primitive hunting peoples, became worn down with constant use, now overlapped, as they do among all modern peoples whose diet consists of soft, largely vegetable foods.

The old edge-to-edge bite held on in the remoter parts of western Europe – where the teeth themselves remained comparatively large – until less than 1,000 years ago; English skulls bearing incisors that

meet in a level bite have been dated to well after the Norman Conquest.

(It may be significant that the very parts of Europe where the edge-to-edge bite either still exists or has only historically recently been supplanted by the overbite are those where the dental fricatives (the *th*-sounds) are, or were until fairly lately, still found as phonemes in the local languages, i.e. Lappish, Icelandic, English, some varieties of Scandinavian, Frisian and Finnish, all the Keltic languages, Basque, Castilian Spanish, Greek, Albanian and certain other Balkan dialects. It is certainly easier to pronounce the *th*-sounds with incisors that meet in a level bite than with those that overlap and there is evidence that strongly indicates that these phonemes are disappearing from languages whose speakers made the transition from the level to the overbite more than 1,000 years ago; the process has already begun in some English dialects, notably those of London and Kent. cf. the Cockney: *muver* and *fink* for *mother* and *think*.)

The shape and size of the teeth have even more bearing on the overall form of the face than has the skull. Peoples with large incisors and low-bridged noses, such as many of the east Asiatics, tend to have broad faces with widely spaced features. Most Europeans, with their thin noses and comparatively small teeth, are typically long and narrow in the face. The circum-Mediterranean peoples and north-west Europeans are notably thin-faced; the shorter-nosed inhabitants of central and, especially, eastern Europe tend to be broader faced.

PIGMENTATION

Skin

Although the skin colour of every human being is conditioned by the presence in the skin of two colouring factors – melanin and the red haemoglobin of the blood – these differ in their comparative influence on the pigmentation of individuals and of geographically separated groups.

Melanin is a dark-coloured chemical substance, deposited in granular form in the lower strata of the epidermis. It is produced by cells, melanocytes, which are distributed throughout the skin covering of the body and are stimulated by ultraviolet light into manufacturing

quantities of this pigment. The prime function of melanin seems to be to screen the deeper layers of the skin from overpenetration by ultraviolet rays which may damage the living cells.

In many peoples long resident and thus adapted to living in areas of strong solar radiation, such as parts of central Africa, southern India, much of Australia and Melanesia, the epidermis is so saturated with this pigment that the skin appears to be dark brown or almost black. Although, in common with all human beings apart from albinos, Europeans have the ability to produce more melanin (i.e. to tan) when exposed to strong sunlight, most of them are, on average, paler than many tropic dwellers. There is, however, no justification for calling them all 'white'; a considerable spectrum of skin colours occurs in Europe, ranging from the tawny and olive-skinned brunets of the Mediterranean and Balkan areas, through a series of gradations to the fair-skinned peoples of the north, although these too can tan mahogany brown in summer.

Whilst there is no evidence to suggest that the skins of any of the Europeans contain fewer actual melanocytes than those of, say, African Negroes or Papuans, it is clear that there must be some difference between the distribution and concentration of the pigment particles in the epidermis of most Europeans and in those of peoples who are darker-skinned at birth, even before exposure to sunlight.

We have, of course, no grounds for assuming, as some authorities have, that the skins of our Middle Pleistocene predecessors were dark, but it is at least possible that the pale skins of so many Europeans reflect a reduction in pigmentation that may have taken place in Upper Palaeolithic times as a response to certain selectional pressures exerted by sub-Arctic living. Two factors may have contributed to this gradual loss of skin colour:

1. A gradual decrease in the melanin-forming properties of the skin in response to a drastic reduction of direct sunlight; this would allow deeper penetration of ultraviolet rays, responsible for the formation of Vitamin D, into the lower layers of the skin.
2. The early adoption of clothing as protection against the severe damp and cold of Glacial times.

With regard to the first factor, it is significant that those peoples at present occupying the parts of Europe which have the longest winters and the least sunshine (i.e. the circum-Baltic/North Sea region) are the fairest in skin, hair and eye colour.

With regard to the second factor, that of clothing or the artificial insulating of the body against the environment, there is plentiful archaeological evidence to show that flint tools which can only have been employed for the scraping and preparation of animal hides for use as clothing were made in Europe by both Neandertal man and our more direct ancestors as early as the last Interglacial, 70,000 or more years ago. With the adoption of clothing, the survival value of melanin in the skin was reduced and mutations leading to a gradual decrease in pigmentation were able to take place unimpeded over a wide area.

Hair

Melanin is also responsible for the colour of the hair. Pigment particles are concentrated in the central shaft (medulla) of a hair and, in dark-haired peoples, are also present in the cortex or outer shaft.

Whilst brunet hair is genetically dominant over fair hair (the original hair colour of our species may be assumed to have been dark), widespread local mutations towards blondism have taken place in Europe and elsewhere, although hardly in response to the same climatic factors that brought about the depigmentation of the skin. There is no apparent selective advantage in fair hair; many of the peoples of north-east Asia, who seem to have been subjected to particularly rigorous selectional pressures to a sub-Arctic environment in Ice Age times, have retained their black hair, as have many of the Lapps of northern Scandinavia.

Blondism, although not confined to the Europeans (it occurs sporadically among the Berbers of North Africa, some of the Australian Aborigines, and is said to have been almost universal among the extinct Guanches of the Canaries), reaches a maximum concentration in parts of our continent. It may have originally arisen as a result of local mineral deficiencies or, possibly, endocrinal factors, before spreading, as a harmless mutation, throughout the population of a wide area.

Despite many ingenious suggestions proposed by anthropologists attempting to explain blondism in evolutionary terms, fair hair need not necessarily have any adaptive value whatsoever. Like certain other striking phenotypical human features – the thick lips of Negroes or the yellowish skins of many east Asiatics, for example – blond hair may be merely an incidental by-product of some other important selectional factor at present unknown to us. Blond hair is evidently very ancient in the parts of Europe where it is still conspicuous; most of the occupants of Danish tree-trunk coffins dating from the Bronze Age (c. 1500–400 B.C.) were found to be flaxen-haired. There is historical evidence that blondism was formerly much more widespread than it is today. The Scyths, the ancestral Slavs and the apparently Europid Hiung-Nu mentioned by ancient Chinese chroniclers as inhabiting the western marches of China, were all described as fair or 'yellow' haired.

True blondism, usually associated with light-coloured eyes and skin, is now restricted to the Baltic peripheral area in Sweden, Norway, Denmark, the Netherlands, north Germany, northern Poland, Finland, the Baltic States and the western part of European Russia; in effect, the last part of Europe to be exposed from the receding Pleistocene ice-sheets. Even with this nucleus, 'fast' blonds, i.e. individuals who retain their blond hair after childhood, are the exception rather than the rule.

Outside this area, truly blond-haired individuals are everywhere in the minority and dark hair becomes increasingly the norm as the Mediterranean is approached, being wellnigh universal in Portugal, Spain, the Balearics, Sardinia, Sicily, the toe and heel of Italy, and Greece. Brunet hair is also the rule among some of the peoples of extreme eastern Europe including the Samoyeds and 'Turko-Tartars'. The Lapps, too, are prevailingly dark, as are many of the Highland Scots, Irish, Welsh and Cornish. Dark hair was not, however, necessarily characteristic of the Iron Age Kelts, and it is quite wrong to refer, as many still do, to the strong brunet element in Britain as being of 'Keltic' inspiration; dark peoples were probably established in these islands long before the arrival of the Kelts.

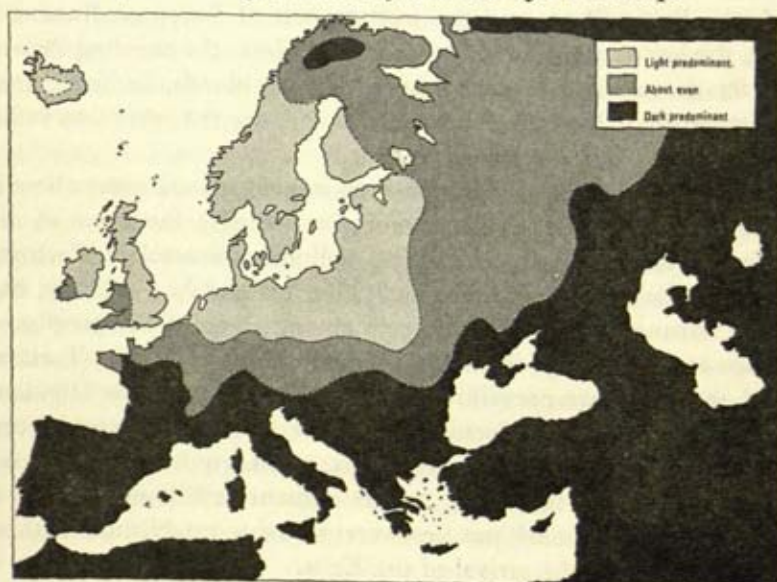
Red hair is nowhere common; even in the Scottish Highlands, where it is believed to be characteristic, only about ten per cent of the population is red- or reddish-haired.

The texture of the hair of most Europeans is fine, and grows straight, wavy or curly; lank, coarse hair, which appears to be genetically dominant over fine-textured hair, occurs only in those parts of Europe infiltrated by Asiatics. The 'woolly' hair characteristic of African Negroes occurs in Europe only as a chance mutation and is liable to crop up anywhere.

We Europeans are, on the whole, more hirsute than either the African Negroes or most Asiatics. Individuals displaying an abundance of facial and body hair are especially common in central Europe, less so towards the east although splendidly bushy beards were cultivated by the old Russian *muzhiks*.

The decrease in hair pigment in old age and male-pattern balding are both more widespread in Europe than elsewhere; they may, like

Figure 22. Pigmentation of hair and eyes in Europe



the depigmentation of the skin, be ultimately attributable to the prolonged use of head-covering as a protection from the elements, but other factors may be involved.

Eyes

Melanin, the same pigment that influences skin and hair colour, is also present in the iris of the eye. Different concentrations of pigment in the iris make the eye appear grey, green, blue, brown or almost black. A dense concentration of pigment in the iris acts as a filter for ultraviolet light that might damage the retina, and the eyes of peoples living in high sunlight are thus almost always dark brown.

In contrast to brown eyes, in which the iris is saturated throughout with melanin, blue eyes are pigmented only in the back layers of the iris, whilst the irides of apparently grey or green eyes are only slightly more heavily pigmented. Although recessive mutations resulting in light-coloured eyes occur in all the geographical varieties of man, they are nowhere as common as among some of the peoples of Europe. The widespread occurrence of light eyes in Europe evidently resulted from a series of mutations, perhaps similar to, or identical with, those responsible for blondism – which, under Glacial and post-Glacial conditions, were not selectively disadvantageous.

Contrary to popular belief, fostered by the persistent myth of a legendary blond, blue-eyed 'Nordic' or 'Aryan' race, the colouring of the hair and of the eyes are by no means inseparably linked but inherited independently of one another. There appears to be a definite discrepancy in the distribution of hair and eye colour in Europe; whilst blond, light-eyed individuals are plentiful in Sweden and Norway, brown-eyed blonds are common in Poland and White Russia and blue-eyed brunets are frequent in Britain, especially in Ireland. Nevertheless, the distribution of light hair and eyes is approximately the same, both are concentrated in the north of the Continent and both are rare around the Mediterranean.

The relatively high incidence of colour-blindness among the Europeans and some of their Near Eastern neighbours may ultimately result from the early transition made by their forebears from a hunting

and foraging to a food-producing mode of subsistence: efficient colour-vision being of less crucial survival value to the crop-raiser than to the game-hunter. Similarly, there is a higher incidence of myopia, or short-sightedness, among the peoples who first made the switch to a food-producing economy (such as the Europeans) than among those who depended until more recently on hunting and fishing.

BLOOD-GROUPS, ETC.

Besides such observable features as stature, pigmentation, skull-form, etc., the significance as evolutionary traits of such invisible factors as the blood has long been recognised. In contrast to the morphological features discussed above, the mode of inheritance of these genetic characteristics is simple. Whereas, for example, such factors as stature or eye colour seem to be determined by multiple genetic equations, 'polygenes', the four main blood-groups are conditioned by a mere three alleles on the same chromosomal locus.

It was in 1900 that Karl Landsteiner first discovered that human blood was not, as previously supposed, universally the same, but that there were at least four types of blood, each possessing different chemical properties that reacted violently with each other if mixed. Landsteiner found that, when blood taken from one person was transfused into the blood-stream of another, the result was often dramatic and sometimes fatal to the patient; the red corpuscles of one blood-type, instead of mingling freely with those of the other, agglutinated, or fused together in clumps. This clumping was caused by antibodies in the serum of one blood-type acting on the red corpuscles of the other.

Four blood-types, named A, B, AB and O, were immediately identified. Continued research revealed the existence in the blood of several other properties, inherited quite independently of the A, B, O system, such as the M, N, S and U groups, the Lewis, Lutheran, Kell, Kidd and Duffy systems and the complicated Rhesus series. According to Snyder in 1955, 43,200 different blood-types have now been isolated.

Although the adaptive significance of the blood-groups is still

imperfectly understood, they seem to be connected in some way with immunity from or susceptibility to certain diseases; people with one type of blood appear to fall prey more easily to some complaints than do those with another. It has been suggested that the high occurrences of blood-groups A and B in Europe and India respectively arose as the result of an immunological reaction to bubonic plague and smallpox, and it is significant that the most complicated blood-group patterns occur in tropical areas where contagious diseases are rife. Although the different blood-groups need not themselves be the cause of susceptibility or immunity, it is possible that they reflect in some way other chemical properties in the body that are.

The global distribution of the blood-groups was found to correspond very haphazardly with the racial divisions of man as these were formerly conceived. Thus, blood-group A occurs not only among Europeans, Asiatics, Africans and American Indians, but also among many species of monkey and some of the anthropoid apes – although similar blood-types in man and his animal cousins are not always chemically exactly the same.

Clearly the use of blood-groups as evidence of ethnic kinship between peoples has its limitations. However, a number of very intriguing theories based on blood-group distribution among such geographical populations as the Europeans have been proposed. Some authorities have gone so far as to intimate possible and otherwise unsuspected genetic connections between widely separated peoples on the grounds of similar blood-group patterns. Whilst such suggestions should always be regarded as speculative in the extreme (we still know very little about the precise function of the blood-groups and why they differ from one population to another) a few of them should be noted here; time and further investigation may prove them to be substantially correct.

Comparative frequencies of the A, B and O blood-groups in Europe

1. (Very high A, medium B, low O)
Lapland.

Some physical traits and their distribution in Europe

2. (High A, low B, high O)
Southern Scandinavia, eastern France, western Germany, western Spain and Portugal.
3. (Low A, very low B, very high O)
Iceland, Ireland, Scotland, northern England, north Wales, the Swedish Baltic Province of Ångermanland, Brittany, the Basque country, Corsica, Sardinia, the toe of Italy, central and northern Italy, Armenia.
4. (Medium A, low B, high O)
England, Denmark, northern Scandinavia (excluding Lapland), most of western continental Europe.
5. (High A, medium B, medium O)
Central Finland, Hungary and western Roumania, Bulgaria, Turkey.
6. (Low A, low to medium B, high O)
North Africa, southern Spain, Sicily and extreme southern Italy.
7. (B increasing, A and O decreasing)
Central Europe, eastwards from a line roughly between Stettin and the Adriatic.
8. (Very high B, low A and O)
Russia east of a line roughly from the White Sea to the Caspian.

Of the A, B, O groups, O is far and away the most common among peoples of European descent; it occurs in from 46 per cent to 75 per cent of subjects and is followed by A (between 5 per cent and 40 per cent) and B (between 4 per cent and 18 per cent).

In Europe, blood-type O attains a maximum concentration in such peripheral areas as the so-called 'Keltic fringe' of Britain, the Basque country and the Caucasus. It may be that this blood-group, associated as it is with the ethnically very stable populations of these regions, is of greater antiquity in Europe than the other major groups, A and B.

Blood-group A is high in western Europe, especially so in Scandinavia and the Pyrenean, Alpine and Carpathian mountain-systems. Its concentration in these comparatively marginal areas suggests that it, too, is a very ancient local blood-type.

The relatively high incidence of blood-group B in eastern Europe has been attributed to the numerous incursions of Asiatics during the Middle Ages. This blood-type has its nucleus in central Asia and becomes increasingly rarer towards the west of Europe, reaching a minimum of less than three per cent among the Basques.

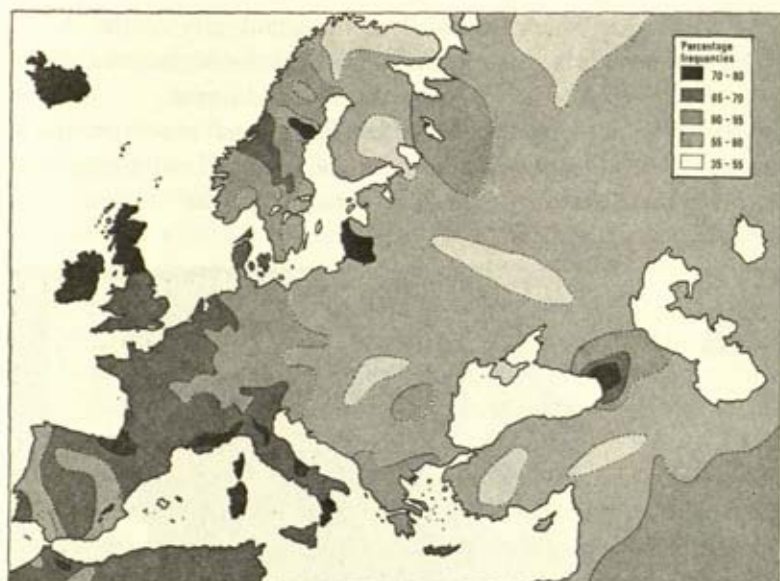


Figure 23. Distribution of blood group O in Europe



Figure 24. Distribution of blood group A in Europe

Some physical traits and their distribution in Europe

The M factor, which is inherited independently of the A, B, O system, also occurs in eastern Europe, whilst the highest incidence of N is found among the Lapps of northern Scandinavia.

Sporadic, isolated occurrences of locally unusual blood-groups have sometimes been interpreted as: 1, vestigial traces of relict populations, or 2, evidence of past invasions from outside the area.

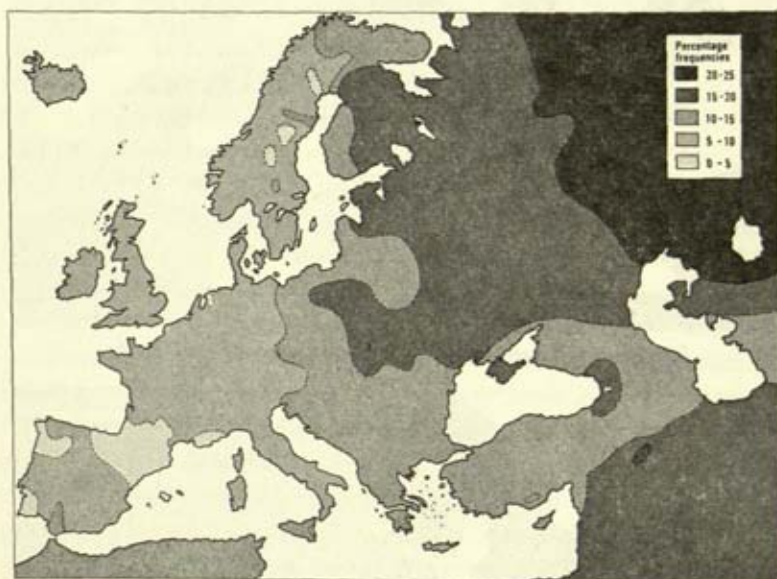


Figure 25. Distribution of blood group B in Europe

Thus, Mourant and Watkin suggest, on the basis of similar blood-group frequencies, the possibility of a very ancient genetic connection between the Keltic-speaking peoples of Scotland, Ireland and Wales and the Hamitic-speaking Berbers of North Africa, thus reviving the old speculation that the Keltic languages may still preserve elements of an originally non-Indo-European speech introduced from North Africa to Europe in Neolithic times. The same authorities also tentatively propose that the high B blood frequency in a small area of east Carmarthen in south Wales may be a vestigial remainder of a

locally extremely ancient, even Palaeolithic, population. (Fleure, Coon, and other authorities, incidentally, using different criteria, also claimed to recognise 'Pleistocene survivors' in Wales.¹)

It was noticed some thirty years ago that there are distinctly higher incidences of the O and B blood-types in north Wales amongst individuals with such Welsh surnames as Evans, Morgan and Jones than amongst those with English surnames, who show higher incidences of the A and AB blood-types. Although this can hardly be taken as evidence that blood-types are inherited along with, or in the same way as, family names, it suggests that socio-cultural (here probably denominational) and linguistic barriers have tended to segregate Welsh-speaking from English-speaking families in north Wales. Similar gene-frequency differences determining blood-types have been shown to exist in other bilingual or bi-denominational areas on the Continent, such as parts of Switzerland, Alsace-Lorraine and Belgium.

Again in Wales, a sudden local increase in the incidence of blood-group A in west Pembrokeshire has been interpreted as a legacy of Scandinavian settlement hereabouts in Viking times, a settlement known, from historical and toponymic evidence, to have taken place.

The high incidence of blood-group O in Iceland has been taken to support the saga testimony that the island was settled not merely from Norway (where O is rare) but to a large degree from the Scandinavian colonies in the Gaelic-speaking parts of Scotland and Ireland, where O is common.

Blood-group evidence has also done much to dispel the conception of the Jews as a race apart. Extensive investigations have shown clearly that 'Jewish blood', with few exceptions (e.g. the rigorously endogamous Jewish community of Rome), conforms to the blood-group pattern of the surrounding, non-Jewish population.

Some of the east European gipsies, on the other hand, often retain blood-group frequencies that approximate those of north-west India, their evident centre of dispersal, more closely than those of the Europeans among whom they wander.

¹ See A. R. Mourant and I. M. Watkin, 'Blood groups, anthropology and language in Wales and the Western counties', *Heredity*, vol. VI, 1953.

The Basques of Pyrenean Spain have a notably high incidence of the recessive blood-type known as Rhesus-negative. If a Rhesus-negative woman conceives a Rhesus-positive child (the father being Rhesus-positive), antibodies set up by the mother's system destroy the red cells of the foetus, which usually dies of haemolytic disease.

It has been proposed that the Rhesus-negative blood factor may once have been more widespread in western Europe than it is today, and that its present dwindling restriction to the Basques (whose pre-Indo-European language suggests they are an extremely ancient local population) represents the final stage in its eradication by intermixture with incompatible, alien blood-types introduced to Europe by later immigrants. High frequencies of Rhesus-negative have also been reported from isolated mountain communities in Switzerland, where, as among the Basques, correspondingly high frequencies of O and low frequencies of B occur. It would be rash to conclude from this that the Basques, the mountain Swiss and others with similar blood patterns are derived from a single ancestral stock; it is more likely that they represent the effects of identical genetic processes.

Certain restricted European populations also show hereditary blood abnormalities, such as the form of haemolytic anaemia known as thalassemia or Cooley's anaemia. This abnormality, found in Europe almost exclusively around the fringes of the Mediterranean, also occurs widely throughout south and south-east Asia. In Europe, the densest concentration of individuals with Cooley's anaemia occurs around the Comacchio lake on the west side of the Gulf of Venice; the abnormality is also found in certain parts of Greece, Cyprus, Sicily and Corsica and throughout Italy. There seems to be little doubt that the condition known as thalassemia minor, resulting from the possession of only one thalassemia gene, has a selective advantage in that it protects its owner to some extent from malaria – a disease prevalent in all those parts of Europe where Cooley's anaemia occurs. Individuals who inherit thalassemia genes from both parents, however, fall victim to severe anaemia.

Like thalassemia, the 'Sickle Cell Trait', another type of haemoglobin

abnormality, has a selective advantage when the genes determining it appear in a homozygous condition. A double dose of 'Sickling' genes, however, inherited from both parents, is invariably fatal. The condition, which is named after the distinctive shape of the red corpuscles when placed in an oxygen-free medium, either reached the Mediterranean basin by transmission from tropical Africa or arose here independently as an immunological response to malaria. In Europe, 'Sicklers' are almost entirely restricted to parts of Greece, Turkey, Sicily and southern Iberia.

It is in this part of Europe, too, that high incidences of such afflictions as favism (a haemolytic anaemia induced in susceptible subjects by the eating of broad beans) and familial Mediterranean fever occur. Both seem to be endemic in malarial districts and both, like Cooley's anaemia and the Sickle Cell Trait, presumably confer some adaptive advantage on individuals who inherit the genes responsible from one parent only. Neither of these conditions is found away from the periphery of the Mediterranean.

The Mediterranean basin is also the focal point in Europe of yet another blood abnormality, a deficiency in the red corpuscles of the enzyme Glucose 6-Phosphate Dehydrogenase (commonly abbreviated to G6PD). Individuals displaying this deficiency are found most frequently in Greece, including Crete, the south Balkans, the toe and heel of Italy, Sicily, Sardinia, the Gulf of Venice and southern Portugal.

Apart from the different properties of the blood, of which only a sample of the most conspicuous are mentioned above, the frequency-pattern of many other biochemical body constituents differs in various parts of Europe. The selective significance of these, although it undoubtedly exists in every case, is often baffling, to say the least.

Thus, while some authorities have been able to explain quite convincingly the ability of certain Baltic peoples – notably the Lapps – to taste the bitter chemical phenyl-thio-carbamide (P.T.C.) as an adaptation to available sour-tasting foods, no one has yet satisfactorily explained why there should be more 'secretors' (people who secrete in

their urine and saliva the same antigens as carried by the ABO blood-types) in Finland than elsewhere in Europe. Neither has anyone so far attempted to account for the fact that Europeans tend to secrete less of the B-amino-isobutyric (BAIB) constituent in their urine than do most Asiatics, American Indians and Pacific Islanders, nor why the Hp' gene, responsible for a certain type of 'haptoglobin' or haemoglobin-binding agent, should be more common in Europe than in Asia.

Plotting the distribution patterns of hereditary physical traits in human populations is not regarded by the modern genetically-orientated anthropologist as an end in itself nor as a means of identifying different 'races', but as an important step towards understanding some, at least, of the selective factors that have moulded, and continue to mould, our species in its many and varied environments.

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The living Europeans

Anthropologists in the past tended to describe the inhabitants of individual countries in terms of the relative proportions of identifiable 'Racial types' of which they were believed to be composed. Thus Haddon, writing of the Italians: 'The Alpine Race occurs in the basin of the Po, between the Apennines and the Alps. . . . The Mediterranean Race occupies the peninsula' and 'there are traces of the Northern Race in Lombardy'.¹

The aim of the modern population geneticist is, on the contrary, not to sift out the imaginary 'racial ingredients' of the inhabitants of a given area, but to attempt to explain the distribution in that area of gene frequencies and trait variations in the light of the relevant selective and adaptive forces that may have brought these distributions about. Historical events too – immigrations, emigrations, cultural contacts and the like – when these have been satisfactorily documented or reconstructed, must also be considered, for they may have contributed as much to the existing genetic composition of a particular population as have selectional factors.

In the present section, a rapid country-by-country survey of the living peoples of Europe, the inhabitants of each country are considered precisely in the light of these factors – the selectional and the historical. They are dealt with separately purely for the sake of convenience; there need, of course, be no correlation whatsoever between the distribution of hereditary physical traits and the boundaries of national states – ancient or modern – or between gene frequencies and linguistic, religious or other cultural entities.

THE LAPPS

The territory of the Lapps,² only a few thousand of whom are still full nomads, stretches across the northern extremities of Norway, Sweden, Finland and the Russian Kola peninsula, and lies almost entirely north of the Arctic Circle. Discounting the semi-permanent mining, whaling

¹ *Races of man and their distribution*, Milner and Co., p. 46.

² The name 'Lapp' is not their own; it may have been given them in early medieval times by north German traders, in whose Plattdeutsch 'Lappe' means 'simpleton'.

and trapping populations of such archipelagos as Jan Mayen and Spitsbergen (Norwegian), Novaya Zemlya and Franz Josef Land (Russian), the Lapps are the northernmost inhabitants of Europe.

Although they have for generations intermarried with the surrounding *Laddek*, by which somewhat derogatory name they refer to non-Lapps, many individuals still display what seem to have been the physical features typical of the Lapps before they came into contact with their present Scandinavian, Finnish and Russian neighbours. They are among the shortest people in Europe and among the roundest-skulled. The characteristic Lapp skull is broad and globular, the nose low-bridged and snub, the eyes widely spaced, the chin narrow and poorly developed and the malars raised and somewhat flaring. The resulting very broad face is especially conspicuous among female Lapps.

The early Lapps appear to have had uniformly dark, lank hair and dark eyes, although most present-day Lapps are light brown- or even blond-haired and grey- or blue-eyed. Their facial and body hair is sparse and they seldom grey with age. The Lapps show exceptionally high incidences of the A and N blood-groups and have a high percentage of PTC tasters.

Although they have the noticeably short arms and legs and small hands and feet characteristic of other Arctic dwellers, the Lapps display fewer of the extreme body specialisations to life in the intense cold than do the Eskimo and some east Siberian peoples, though this need not necessarily imply that they are newcomers to the far north. They have, indeed, developed at least one form of cold-adaptation that has not yet been noted in any other Arctic people. This is the ability to transfer warm, outgoing blood from the main arteries of the arm and lower leg to the accompanying veins by means of a network of small capillaries. The venous blood is thus warmed, the hands and feet are kept cool and heat is saved. Because of this, the Lapps can endure exposure to very low temperatures in which most Europeans would fall victim to frost-bite.

Although the Lapps now speak a series of dialects akin to Finnish and Estonian, there is reason to doubt whether this was their original

tongue. Historically, too, they must be considered distinct from either the Baltic or the Volga Finns. Despite their highly individual blood-group patterns, which show them not to be closely akin to, or derived from north-east Asiatics – as was once supposed – some Lapp types do undeniably bear a superficial resemblance to such peoples as the Samoyed of north Siberia.

Conflicting theories about the ethnogeny of the Lapps still abound. The late Professor Wiklund hailed them as the stunted remnants of the Mesolithic people responsible for the relict Komsa Stone Age culture of Arctic Scandinavia, whilst Professor Schreiner believed that their remotest origins were to be sought somewhere in the Ural region of central Russia, whence, in prehistoric times, they broke from their possibly Samoyed-like kinsfolk and migrated to their present location. Professor Czekanowski claimed to recognise strong 'Lapponoid' somatic traits in the inhabitants of Poland, inferring that peoples resembling the present-day Lapps were once found in central Europe. The Norwegian Bryn and the German von Eickstedt both held that the Lapps were originally a 'proto-Alpine' stock, of central European derivation, who were forced into northern Scandinavia under pressure from 'Nordics' from Neolithic times onwards.

Whatever their remote origins, people physically resembling the Lapps have, to judge from skeletal evidence, been in northern Scandinavia at least since the earliest centuries of the Christian era. There is plenty of archaeological and other evidence of their once having occupied much of coastal Norway as far south as Romsdalen – Adam of Bremen reported in the eleventh century that the *Skritefingi* (Lapps) came down at certain times into central Sweden – whilst place-names of apparently Lappish origin have been identified in southern Finland and the Onega region of Russia.

SCANDINAVIA

Apart from the Finns and Lapps, the Gothonic-speaking inhabitants of Scandinavia, the Norwegians, Swedes, Danes, Icelanders and Faeroe Islanders, must be regarded as a culturally, linguistically and, to a large extent, ethnically homogeneous group of peoples.

Throughout recorded history, there has been far more movement away from than into Scandinavia; starting with the mass migrations of the Goths, Vandals, Langobards and Burgundians, continuing with the exodi of the Cimbrians, Teutons and Heruleans and with the later excursions of the Vikings, there has been an irregular drainage of people away from Scandinavia, aptly named by the ancients 'The Womb of Nations'. Corresponding movements towards the North have been negligible, with the result that the population of Scandinavia has remained internally very stable since Neolithic times at least.

At a time when more southerly latitudes had, for many centuries, been enjoying the milder climatic conditions that followed the final recession of the ice-sheets, much of Scandinavia was still in the grip of the mile-thick glaciers. By about 8000 B.C., small bands of fur-clad hunters crossed Arctic Denmark and moved on via the land-bridge that then united the Continent with the tundras of Sweden and Norway. Whilst some continued to trek northwards behind the herds of reindeer and musk-ox in the lee of the receding ice, other tribes settled by the shores of the large freshwater lake known to geologists as Ancylus, the forerunner of the Baltic.

These people gave rise to the so-called Maglemoseans, ingenious bone- and horn-workers, who coupled hunting and fishing with the collecting of shellfish and spent the short summers combing the woods, that yearly clothed the land more densely, for vegetable foods.

After many generations, a rise in the sea-level permitted the Baltic to force its way across northern Denmark and southern Sweden to unite with the North Sea. The people of the Danish Ertebølle, or Kitchen Midden period, who succeeded the Bone Age Maglemoseans by about 5000 B.C. were, although less adroit at working horn and bone than their predecessors, able to fashion crude pots of clay, as were their cultural kinsfolk, the people named from roughly contemporary sites at Nøstvet in Norway and Limhamn in Sweden. It seems that at least some of the more accessible groups had already been touched by Neolithic influences from the south, for there is evidence that they knew the rudiments of grain-growing and animal husbandry. To judge

from their remains – often tossed irreverently into the communal rubbish-heap – many of these Mesolithic Scandinavians were broad-headed and many perpetuated the massive, ponderous frames and craggy skulls with prominent brow-ridges and deep jaws characteristic of their reindeer-hunting ancestors; such features are still met with in the North, especially among the Danes and some of the southern Swedes.

Further north, in isolated enclaves along the coastal rim of Norway, the descendants of central European hunters, finding themselves hemmed in between the ice-caps and the sea, gradually abandoned their nomadic way of life and their traditional prey, the reindeer, and turned sealers and whalers. The activities depicted in their crude, but none the less vivid rock-drawings combine with their assemblages of flint tools to show that, despite the enormous cultural advances that had affected the inhabitants of most parts of Europe, primitive Palaeolithic economies, that had long since been forsaken elsewhere, persisted in the far north.

Considering that Norway offered conditions so favourable to the survival of such relict cultures, it is hardly surprising to find, as we do, among the living Norwegians, a large number of individuals who metrically resemble certain rugged, Late Pleistocene types. Whilst it can obviously not be claimed that such people are the lineal descendants of Stone Age hunters, they certainly display a number of skeletal features reminiscent of the Aurignacian Cro-Magnards and even of the apparently partly-Neandertaloid forms from Předmost and Brunn. Heavy-framed, thick-set, large-, often broad-skulled types are frequently encountered along the mountainous and fjord-bitten western fringe of Norway, where, incidentally, brown hair and eyes are also fairly common. These two factors, dark pigmentation and broad skulls, are, of course, genetically unconnected; their occurrence together in parts of western Norway has prompted some authorities to recognise the survival of an ancient, round-headed brunet stock, akin to the central European Alpines – an equation which they emphasise by pointing out that many of the west Norwegians are, like the definitive Alpines, also shortish and stocky.

Neolithic impulses were late to reach the north. The closely related complex of 'First Northern or 'Funnel-necked' Beaker cultures which was widespread across northern continental Europe as well as in southern Scandinavia, was evidently the result of the acculturation of established Mesolithic communities by intrusive farming techniques from the south. Even in Neolithic times, it appears, the Scandinavians were given to immigration. Archaeologists have traced the apparent movements of First Northern agriculturalists south into central Europe as far as Switzerland and Austria and west to Belgium, and there is evidence that they also had connections with Britain, where elements of their distinctive northern culture seem to have fused with those of the local Windmill Hill pastoralists and their like. Inside the North itself, trade links appear to have flourished during the Neolithic; flint-tool-dealers from Denmark, for example, seasonally found their way far up the Gulf of Bothnia to trade with the Arctic dwellers.

By about 2500 B.C., food-producers from central Europe had settled in Denmark and Sweden, where their characteristic collective tombs, stone-slab 'dolmens' under earth mounds, still freckle the landscape.

From about 2200 B.C. onwards, Megalithic cults were brought from Scotland by missionaries to Denmark and southern Sweden, where communal 'passage graves', often containing as many as 100 skeletons, date from this period. Archaeological evidence hints that contacts between Megalithic centres in southern Scandinavia and north Britain were long maintained. There is also evidence that at this time Scandinavians traded far afield in central Europe, where Baltic amber was found in some of the early Bronze Age graves at Aunjetitz.

The degeneration from c. 1650 B.C. onwards of passage graves into the scantily-furnished long stone cists, has been interpreted as marking the intrusion of another pastoral people, the variously named Corded Ware, Boat-Axe or Battle-Axe folk from east-central Europe. These invaders, buried mostly in single graves with their perforated stone battle-axes, seem at first to have avoided the coveted farmlands already settled by the adherents of the Megalithic religion; eventually, however, as testified by hybrid Megalithic Battle-Axe cultural remains, the two elements fused. The single graves of the early Battle-Axe

invaders are distributed most thickly in Jutland and southern Sweden; only later did these newcomers, who are thought to have spoken nascent Indo-European dialects, reach the eastern valleys of Norway.

Individuals skeletally identical with the Battle-Axe folk and with some of the earlier Neolithic colonists, are common in all the Scandinavian countries, especially in central Sweden and eastern Norway. Here, tall, narrow-skulled, long-faced, hawk-nosed types, whose combination of these features with blue eyes and golden blond hair would once have earned them the name of 'Nordics', are frequently encountered. Such characteristics, which are now rarely met with outside Scandinavia, were evidently typical of many central and eastern European populations in pre-Christian times. Although tall blonds are at present commoner in the North than elsewhere, they are, even here, in a minority; there are equally many short, stocky Scandinavians, plenty with round heads and plenty with brown hair and eyes.

It is altogether unlikely, considering their centres of dispersal, that any of the Neolithic and later invaders of Scandinavia arrived with blond hair and blue eyes; these features have very likely been endemic in the circum-Baltic region since post-Glacial times and were no doubt acquired by the descendants of the Battle-Axe insurgents and others from the indigenous peoples.

Compared with many other European countries, the population of Denmark, Sweden and Norway remained relatively static throughout the Bronze and Iron Ages; there were few further incursions from outside to counterbalance the wholesale migrations away from the North; despite the discovery in Denmark of artifacts associated elsewhere with Bell-Beaker cultures, there is no positive proof that the Beaker folk themselves made settlements in Scandinavia on the scale of those in, for example, Britain. Between the fifth and the first centuries B.C., the bearers of Halstatt-inspired iron cultures arrived in small numbers; these seem to have differed physically in no respect from the many tall, narrow-skulled and hatchet-faced peoples whom they encountered in Scandinavia and amongst whom they may have implanted the worship of Odin.

From Bronze Age times onwards, Scandinavians were in inter-

EUROPEAN TYPES IN THE PAST

1, 2 (left) Tollund man, who died in Denmark about the time of Christ's birth; and (below) his compatriot, Skrydstrup woman, who was buried in an oak trunk coffin perhaps a thousand years earlier.

Both have the narrow skulls and long faces that have persisted in the north; further south, in central Europe, skulls have tended to become shorter and faces rounder over the past thousand years.





3 Dacian warriors captured in what is now Roumania. Although from opposite ends of the Roman Empire, these Dacians and the Briton from Gloucester (opposite) may well have fought as legionaries in each other's countries – and married one another's sisters. The warrior to the left, like our living Croat (33) has the combination of short skull, long face and salient nose typical of Balkan populations since Neolithic times at least. Formerly, anthropologists called individuals with such features 'Dinarics'.



4, 5, 6 (left) The sculptured head of a Briton from Gloucester, (right) The head of a Norwegian Viking from the Oseberg cart. (below) Walrus ivory chessmen, probably of Scandinavian work (12th century), found on the isle of Lewis, where Norse was spoken until as late as the 1300s.





7, 8 Two rustics from the low countries; one painted by Breughel (left) in the 16th century, the other drawn by Van Gogh (below) in the 19th. The coarse features of Breughel's shepherd would no doubt have tempted a past generation of anthropologists to hail him as an 'Upper Palaeolithic survivor', whilst the low-bridged nose, prognathous jaw and weakly developed chin of Van Gogh's subject give her a superficially 'Negroid' appearance. This combination of facial features, although nowhere in Europe as common as in Africa, was characteristic of such early European types as the Grimaldians of Southern France.





9 A Swedish Lapp



10 An Icclander from Reykjavik

LIVING EUROPEAN TYPES

11 A Norwegian woman



12 Max von Sydow, Swedish film actor





13 A Dane from Jutland, whose facial features remind one irresistibly of his forerunner, Tollund man (1)



14 A Holstein farmer

15 A Finnish peasant woman



16 A Scots girl from Aberdeen





17 An English schoolgirl



18 Ivor Emmanuel, Welsh singer

19 An English gipsy



20 An Irish turf-cutter from Connemara





21 A young Dutchman



22 A Breton fisherman

23 A Basque fisherman



24 A Spanish docker from Barcelona





25 A Sicilian boy



26 A Swiss mountain guide from Grindelwald

27 An Austrian peasant from the Tyrol



28 A German innkeeper's daughter





29 A Slovak peasant



30 A Polish farm girl

31 A Latvian farmer's daughter



32 A Magyar girl from Hungary





33 A Croat from Yugoslavia



34 A young Greek



35 A peasant girl from Bulgaria



36 Ihsan Sabri Çağlayangil, the Turkish foreign minister, born in Istanbul



37 A Roumanian laboratory assistant



38 A young Georgian

39 The late Yuri Gagarin, Soviet cosmonaut, born in the Gzhatsk district, Smolensk region, where Baltic dialects persisted until well within living memory



40 Tair Shorokov, Kazakh writer



mittent contact, both by land and sea, with distant parts of Europe; the fact that many of them returned to their thinly populated homeland with women captured, purchased or married abroad, must have had at least some genetic influence on the populations of certain of the more isolated areas.

During the early centuries of the Christian era, a number of internal movements appear to have taken place within Scandinavia. One such may have been the legendary removal from central Sweden to the Danish islands of the Danes – who were more likely a small warrior aristocracy than an entire tribe.

Even as early as the second century A.D., the main groupings of Scandinavian peoples, often bearing early forms of the names by which they were known in later history, seem to have already been established. Ptolemy, writing in about A.D. 150, mentions the Eudosioi (Jutes), Kimbroi and Charudes of Jutland, the Daneiones of the Danish Island and southern Sweden, the Finathoi of Finveden, the Goutai (Geats) of Götaland and the Souionai (Swedes of east-central Sweden).

A slow infiltration of the northern parts of Sweden by Kvaens, a Finnic-speaking people first mentioned, as *Cwenas*, by the English King Alfred, continued throughout the Middle Ages, whilst later, formal settlements of Finns proper during the sixteenth and seventeenth centuries left a genetic legacy in parts of central Sweden. In Värmland especially, round skulls, snub noses, ash-blond hair and grey eyes, characteristics more usually encountered east of the Baltic, are still common.

During the heyday of the Hanseatic League, between the thirteenth and sixteenth centuries, north Germans were active in Baltic waters. Many established themselves in the commercial centres of all three Scandinavian kingdoms, where their linguistic and no doubt genetic contribution has been profound.

Of the few other minor immigrations to Scandinavia during recent centuries may be mentioned the influx of French settlers to Sweden after the installation of the Napoleonic Marshal Bernadotte as Charles XIV in 1810 and the later incursions of Belgian Walloons to work in the iron foundries of central Sweden. Both the Danish and the

Swedish nobility have for long maintained family connections with the aristocratic houses of Germany, whilst, since World War II, refugees from the Baltic States, notably Latvia and Estonia, have made their homes in Sweden. All these settlements, however, have been numerically insignificant, and the Scandinavians as a whole may continue to be regarded as one of the ethnically most homogeneous groups of people in Europe. In Denmark especially, where adscription, compulsory lifelong residence in one's native parish, was in force from the 1400s until 1788, the rural population has always been remarkably stable.

Although the Faeroe Islanders and Icelanders resemble the inhabitants of the three Scandinavian kingdoms in most respects, their early histories are somewhat divergent and will be treated separately.

THE FAEROES

The Faeroe islands (*Føroyar*), a Danish dependency lying some 150 miles north of Scotland in the north Atlantic, were first settled by outlawed Vikings fleeing from the tyrannical Christian king of Norway, Harald Fairhair, in the early decades of the ninth century A.D. The islanders (Faerings) speak an archaic Scandinavian language, akin to some west Norwegian dialects, that was not committed to writing until the last century.

Archaeological evidence and place-names corroborate the saga tradition that some of the islands were already inhabited by small communities of Irish anchorites, who had come to the Faeroes (and probably to Iceland) for seclusion late in the eighth century; the monks seem to have been exterminated by the Vikings. The Black Death, which, in 1350, drastically reduced the Faeroese population, was followed by a gradual resettlement of the islands, chiefly from Norway.

The physical resemblance of many of the living Faerings to certain familiar British types is no doubt due to the fact that a large proportion of the early settlers hailed from the Norse colonies in the Hebrides, Man and Ireland, where they had intermarried extensively with the local Gaelic-speaking population.

ICELAND

Many of the Norsemen who settled in Iceland were also from the Viking roosts in north-west Britain, a fact recorded in the medieval *Landnámabók* (Book of the Settlements), which traces the genealogies of some of the leading families who came to Iceland during the ninth century.

The late Dr Bardi Gudmundsson challenged the conventional doctrine, based on saga accounts, that Iceland's Scandinavian colonists were overwhelmingly Norwegian. Although many of them set sail for Iceland from Norway, the bulk of the Norse-speaking settlers were, insisted Dr Gudmundsson, of east Scandinavian (i.e. Danish and Swedish) extraction; more precisely, the majority were descended from Heruleans, a people who left Denmark during the third century A.D. to join their kinsmen, the Goths, in southern Russia. After being dislodged from their newly established kingdom north of the Black Sea by the Huns, the Heruli moved to the Lower Danube, where they were again defeated, this time by the Langobards. A large proportion of the now dismembered Herulean nation then trekked north again to their traditional homeland, which, according to the Greek historian, Procopius, was on 'the island of Thule', beyond the country of the Danes and presumably in southern Sweden or Norway. At the time of the settlement of Iceland, Danish chieftains had extended their rule to many parts of coastal Norway; basing his argument on resemblances between coeval Icelandic and Danish burial customs and institutions, Dr Gudmundsson maintained that it was these chieftains and their predominantly Danish followers, most of them of Herulean ancestry, who constituted the bulk of the Scandinavian element in the settlement of Iceland.

Whether or not further investigations will confirm Dr Gudmundsson's theory, it is safe to assume that men of Danish and probably Swedish birth played as active a part in the colonisation of the Scandinavian north Atlantic outposts as did Norwegians.

Although Scandinavian institutions and the Norse language were implanted in Iceland, the islanders themselves still display many physical traits that are more characteristic of the Scots and Irish

than of any of the modern Scandinavians; an understandable state of affairs when we recall that the Norse colonial families were probably everywhere outnumbered by their Gaelic-speaking retainers.

Strikingly Irish-looking individuals are far commoner in Iceland than the slender, long-headed blonds that one might expect in a Scandinavian outpost. Immense frames, round, craggy skulls (often coupled with very long faces) and hair that is as likely to be dark brown, sandy or even black as fair are encountered throughout Iceland. These features need not be entirely attributable to Keltic influence; hefty physiques, round skulls and brunet colouring are also, as we have already seen, characteristic of western Norway, the homeland of most of Iceland's Norse-speaking colonists. Although the medieval Icelanders were, for the same reasons as their kinsmen in Greenland, a wretchedly stunted people, their descendants today are among the tallest and most physically robust of the Europeans.

The high incidence of blood-group O in Iceland may, on the other hand, be regarded as a legacy of the island's early Gaelic settlers; O, a rare blood-type in Scandinavia, is common among the Irish and Scots.

The fact that the Icelanders, who live as far north as the Lapps and Eskimos, have not developed any conspicuous anatomical adaptations to life in the cold as have these other Arctic dwellers, is understood when we recall that they have only been in their present home for just over a thousand years.

Iceland was but one of the Atlantic outposts of Norway in Viking times, a stepping stone from which the expeditions to Greenland and the east coast of North America were launched. According to tradition, Erik the Red's settlement on the southern tip of Greenland was planted in 985. Archaeologists, notably Helge Ingstad, have confirmed the presence of Scandinavians in Newfoundland and possibly Labrador (the 'Markland' of the Sagas?) around the eleventh century. Evidence of much deeper penetration of the North American continent, as presented by Hjalmar Holand, Reidar Sherwin and others, is in-

conclusive, although Tryggve Olesen's thesis, equating the 'Tunnit' of Eskimo legend with Scandinavians in Labrador and Baffinland, is more persuasive. The Tunnit, described as 'a gigantic race formerly inhabiting the north-eastern coast of Labrador, Hudson Strait and South Baffin island', were none other, insists Olesen, than: 'Icelanders who left the farming settlements [in Greenland] and adopted what we would call an Eskimo way of life'. The Tunnit, proposes Olesen, mingled with the smaller, more primitive people of the so-called Dorset culture (the 'Skraelings' of the Sagas), whom they encountered in north Greenland and the islands of the Canadian archipelago, to produce the Eskimos as we know them today.

Whilst the Norse settlements in North America were short-lived, the Greenland colonies (*Oster-* and *Vesterbygd*) survived for some five hundred years. In the fourteenth century, Greenland's regular lifeline from Norway was discontinued, partly by the Black Death, which drastically decimated the entire population of Scandinavia, and partly by the activities of north German pirates along the Norwegian coast. Climatic deterioration and the encroachment of the Eskimo hastened the decline of the colony. Late fifteenth-century skeletal remains from the old Norse settlements show that the last of the Greenlanders had become wretchedly stunted and deformed through malnutrition and disease.

The present Danish occupation of Greenland dates from the eighteenth century and the modern Greenlanders are of mixed Danish and Eskimo extraction.

THE BRITISH ISLES

The three skull-bones found at a Middle Pleistocene level at Swanscombe in Kent indicate that southern England, at least, was occupied by an early hominid, possibly a remote forerunner of our own species, perhaps as much as 250,000 years ago.

Mousterian cultural remains testify to the presence here, during the Riss-Würm Interglacial, of Neandertalers, whilst both archaeological and skeletal evidence show that more modern-looking varieties of man were probably already here during the first Würm glacial

retreat, at which time most of the broad peninsula that was later to become the British Isles was ice-free and habitable.

Until as recently as the sixth or seventh millennia B.C., these islands were still joined by a wide land-bridge to the Continent; throughout the 500,000-odd years of the Old Stone Age, there was nothing to hinder a regular two-way gene-flow across this bridge.

As the ice-sheets contracted towards the Pennines and Scotland, game-hunters tracked their prey north across a tundra that stretched from the Atlantic coast of Ireland towards Siberia.

In Britain, as elsewhere throughout the whole of sub-Arctic Eurasia, many of these erstwhile mammoth and bison hunters must have settled along the shores and waterways and, as their traditional quarry dwindled, turned to fishing, fowling and foraging in the fresh woods that gradually enveloped the land.

Later waves of immigrants pressed some of the successors of these Ice Age hunters into refuge areas, such as the remoter parts of Wales and south-west Ireland, where, incidentally, individuals are still found whose massive frames, heavy bones and huge skulls match those of certain Upper Palaeolithic types. These rugged Britons can no more be hailed as the lineal descendants of Ice Age hunters than can certain metrically comparable Scandinavians, although it is significant that the areas in which men and women resembling, in their bone-structure, some of the Cro-Magnard specimens, have for centuries harboured relatively isolated and undisturbed populations.

We know, indeed, that an indigenous British blade industry, the 'Creswellian', evidently brought here by Gravettian hunters from central Europe in late Glacial times, survived in such sequestered areas as the Pennines until long after the coming of Mesolithic settlers; this relict Palaeolithic industry was later transplanted to Ireland, where it survived intact for generations. Ireland, especially the remoter west, was frequently cited in older anthropological texts as a refuge area whose inhabitants were believed to perpetuate many of the physical features of such Palaeolithic people as the Creswellians. Other areas where traces of these earliest Britons were often said to linger on in the living local population, were parts of Wales, the

Pennines, Dartmoor, Romney Marsh, the Chiltern Hundreds, the New Forest and the Brandon district of East Anglia, all of them isolated districts.

During the last six thousand or so years before the final rupture of Britain from the parent continent, small foraging bands constantly straggled back and forth across the fenny lowlands that still precariously united these islands with the lands to the east. From the east came Maglemoseans from the Baltic region. They settled on the low-lying coasts of eastern Britain, where they continued to live, as had their forebears in the lands around the Baltic, by beachcombing, and probed inland along the swampy valleys of the eastward-running rivers – Thames, Stour, Waveney, Ouse, Humber and others. Harpoons, eel-spears, fish-hooks and arrow-heads of bone and antler, dropped by these strandloopers as they hunted or made camp on the high ridge that is now the Dogger Bank, are occasionally brought to the surface in trawl nets.

Other immigrants, this time crossing the marshy bed of the Channel from northern France, brought with them characteristic Tardenoisian industries, whilst the south-west was settled by newcomers who crossed from Brittany with Azilian cultural trappings. Once arrived in Britain, Azilian fishermen and oyster-gatherers trekked north along the soggy rims of the Irish Sea, settling the lands on either side and leaving plentiful material evidence of their presence in south-west Scotland. Tardenoisian remains, on the other hand, are characteristically found on sandy uplands where, like their kinsmen in France and the Low Countries, they seem to have subsisted mostly by fowling and trapping small animals. Here and there, contact between the Tardenoisians and Maglemoseans from across the North Sea resulted in hybrid cultures, such as that named from a site at Horsham in Sussex.

In short, at the time of the final inundation of the North Sea Plain, men of kindred ancestry and probably speaking closely related dialects pursued an identical way of life in both Britain and the lands to her south and east. Although the North Sea and the Channel forced a formidable breach between them and their continental relatives, the

inhabitants of the newly severed islands did not remain isolated from the mainland for long.

The first food-producing peoples reached southern England from across the narrow Channel as early as the fourth millennium B.C. Metrically almost identical with so many of the slight, fine-boned, long-skulled Natufians and many of their neighbours in the Near East and North Africa (including the forerunners of the ancient Egyptians), the bearers of the Windmill Hill and related farming cultures had for long been extending their range northwards from the Mediterranean along the ridges and riverways of western Europe. Both these pioneers and later, skeletally similar immigrants, intermingled on British soil with long-established Mesolithic peoples, although intermixture between the newcomers and the natives by no means advanced through the islands at an even pace. Immigration from the lands across the North Sea also continued sporadically. Cultural trappings with analogues in Denmark, northern Germany and even Poland characterise the early Neolithic in eastern England, where they are found alongside more characteristically west European forms introduced by the Windmill Hill people.

In areas shunned by the pastoralists – marshes, barren ridges and wood-choked bottomlands – the old, semi-nomadic hunting and gathering way of life persisted for generations. Here and there, despite the barrier of the North Sea, cultural and thus, presumably, genetic contacts with Denmark and the Baltic lands were maintained. Relatively isolated communities such as the various tribes collectively known to archaeologists as the Peterborough folk, who inhabited the East Midland fens, remained for long little touched by the new techniques of crop-raising and cattle farming. Many of these indigenous tribes were extremely mobile, covering great distances both in their seasonal hunting excursions and in their flint- and axe-trading expeditions.

In the more attractive areas, up on the grassy Downlands of southern England and northwards along the chalk ridges into East Anglia, Lincolnshire and Yorkshire, the typically slim, long-headed, sharp-featured newcomers, their herds of pigs, sheep and long-horned

cattle, their circular, earth-walled corrals and their long burial mounds were soon familiar sights.

Slight, gracile, narrow-headed people, metrically similar to the most typical occupants of Neolithic long-barrows, are still much more evident in Britain than in the neighbouring Low Countries, north Germany and Scandinavia. The frequent coincidence of this wiry type of physique with dark pigmentation – a combination of traits especially noticeable in the western parts of Britain where Keltic languages are, or were till recently, still spoken – gave rise to the popular conception of a 'Keltic' race – small and dark – that has persisted down to our own time. Apart from being genetically impossible, this notion pays heed neither to the abundant skeletal evidence, which shows that the bulk of the Iron Age, presumably Keltic-speaking, invaders of Britain were tall and sturdy, nor to Roman accounts which describe the Kelts as prevailingly fair.

Although by no means all the Neolithic colonists of Britain were short, most of them appear to have been long in both the skull and the face.

The Beaker folk, metal traders and prospectors of copper and tin, who arrived in Britain during the second millennium B.C., must, with their characteristically large, round, flattish-sided skulls, have appeared somewhat outlandish to the narrow-headed farmers and villagers into whose midst they intruded. Originally from central Spain, the Beaker folk had evidently mingled extensively with other peoples in the Rhineland and, by the time they arrived in these islands, must have been a physically heterogeneous people.

Whether the Beaker colonists spoke a variety of Keltic is unknown, although it is possible that they had acquired some form of Indo-European speech on the Continent. It is generally believed, however, that, even before the introduction of iron to Britain, invasions from across the Channel were already bringing Keltic dialects to these islands. Opinions differ as to whether these dialects belonged to the 'P' or to the 'Q' group, although it seems likely that the later Keltic-speaking colonists, those, including the Belgae, who arrived here during the La Tène phase of the Iron Age, from c. 500 B.C. onwards,

spoke 'P' Keltic or Brythonic. At any rate, Brythonic dialects seem to have been spoken throughout England, Wales and Scotland at the time of the arrival of the Romans in the first century B.C. Early varieties of Keltic may have been implanted here by the so-called Deverell-Rimbury people who, not long before the appearance of iron implements in these islands, crossed over from the Continent – pressed west, perhaps, by the still expanding Urnfielders of central Europe. Once here, the newcomers tilled the downlands of southern England with their light ploughs; the outlines of their 'pocket-handkerchief' or 'Celtic' fields are frequently seen in aerial photography.

Irish traditions speak of the coming of several peoples to Ireland in prehistoric times. Although their names – Partholon, Nemed, Tuatha De Danann, 'the Children of Mil' and the like – may be legendary, it is possible that they preserve a dim memory of actual invasions. Four likely Iron Age immigrations to Ireland are recognised by some Irish scholars: those of the Cruthin (who arrived before 500 B.C.), the Fir Bólg (possibly during the fifth century B.C.), the Laigin (in the third century B.C.) and the Goidil (around 100 B.C.). Of these, perhaps only the last named spoke 'Q' dialects; all the others, it is assumed, were 'P' speakers (the Cruthin being linguistically related to the Picts of Scotland). There seems now to be general agreement that a form of Goidelic (i.e. Gaelic) may have been brought to Ireland direct from Spain, where 'Q'-Keltic inscriptions are said to have been identified, rather than across England from the Continent, as was previously supposed. An alternative suggestion is that 'Q' Keltic may have arisen in the western part of the British Isles from a mixture of the 'P' Keltic introduced in La Tène times with older, possibly non-Keltic (or even non-Indo-European) languages.

Whichever forms of Keltic, 'P' or 'Q', were introduced first, it is certain that by the time of the coming of the Romans, almost the whole of Britain was Keltic-speaking. Almost, though perhaps not all, for it now appears that the Pictish language, whilst basically a form of 'P' Keltic, may have preserved the remnants of some locally much earlier language, possibly the form of Indo-European assumed to have been brought here by some of the Beaker folk (who may themselves have

acquired it from their Battle-Axe neighbours on the Continent), possibly some even older, non-Indo-European idiom. It has so far proved impossible, for example, to find Keltic cognates for such Pictish personal-names as Bliesblituth, Canatulachama and Usconbutis, and the fact that the Irish Saint, Columba, required an interpreter on his mission to the Picts of Scotland in the sixth century, indicates that the difference between the Pictish language and his native Gaelic must have been great.

The Picts were the first people to be called Britons and were so named by the 'P' Kelts. In Welsh, *Pryden* means 'the painted ones' (Picts), an allusion to the Pictish custom of tattooing the body, whilst *Ynys Prydain* (whence Britain) is 'the island of the Picts'.

Throughout the second half of the last century B.C., fresh influxes of 'P' Keltic-speakers, the tattered remnants of continental tribes defeated by Caesar's advancing legions in Gaul, streamed across the Channel to seek refuge among their cultural and linguistic cousins, the Britons. In a few instances, entire Gaulish 'nations' uprooted and fled, with their chieftains, to southern England. Such were the Veneti from Brittany, who, after being routed by Caesar in Gaul, settled among the native Dumnonii in Cornwall; the Cantii ('Plainsmen'), who settled in and gave their name to Kent; the Atrebates, who, in about 50 B.C., migrated from their old home in north-east Gaul to the Berkshire hills; and the Catuvellauni, who settled in the present counties of Cambridge, Hertford, Bedford and Essex, and offered the first concerted resistance to the Roman invaders of Britain. Physically, the bulk of the Gaulish refugees must have resembled their British hosts.

In Roman times, from the last century B.C. until the fifth A.D., the polyglot occupational forces can hardly have exerted a very profound genetic effect on the British; few of the legionaries were Romans or even Italians, most had been recruited, if not in Britain itself, then from among the Keltic- and Gothonic-speaking peoples of the adjacent parts of the Continent. These would, for the most part, have been physically indistinguishable from the islanders.

During the fifth century A.D., bands of Goidelic-speaking Irish (called 'Scots' or raiders) took advantage of the weakening power of

the Romans and settled densely in the westernmost promontories of Wales and Scotland. Notable were the Irish colony of Dalriada in south-west Scotland, from which centre the Gaelic language of the invaders rapidly expanded eastwards to oust Pictish (which finally died out in the ninth century), and those planted in the western extremities of Wales, particularly on the Dyfed peninsula of Pembroke, where



Figure 26. The Celtic tribes of Britain during the first century A.D.

Gaelic was spoken alongside Welsh until perhaps as late as early medieval times. Place-names in this part of south Wales still mark the extent of Irish penetration. Smaller Irish settlements were also planted on the Isle of Man, where Gaelic replaced an earlier, possibly 'P'-Celtic vernacular, and in Devon and Cornwall, where scattered inscriptions in the old Irish Ogham script and containing 'Q'-Celtic personal names show that the language of the invaders was still spoken

in some areas until the seventh century A.D.¹ It would certainly have astonished those of the Irish who took part in the colonisation of Dalriada to learn that, some 1,200 years after their time, many thousands of Scots, most of them hailing from the selfsame parts of Ayrshire and Argyll where they had made their home, were to return to Ulster with the Protestant settlements planted there by James I early in the seventeenth century.

After the recall of the Legions to Rome in the fifth century A.D., Gothonic-speaking invaders from the Low Countries and north Germany – Angles, Saxons and Jutes – who even in Roman times had been settling the North Sea shores of England, established themselves along the southern and eastern coasts and proceeded to press inland amongst the native Kelts, many of whom were culturally to some degree Romanised.

The aggressive newcomers who, within the space of a few generations, had implanted their language and customs in much of southern, eastern, central and northern England, can hardly, apart from their dress, have looked appreciably different to the Kelts amongst whom they settled and with whom they mingled. The Kelts were not, in most cases, 'driven into the West', as suggested by our old history books. Their native speech, which, especially in the old Roman centres, had already been partly abandoned in favour of Latin, was merely replaced by Anglo-Saxon, whilst the people themselves physically absorbed the invaders. Understandably, the Kelts made no distinction between Angles, Saxons and Jutes; to them, the intruders were all Saxons (i.e. Scots: Sassenachs, Welsh: Saeson, Cornish: Sawson). Apart from the large reservoirs of Brythonic-speakers in Wales and Cornwall, 'P'-Keltic dialects managed to survive here and there for a few generations – as in Strathclyde, parts of the Scottish Lowlands, isolated Pennine valleys and possibly sequestered areas such as Dartmoor – before being engulfed by various forms of German.

1 Irish anchorites also struck far out into the North Atlantic; they were already in the Faeroes and on Iceland when the Norsemen arrived there and may, according to Professor Cal Saver of California University and others, have reached North America at least a hundred years before the Vikings.

Many of the Gothonic intruders hailed from the selfsame parts of the Continent in which the ancestors of the Kelts had originated. Their skeletal remains show them to have been a physically variable people, as were the Kelts amongst whom they settled; some were tall, others stocky; many were long-skulled but equally many were broad-headed. There is no earthly reason for assuming that they were uniformly flaxen-haired and blue-eyed; light pigmentation was probably no more widespread among them than it was among the native Kelts or is among the present-day British.

Tall stature, narrow skulls, long faces and fair colouring were possibly rather more in evidence among the Scandinavians who settled widely in the British Isles between the eighth and the eleventh centuries A.D. although by no means every Viking who leaped from his longship on to the beach at Skegness or waded ashore in some Hebridean creek was huge, blue-eyed and blond. Although a few Swedes may have taken part in the Scandinavian colonisation of Britain, they were far outnumbered by Danes, whose settlements were concentrated in the old Anglian areas of northern and eastern England, and Norwegians, who colonised parts of Ireland, western and northern Scotland and the Isle of Man.

Although they can hardly have been physically distinguishable from the bulk of the Anglian- and Keltic-speaking peoples amongst whom they settled, the profound influence of their Norse speech on both the English and Gaelic languages gives an indication of the very substantial numbers of Scandinavians who must have made their homes here. Whilst Norse declined or, more accurately, fused with English fairly rapidly in the Danelaw, the Lothians of Scotland and the islands off Wales and in the Bristol Channel, it survived in some of the outer Hebrides until the mid-thirteenth century and appears to have been spoken until well into the fourteenth by the 'Ostmen' (Easterners), merchants and traders of Scandinavian descent, in such Irish coastal centres as Dublin, Wexford and Waterford. In remoter areas, such as Caithness and, especially, the Orkneys and Shetlands, Norse vernaculars, albeit unwritten and increasingly corrupt, persisted until as recently as the eighteenth century; it was still necessary in the late

1600s for Scots ministers posted to some of the remoter Shetland Islands to learn Norwegian in Norway in order to make themselves intelligible to their congregations.

Many of the Lakeland Norse, who colonised north-west England from Viking bases in Ireland and the Isle of Man, appear, unlike the Danes of eastern England, to have been strongly Gaelicised in custom, dress and speech. Judging from their personal names, a goodly proportion of them were 'Gall-Gaels', of mixed Scandinavian-Irish parentage, whose mongrel Norse-Gaelic jargon was known derisively in Ireland as 'Gic-Gog'.¹

The Normans, third-generation, French-speaking Danes, whose linguistic and cultural influence on Britain was profound, were numerically insignificant; they would, in any case, have contributed nothing alien in the way of genetic material to the mixed Keltic/Anglo-Saxon/Scandinavian population whom they conquered and from whom they must have been physically indistinguishable. It should also be remembered that by no means all those who took part in William's invasion were Normans; many came from parts of France other than Normandy – there was, for example, a particularly strong Breton contingent.

After the Normans' 'Harrying of the North' had virtually depopulated whole sections of the old Danelaw counties of north-eastern England – thousands having fled north to the Lothians of Scotland – the area was slowly repopulated, for the most part from Cumberland and Westmorland.

Medieval settlements of Huguenots, Flemings, Walloons, Jews, Gipsies and others have all been genetically thoroughly assimilated; it is, however, as yet too early to predict whether the much more recent, and more substantial, influxes of Indians, Pakistanis, Africans and West Indians will be so completely digested.

The British are clearly among the most ethnically composite of the

1 Some of the most venerable Scottish families still carry the Scandinavian names that were brought from Ireland by the Gall-Gaels, although Thorketil is hardly recognisable in MacCorquodale, Sveinn in MacQueen or Olaf in MacAulay.

Europeans; far from being isolated, these islands have drawn settlers from every corner of Europe and, more recently, from much further afield. Only a few of the innumerable peoples who have contributed to the British ethnic amalgam – those whose arrival has been recorded or attested by archaeologists – have been mentioned here.

It is, of course, quite impossible to say to which of the peoples who, since the Old Stone Age, have made these islands their home, we, the living British, are genetically most indebted. Like all the Europeans, we are mongrels and our ancestry is perhaps more tangled than most. It seems likely, however, that the later arrivals – Romans, Saxons, Vikings and Normans – although they came as conquerors and their coming was recorded – contributed appreciably less to the ethnic make-up of the islanders than did the older-established peoples. To quote Professor Fleure: 'There can be little doubt that a large part of the physical inheritance of a great proportion of the present population of the country is derived from its pre-Roman inhabitants, who were already of many breeds established side by side.'¹

Despite the ever-increasing fluidity of the British population, certain physical traits still seem to be commoner in some localities than in others. Whilst, since Neolithic times, heads have remained fairly narrow almost everywhere, a tendency towards rounder skulls seems to be under way in parts of western Ireland, a bias which perhaps reflects the similar continental trend. Fair complexions are, although universal, most frequently met along the east coast of both England and Scotland, whilst individuals sometimes as dark as many of the Spaniards and Italians are common in parts of Wales. Some of the shortest people in Britain are also found in Wales and in all the densely-crowded industrial centres of the Midlands, the North and Scotland. Stature in Britain, although almost universally taller than in most of western, southern and central Europe, is highest along the east coast and in parts of the Scottish highlands.

THE LOW COUNTRIES

The Low Countries, for the most part flat, fenny and exposed, have

¹ H. J. Fleure, *Races of England and Wales*, pp. 19–20.

in the past witnessed a succession of large-scale folk movements, all of which have contributed to the genetic make-up of the inhabitants.

Many of the migrations that crossed the North Sea from the Continent to Britain in prehistoric times were launched from the low-lying coastline of Holland and Belgium. Until diking operations, begun during the Middle Ages and continued into our own time, recovered large tracts of land, much of Holland and the plain of Flanders was almost perpetually under water. For most of the year, only the dry rims of this river-laced quagmire were inhabitable. Until as late as the Iron Age, the population of the entire area seems, from archaeological evidence, to have been sparse.

Away from the marshy flats, the uplands of south-east Belgium and Luxemburg appear to have supported fairly large and fairly stable communities from Mesolithic times onwards. During the Neolithic, agriculturalists settled widely in the Ardennes. To judge from their skeletal remains, these early farmers were characteristically stocky and thick-set, with the large, craggy skulls that are, to this day, commoner hereabouts than further west in Flanders.

Before the coming of the Roman legions in the last century B.C., the country south of the Rhine, comprising south Holland and the whole of Belgium, was Keltic in speech, although infiltration from the north-east by originally Gothonic-speaking tribes, who, once established in the Low Countries assumed Keltic dialects, had for long been taking place. Among these 'Kelticised Germans' seem to have been the Belgae, a belligerent people, whose Keltic name, akin to our 'belly' and 'bellows', may have meant 'The Stout Fellows'. Bands of Belgae continued to cross the North Sea to join their kinsmen already settled in southern England throughout the period of Roman occupation.

Other Gothonic-speaking peoples settled in the Low Countries before and during Roman times. Among these were the Frisians, whose name, it seems, meant 'The Brave Ones'. In Tacitus' day, Frisians occupied the whole of coastal Holland, from the Rhine delta to the Ems and inland around the margins of Lake Flevo (the IJssel Meer). Today, their language – *De Fryske Tael* – the closest living continental

relative of English (a fact recognised in the old Yorkshire couplet:

Bread, butter, ale and cheese
Is good Halifax and good Frieze)

is restricted to certain country districts in the province of Friesland, and the West Frisian islands of Terschelling and Schiermonnikoog. Even here, however, it is now little more than a local curiosity. During the eighth and ninth centuries A.D., Frisians expanded northwards along the west coast of Schleswig-Holstein and settled on many of the formerly Danish islands – including Sild, Fø, Amrum and the Halligs – that were, until the Middle Ages, still a part of the mainland. Frisian dialects (hereabouts called 'Frasch'), basically akin to West (i.e. Dutch) Frisian, can still be heard on some of these islands.

Unlike many of their neighbours, the Frisians did not migrate during the Gothonic Folkwandering period, although their lands were breached in several places between the third and the fifth centuries A.D. by the westward-moving Saxons, many of whom passed through Holland on their way to the North Sea and thence to England. By no means all the Saxons went to England, however; substantial numbers remained on Dutch soil, where, in the north-east of the country, Saxon dialects closely akin to the Plattdütsch of the adjacent parts of Germany are still spoken.

Late in the third century A.D., fresh influxes of Gothones, the Salian Franks (literally: 'Spearmen'), penetrated Gallia Belgica from the east and repeatedly assaulted the Roman defences on the Lower Rhine. A hundred years later, the Roman administration gave the Franks permission to settle an area on the present Belgian-Dutch frontier. From this nucleus, the Franks began to expand northwards, pressing upon the Saxons, and south-eastwards along the Roman roads into Gaul proper.

Here, it appears, they were temporarily halted on the fortified line running from Maastricht to the North Sea near Boulogne. After the final withdrawal of the Roman garrisons in A.D. 402, the Franks continued to thrust southwards, settling widely in central Gaul as far south as the Loire and beyond. Here, however, their Gothonic speech

was rapidly obliterated by the prevailing Latin idioms of the Romanised Gauls, although traces of it persist to this day, as loanwords in French.

It is from the Low Franconian dialects of these Franks that the modern Dutch and Flemish literary languages are sprung. Both were formerly known to their own speakers as 'Duutsch' or (in Flemish) 'Dietsch', which, like the German 'Deutsch', merely meant the popular language as opposed to Latin. Nowadays, however, the Dutch refer to their language as *Nederlands* and the Belgian Flemings to theirs as *Vlaams*. Another Franconian derivative, called by its own speakers 'Letzebursch', is spoken alongside French and German in Luxemburg.

In the southern part of Belgium where Frankish influence was less intense, a variety of French is spoken by the Walloons (Gothonic = Foreigners, identical to 'Welsh' and 'Wallach'), who live in districts formerly occupied by Romanised Kelts. The fact that the bulk of the Walloons are Catholic and the Flemings Protestant has, since the Reformation, further emphasised the cultural and linguistic cleavage between the two peoples, and must also have acted as something of a barrier to north-south gene-flow.

During the Middle Ages and later in the seventeenth and eighteenth centuries, both Dutchmen and Flemings were invited to several areas in Europe outside their home countries to direct land-drainage operations. Flemings, especially, played an important part in the colonisation of eastern Germany (notably Brandenburg) in the 1200s and 1300s, whilst the seventeenth century found Dutchmen scattered across Europe from western France to Russia and from Sweden to Italy. Particularly dense communities of Netherlanders were located along the Vistula, the drainage of whose delta was carried out under their direction, whilst others were concentrated along the Oder, Neisse and the Upper Elbe. Although they were fairly rapidly absorbed by the local populations of all these areas, they must surely have left some genetic legacy.

Physically, there is nothing to distinguish the Dutch, Belgians and Luxemburgers from their neighbours in northern France, western

Germany and across the North Sea in England. The population appears to be, genetically, remarkably uniform; the open, exposed nature of the country – through which innumerable migrations have swept in the past – must have long since expunged any clear-cut physical distinctions that may once have existed hereabouts.

Tall, slender, long-skulled individuals are, though universal, especially common in Holland among both Dutch- and Frisian-speakers, as are blond hair and blue eyes. Bulky-framed, craggy-skulled types, metrically reminiscent of many of the Danes and North Germans, are, although present throughout the Low Countries, particularly evident in the hilly south-eastern corner of Belgium and in Luxemburg.

FRANCE

France, although a fountainhead of Western civilisation in historical times, was, throughout the Bronze and early Iron Ages, a cultural backwater on the margin of Europe.

The home, in Glacial and post-Glacial times, of a scattered hunting and gathering population – including such definitive Pleistocene types as Cro-Magnon, Chancelade and Combe Capelle – France has continued to provide large refuge areas in which populations have survived for generations, little affected by later waves of immigration.

The Massif Central, a series of granite uplands in the south of France, represents such a refuge area; here, short, stocky individuals, whose positively globe-shaped skulls recall some of those from the Mesolithic clutch at Tevieg in Brittany, are found in abundance. Their very low stature may be the result of generations of poverty and malnutrition, for improved standards of living have raised the average height in the region appreciably during the last few years.

To the north and east of this region lies a second refuge area, the densely-forested hill country embraced by the departments of Savoy, Burgundy, the Franche-Comté and Lorraine. Although the inhabitants of this large area are also predominantly hyper-brachycephalic, they are appreciably taller than the peasants of the Massif Central and light-haired individuals are commoner.

Neolithic influxes of small, long-headed food-producers, such as the people who introduced, at a very early date, the Swine-culture via Spain from North Africa and the Near East, seem to have largely by-passed the inhospitable and infertile upland areas and to have mingled only slightly with their inhabitants. In the few localities where intermixture between the largely brachycephalic aboriginals and the preponderantly long-headed newcomers did take place, the resulting combination of round skulls with excessively long faces and prominent noses, still conspicuous in parts of Gascony, Poitou, Anjou, Lyonnais and Provence, has suggested to some authorities that the absorption of the immigrants was incomplete; if, indeed, this is the reason for this local, somewhat asymmetrical facial type.

Most of the French, unlike their southern neighbours in Italy and Iberia, have remained an essentially brachycephalic people since Mesolithic times. Moderately long heads, with indices of between 80 per cent and 82 per cent, are frequent only along the Channel coast, where prevailingly dolichocephalic peoples, including Saxons and Scandinavians, settled during the later Iron Age.

Food-producing communities were already well established throughout France by the third millennium B.C., at which time Megalithic cults began to be introduced to the country, spreading eastwards from the Atlantic coast. The Neolithic invaders, some diminutive, some tall, but all characteristically long-headed, farmed the workable lowlands and river valleys, leaving the thin-soiled uplands to aboriginal peoples who continued to pursue the same hunting and foraging existence as their Mesolithic ancestors for many generations.

Throughout the Bronze Age, most of France, remote from the main centres of civilisation, remained culturally stagnant. Apart from the peaceable settlements of Phocæan Greeks from Asia Minor along the French Riviera during the seventh century B.C., no invasions disturbed the comparatively stable population until the later stages of the Iron Age, when waves of Keltic-speaking peoples, linguistic ancestors of the later Gauls, began to break over eastern, northern and central France from the Rhineland. They imposed their advanced Iron culture and their Indo-European language, an idiom akin to the 'P'-Keltic speech

of the Britons, on the more accessible indigenous inhabitants, and left their own tribal names to several important cities: Paris (named from the Parisi), Rheims (Remi), Amiens (Ambiani), Beauvais (Bellovaci), Poitou (Pictavi), Nantes (Namnetes), Troyes (Tricasses), etc., etc. In the remoter districts of the south and west, however, ancient, pre-Indo-European languages, collectively known as 'Aquitanian' and possibly akin to 'Iberian' and Basque, were to linger on until the Roman occupation.

Both Keltic and 'Aquitanian' and the Indo-European Ligurian of the south-east, were abandoned in favour of local varieties of Vulgar Latin during and after the Roman conquest of Gaul. The Gallo-Latin of the Ile de France, in the north-east, provided the basis of the later French language, whilst that of the south-east gave rise to the langue d'oc, the idiom of the medieval troubadours and of modern Provençal with its many dialects. Another Romance vernacular, Catalan, grew up on both sides of the Pyrenees in France and north-east Spain.

After the collapse of Rome, the former province of Gaul was invaded from both the north and east by aggressive tribes of Gothonic-speaking peoples, notably the Franks, who established themselves as a ruling class in the north and founded the kingdom which Charlemagne was to make the most formidable empire in early medieval Europe. Although the language of the Franks was – except along the northern extreme of the Channel coast – quickly inundated by the predominating Latin idiom, Gothonic terms, especially proper names, still abound in the French language. Other Gothonic kingdoms, notably that of the Burgundians, whose traditions mentioned an ancestral home on the Danish island of Bornholm, were short-lived. Indeed, the Burgundians appear to have been wellnigh exterminated soon after their arrival in Gaul. In 437, Aëtius, with a Roman force composed largely of Hunnish mercenaries, defeated the Burgundians under their chieftain, Gundicar (the Gunther of the German Niebelung epic); those Burgundians who survived were removed by the Romans to the Gaulish territory of Sapaudia (Savoy), near the shores of Lake Geneva.

During the fifth century A.D., a form of 'P' Keltic akin to Welsh was carried to Armorica (Brittany) by refugees pressed out of Devon and

Cornwall by the West Saxons. (The southern part of Brittany was still known as Cornouaille in the Middle Ages, whilst part of the northern coast was named Domnonia, presumably by settlers from Devon in memory of their former home.) The fact that many of the present-day Bretons look strikingly unlike the modern Cornish – being appreciably shorter and darker – has led to the hypothesis that Cornish may have been implanted by a minority aristocracy among a prevailingly stocky, brunet local people.

At the same time as the Cornish settlements in Brittany, Basques from south of the Pyrenees were beginning to expand northwards into Béarn and Gascony, which preserves their memory in its name, where dialects of their language are still spoken.

Early in the tenth century A.D., Danish adventurers under Rolf the Ganger founded a Viking colony in Normandy, where, in the space of two generations, they abandoned their Norse speech and all traces of their heathen religion and won their independence from the King of France. The most energetic people in medieval Europe, the Normans, as they came to be known, founded kingdoms in England and Sicily and were among the most zealous participants in the Crusades. Despite the early demise of the Norse language hereabouts, the Scandinavian influence is still apparent. The local *patois*, including those of the Channel Islands, abound with Norse terms – especially relating to the sea and ships. Parts of the Cotentin peninsula are liberally sprinkled with villages whose names end in such characteristic Danish suffixes as *-bec*, *-boel*, *-bu*, *gard* and *-torp*, whilst thinly disguised Danish personal names – Anquetil, Turquetil, Thouroude, Erec and the like – are common. However, although familiar Scandinavian types – tall, long-faced, narrow-skulled, blue-eyed and fair-haired – abound in Normandy, these can hardly be identified as the descendants of Danes. They more likely perpetuate physical traits that were well established locally long before the coming of Rolf and his followers, who, although they were many, did not outnumber the natives. Neither, regrettably, can certain cultural factors, such as the local predilection for beer and porridge – a perennial source of amusement to non-Normans – be accounted for as a lingering Danish influence.

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The mountainous eastern provinces of Alsace¹ and Lorraine, settled by Gothonic-speaking Alemanni and Franks from the fifth century A.D. onwards, were incorporated into the body of France in 1648 and 1766 respectively. The native German idioms (collectively known as 'Elsässer-Dietsch') are, though still spoken throughout the region, in steady decline, notably so in Lorraine.

Although there are striking regional variations in stature in France, it is reasonable to say that, whilst few Frenchmen are as tall as many of the English and north Germans, equally few are as short as some of the Sicilians and Neapolitans. Pigmentation becomes increasingly darker towards the south of France, although only along the Mediterranean Riviera are individuals as dark as most of the Spaniards and Italians found in any great numbers. Heads are prevaillingly round, appreciably so towards the south; unlike the parts of central and eastern Europe where brachycephaly is a historically recent phenomenon, France appears to have been a centre of round-headedness since very remote times.

SPAIN AND PORTUGAL

If, like past taxonomers of mankind, we were to brand people combining narrow skulls and slender, fine-boned frames with dark hair and eyes as 'Mediterranean', then the Iberian peninsula might be said to contain the densest concentration of 'Mediterraneans' in Europe. The overwhelming majority of the living Spaniards and Portuguese display these features, although locally variant forms occur.

Skeletal information about the early prehistory of this south-western extremity of Europe is scarce. Each successive Pleistocene glaciation must surely have forced substantial numbers of hunting and gathering peoples south from western Europe across the Pyrenees; they would have been able to, and many probably did, follow the game herds

1 The name of Alsace (German: *Elsass*), from the old High German: *Elsazzun*, 'the dwellers on the other side' (i.e. the west bank of the Rhine) has the same suffix, meaning 'settlers', as the German *Holstein* (old Saxon: *Holt-sete*, 'people of the woods') and of the English county names Dor-set, Somer-set and Wil-set (now Wiltshire).

through Spain across the sometimes landlocked straits of Gibraltar to North Africa.

The post-Pleistocene desiccation of North Africa that resulted in the Sahara Desert – hitherto lush savannah – drove large numbers of people, at a Mesolithic stage of culture, northwards across the Straits of Gibraltar back into Spain. Cave-paintings stylistically akin to those scattered through the Sahara and at Bushman sites in eastern and southern Africa, seem to confirm the strong cultural and, presumably, genetic connections between Spain and Africa at this time. Judging by these paintings, and by their skeletal remains, most, although not all, of the North African immigrants to Spain were of slim, linear build and longish-skulled.

Neolithic impulses, emanating from the Middle East via North Africa, reached Iberia as early as the fifth millennium B.C. Small, slender, mostly long-headed peoples of a type so prevalent in Spain and Portugal today, continued to filter northwards towards western Europe for generations, on their endless search for fresh grazing land.

The Iberians, described by the Romans as a diminutive, wiry people with unkempt hair, dark skins, small faces and prominent cheekbones, seem to have perpetuated the most characteristic physical features of the earliest Neolithic colonists, although whether they brought with them a Hamitic language from Africa, as some have suggested, is impossible to determine.

Later influxes of culturally somewhat more advanced agriculturalists settled densely along the eastern coast of Spain, on the Balearics and in the Biscay region of the north, where individuals, skeletally similar to some of these later Neolithic colonists, are still common.

Tin and copper prospectors arrived somewhat later from the eastern Mediterranean and settled chiefly in the east and centre of the peninsula. It was from these latter invaders that the Bell-Beaker folk, responsible for the introduction of bronze metallurgy to much of northern, western and central Europe, were perhaps partially derived.

The settlements of Ionian Greeks along the southern and eastern coasts of Spain, where Greek ruins are still plentiful, were said by Herodotus to date from about 630 B.C., after a Greek sailing ship had

been storm-driven to Tartessus, possibly the Old Testament city of Tarshish. From then on, Greek traders were regular visitors to eastern Spain; their descriptions of the local Tartessians indicate that the small, slim, brunet type associated with the Iberians was also characteristic of these people.

Also from the eastern Mediterranean were the Phoenicians. Semitic-speaking traders and seafarers, who were active throughout the whole of the Mediterranean in pre-Roman times and planted a number of garrisons in Spain.

In Iron Age times, Keltic-speaking tribes (among them the Sefas, Cempsos and Beribraces) breached the Pyrenean passes and spilled into northern Spain, where they mingled extensively with the indigenous population. Hybrid 'Keltiberian' vernaculars were spoken in parts of northern Spain until as late as Roman times. It would be tempting to derive the stocky, round-headed, often sandy-haired and reputedly fiery-tempered people common in the north-western provinces of Galicia and Asturias from the Kelts; it would also be very rash despite the fact that Keltic place-names are more prolific hereabouts than elsewhere in Iberia.

Although the Romans imposed their language (ancestral to Castilian, Catalan, Gallego and Portuguese) and civilisation in Iberia, they were everywhere a ruling minority. Large aggregations of indigenous tribes, notably the Orospeadan mountain peoples of Cuenca, Albacete and the Sierra Nevada and some groups of the Lusitanians in Portugal, were able to retain their cultural, physical and, in some districts, linguistic identities throughout the period of Roman occupation.

Even before the withdrawal of the Roman legions, Gothonic-speaking war-parties had been extending their plundering activities as far as Iberia. The Danish Cimbrians romped through Spain during the last century B.C., Heruleans probed the river estuaries for loot and, later, more substantial influxes of Suevians, Visigoths and Vandals, all of ultimately Scandinavian extraction, streamed into both Spain and Portugal, as did bands of Alans, swept along by the Gothones from the south Russian steppe. The Vandals settled extensively in the south, giving their name to the province of Andalusia, before passing on into

the coveted corn-lands of North Africa, where, under their chieftain, Gaiseric, they founded a short-lived kingdom. The Goths gave their name to Catalonia ('Gothalandia'), whilst several villages in northern Spain named Suevos recall the Suevians, who settled hereabouts. The distribution of Gothonic place-names indicates that the settlement of Visigoths, Suevians and others was densest in the north-west of the peninsula and seems to have reached a maximum concentration in Galicia and northern Portugal.

In 494, Visigoths under their chieftain, Alaric, migrated from Aquitaine to Spain, where they settled densely in Old Castile. As followers of the Arian heresy, intermarriage with the local Catholics was forbidden them; they remained aloof until 589, when their King, Reccared, by embracing Catholicism, removed the religious barrier. The Gothones were very soon absorbed into the local, numerically superior population. The fair hair and light eyes, still encountered in parts of Spain and Portugal, must be regarded as ancient local traits, which, incidentally, seem also to be endemic among the North African Berbers, rather than as a genetic legacy of the Vandals, Visigoths and other Gothonic invaders.

In A.D. 711, Tarik, Arab governor of the province of Tangier, led his polyglot Moorish followers across the straits which from henceforth were to bear his name (Gibraltar = Arabic: *Jebel Tarik*, the Mountain or Rock of Tarik) and defeated Roderick, last of the Visigothic kings. The Moors overran both Spain and Portugal, the Berber rank and file settling in the mountainous central parts that most resembled their homeland, whilst the Arab leaders, many of them Syrians, favoured the city centres – Cadiz, Malaga, Seville and Cordoba – which became centres of Islamic scholarship. Moorish cultural influences and Arabic place-names are still abundant in southern and eastern Spain, particularly in Andalusia and Murcia and in much of Portugal. The reconquest of the peninsula from the Moors, which commenced as early as the ninth century and continued until the fifteenth, was carried out not merely by the native Spanish and Portuguese but also by zealous Christians from all over western Europe, notably from the southern parts of France that had also experienced Saracen visitations during

the eighth and ninth centuries. These Provençal and Aquitanian crusaders evidently entered Iberia in great numbers and it is likely that they exerted a significant genetic influence on the population of the reconquered territories, which, after the departure of the Moors, remained for a while sparsely inhabited. Although adherents of the Islamic faith were ejected, together with the Sephardic Jews, in 1492, they had, over the preceding seven centuries, intermingled extensively with the surrounding Spanish and Portuguese, and their genetic legacy must have been considerable.¹

Since the sixteenth century, the extensive colonial activities of Spain and Portugal in Africa and the New World have drained both countries of a large proportion of their populations. Andalusia, a country settled densely by the Moors, and the maritime regions of Catalonia, Galicia and Portugal were especially depleted in this way.

Western Pyrenean Spain is the home of an isolated, remarkably endogamous people, the *Eskualdunak* or Basques, whose unique language, customs and traditions, together with certain physical peculiarities, long ago led to their being regarded as one of the most anciently established European populations. Many of the Basques are tall by Iberian standards, usually mesocephalic, with very long faces, narrow chins, prominent noses and highly distinctive blood-group patterns. Fair hair and light eyes, found sporadically throughout Iberia, are especially notable among the Basques.

CORSICA AND SARDINIA

The early histories of the two large western Mediterranean islands, Corsica (French) and Sardinia (Italian), were punctuated by a series of immigrations, all of which must have made an impression on the appearance of their inhabitants.

¹ With the Reconquest, Castilian, hitherto one of several provincial northern dialects, spread throughout the entire centre and south of Spain, elbowing aside, during the early stages of its expansion, its two former neighbours, Leonese and Aragonese. Although these two were displaced, and have left few traces, dialects ancestral to Galician and Portuguese spread down the western margin of the peninsula in the wake of the Moors, whilst, on the east coast, Catalan thrust south as far as Murcia.

Both islands were settled very early in Neolithic times by food-producing peoples, apparently of the small, long-headed variety. Later settlements of more advanced cultivators are associated with the Nuraghi – the tall stone towers, about a thousand of which still stand in Sardinia.

Phoenician metal prospectors founded towns along the rims of both islands and prevented the Greeks from settling in Sardinia, although Greek colonies were planted in Corsica. Etruscans, too, seem to have visited the islands. After prolonged fighting with the natives, the Romans finally subjugated both islands during the third century B.C., although ancient local idioms, spoken by the Ioleis, Ilienses and others, lingered on in the remoter inland parts of Sardinia until as late as the sixth century A.D. These languages were possibly akin to Iberian, or possibly descended from the presumably non-Indo-European speech of the Shardana, a piratical people who, apparently using Sardinia as a base, harried the coasts of Egypt during the third and second millennia C.B. The present Sardinian language is, however, a Latin derivative closer to the Latin vulgate of the colonial period than any other living form of Romance. Before the coming of the Romans, a form of Ligurian was spoken in Corsica; this too survived in the interior of the island until long after the Roman conquest and has left a generous sprinkling of place-names. During the first and second centuries A.D., large numbers of both Christians and Jews were exiled from Rome to Sardinia, which became a kind of penal settlement.

After the departure of the Romans – Vandals, Goths, Lombards, Saracens and, later, Byzantines, Spaniards, Italians and Frenchmen occupied the islands. None appear to have left more than a superficial imprint, save round the coastal peripheries.

The primitive, clannish way of life that existed in medieval times has remained unaltered in the remoter mountain villages, whilst the people themselves, away from the coastal areas where they have been exposed to foreign (chiefly Spanish, Italian and French) influence, can be assumed to perpetuate physical traits that were already ancient hereabouts in the days of the Phoenicians. The present Corsicans and Sardinians are among the shortest, darkest and longest-headed of the

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Europeans; skeletally, if not morphologically, they recapitulate the type of the earliest Neolithic settlers.

ITALY

In 1929, the skull of a young woman was discovered in a gravel pit at Saccopastore near Rome. Seven years later, that of an adult male was unearthed at the same site. Both were found in a Mousterian cultural context and both were identified as the skulls of Neanderthals, proof that Italy was inhabited by this early form of man during the third Interglacial.

Later, more advanced Upper Palaeolithic blade cultures overlaid the Mousterian levels, indicating that here in Italy, as elsewhere in Europe, *sapiens* hunters resembling the Cro-Magnards either displaced or absorbed the local Neanderthal stock.

Mesolithic hunting and foraging economies persisted in the more isolated parts of Italy until long after the implanting of food-producing techniques; many of the old-established peoples were by-passed by later insurgents and may have retained their genetic integrity for generations.

The first Neolithic impulses appear to have reached Italy through eastern Sicily and Apulia perhaps as early as the sixth millennium B.C. – largely from the Aegean area but also, to judge from the finds of Balkan-style painted pottery in Italy, from Danubian centres across the Adriatic. These early herders and crop-raisers seem to have been typically of the small, gracile, long-skulled variety associated with the introduction of food-producing skills throughout the Mediterranean area.

Later, from about 3000 B.C. onwards, adherents of Megalithic cults settled along parts of the Italian coast and in Sicily, where their great stone monuments still stand; around the same time, prospectors from the eastern Mediterranean began to probe the peninsula for copper and other minerals. These metal-seekers buried their dead collectively in the rock-cut and slab-built tombs still to be seen in Sicily, as in Sardinia and Malta.

Some 500 years later, bands of war-like horsemen streamed south

into Italy through the Alpine passes from central Europe. A branch of the Corded Pottery or Battle-Axe folk, they may have brought with them a rudimentary form of Indo-European speech. Their skeletons, often buried singly, show them to have been as characteristically tall, narrow-skulled, long-faced and hawk-nosed as their kinsfolk elsewhere in Europe.

Their incursions approximately coincided with those of Bell-Beaker prospectors, who arrived in the Po valley from Spain via Sardinia. Moving inland on their incessant quest for minerals, these burly, globe-skulled, beaky-nosed bowmen encountered, traded and intermarried with both the Battle-Axe immigrants and the native mountain peoples. From this fusion arose the early 'Apennine' bronze culture, which survived intact among some of the later Sabine tribes – offspring of the Beaker/Battle-Axe amalgam – until well into Iron Age times.

Early in the second millennium B.C., more newcomers penetrated Italy from east-central Europe, bringing with them a Bronze culture evidently inspired by that of Aunjetitz in Czechoslovakia, their apparent homeland.

As the Bronze Age entered its final phase, an Urnfields culture spread into northern Italy from the region of western Hungary under the auspices of the so-called Terramara people, known from the pile-dwellings which they erected on the shores of lakes and near water-courses.

During the last millennium B.C., fresh waves of Indo-European speakers arrived from central Europe to implant in northern Italy an early Iron culture, the Villanovan, inspired from that concurrently flourishing at Halstatt in Austria. The Villanova folk, linguistic relatives of the Kelts, were prevailingly tallish and mesocephalic, often with flattish-sided skulls and aquiline noses.

Between the fifteenth and thirteenth centuries B.C., coast-hugging Mycenaean traders visited Sicily and southern Italy along routes later followed by Phoenician and Greek merchants.

In the eighth century B.C., Etruscans from Lydia in Asia Minor emigrated in large numbers to Tuscany, inland from Rome, where they

assimilated the Villanovans. The sturdy physique, salient noses and broad, high-crowned, often flattish-backed skulls typical of the Etruscans (who called themselves *Ras'na*), are still to be found in many of the living Italians, as are the full lips, bushy eyebrows and coarse black hair so familiar from Etruscan portraits.

Shortly after the Etruscan settlements, Chalcidian Greeks began to colonise Sicily and the toe and heel of Italy. They were soon joined by their kinsmen from Corinth, Megara and Crete from such Greek outposts as Knidos on the mainland of Asia Minor and from the island of Rhodes. In the seaports, Greek soon ousted the old local vernaculars, Sikel – a close cousin of Latin – and Sicanian and Elymian, two pre-Latin tongues that survived among the peasantry in western Sicily until Roman times.

From the fifth century B.C., Keltic-speaking tribes, Insubres, Cenomani, Boii, Senones and others, swarmed south through the Alps from southern Germany and Gaul, bringing with them their advanced La Tène iron culture.

The Romans themselves, who began to expand at about this time, seem to have been partially descended from the early Iron Age Villanovans, who, during the past thousand or so years, had mixed extensively with the skeletally similar Sabines – volatile mountain-folk from the interior – and with the surrounding Etruscans, their former overlords, one of whose clans, the Ruma, gave their name to the city of Rome itself. After conquering the Etruscan cities to the north and the Greek colonies in the extreme south, the Romans carried their Latin speech and civilisation to every corner of Italy. The old non-Latin peoples, however, the Oscan-speaking Sabines, the Ligurians, Illyrians and Umbrians of the north, the Samnites, Lucanians and others in the south, were, although culturally Romanised, by no means physically obliterated by the Romans, who were everywhere a conquering minority. Even the Etruscans and other originally non-Indo-European-speaking groups were merely culturally and linguistically Latinised.

At the time of Rome's greatest expansion, substantial numbers of people from all the imperial provinces abroad, especially from the

Near East, arrived in Italy as slaves, traders and mercenaries, where their contribution to the already intricate genetic complex must have been considerable, as must the large-scale settlements of North African Moors in Sicily between the eighth and eleventh centuries A.D.

From the fifth century A.D. onwards, Gothonic-speaking nations, Visigoths, Ostrogoths, Langobards, Vandals and others – all of them expatriate Scandinavians – settled on Italian soil; one of their war-chiefs, the Herulean Odoaker, actually deposed Romulus Augustulus and ascended the Imperial throne in A.D. 476. The Barbarian kingdoms which these 'raw-boned ruffians from the North' carved in Italy were, however, short-lived and the Gothones themselves were swiftly absorbed by the indigenous population. Later influxes of Moors, Normans, Byzantine Greeks, Albanians and partly-Asiatic Avars and Magyars were numerically insignificant and, like the Gothones, rapidly assimilated, as were the small communities of German-speakers, who crossed the Brenner to settle south of Bolzano in north-east Italy between the twelfth and the fourteenth centuries and whose High German dialect, 'Tautsch', died out less than a generation ago.

The living Italians, though long united in language, present a great variety of physical types that reflect the multifarious peoples who have settled here during the past ten thousand or more years. Although the coast dwellers have certainly been exposed to more genetic admixture with outsiders than have the inhabitants of the interior, even the most isolated of these latter have by no means escaped intermingling with successive influxes of newcomers.

Whilst few generalisations can be made about the physical appearance of the living Italians, it is true to say that positively long-headed peoples are much rarer here than in Iberia – a fact attributed by some anthropologists to the thorough-going absorption of prevailingly dolichocephalic Neolithic colonists by both earlier and later broad-heads. It is also undeniable that stature decreases, pigmentation darkens and skulls become appreciably narrower towards the south. The stuntedness at present characteristic of many Sicilians and Neapolitans may be due as much to centuries of poverty and malnutrition as to hereditary factors. Blond, blue-eyed types are everywhere in a minority in Italy – where

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they do occur, they more likely represent a locally ancient genetic tendency than a legacy from the Gothonic invaders.

SWITZERLAND

The innumerable valleys of this mountainous little country offer ideal conditions for the isolation of culturally and linguistically disparate populations. They have also made possible the survival of what appear to be certain locally very ancient physical tendencies, such as the extreme brachycephaly that seems, since Mesolithic times at least, to have been even more typical of the Swiss – especially those of the southern cantons – than of the contiguous mountain peoples of Austria and Bavaria.

From the fourth millennium B.C., food-producing peoples penetrated the Swiss river valleys from all directions but the north. One group established, in the west, the lake settlements with their pile-houses that are such a hallmark of the early Swiss Neolithic. Although many of the human remains found at Lake-Dwelling sites are of the small, gracile, long-headed variety associated with the initial dissemination of agricultural techniques everywhere in western Europe, an accompanying brachycephalic element is already conspicuous. It is hardly surprising that, even at this early date, the population of Switzerland was physically highly variable. Archaeologists generally believe that the Cortaillod culture of Switzerland, for example, grew out of a fusion of local Mesolithic (specifically Azilian), with intrusive food-producing techniques during the early Neolithic. There is not the slightest evidence to suggest that the aboriginal peoples were ejected by the pioneer farmers. This Cortaillod culture was eventually itself supplanted by the Horgen, apparently an intruder from northern France; in this case too, there is no hint of the ousting of the earlier population; the Horgen settlers merely assimilated the Cortaillod people and adopted many of their hybrid Azilian-Neolithic traditions.

Advanced Neolithic and early metal techniques brought various central and eastern European cultures – and with them large contingents of prevailingly tall, long-skulled colonists – to Switzerland. These newcomers appear to have been thoroughly and fairly swiftly assi-

milated by the indigenous round-heads, for the few Swiss skulls that survived the Urnfields cremation pyres are almost all brachy- or mesocephalic. The same process of head-shortening also seems to have modified the appearance of the descendants of the predominantly long- or medium-skulled carriers of Halstatt and La Tène Iron cultures to Switzerland from the ninth century B.C.

In pre-Roman times, the Ligurian language was evidently spoken extensively in southern Switzerland, where such assumedly Ligurian place-name ingredients as the suffixes *-asca* and *-anca* are as characteristic of Ticino Canton as of north-west Italy and the Rhône Valley.

During the last century B.C., Keltic-speaking tribes were ranged all along the Alpine frontier of the expanding Roman Empire. Most formidable of all were the Helvetii, who had recently moved south from a nucleus somewhere on the Middle Rhine to occupy an extensive territory in the north of the present Switzerland. By Caesar's time, they held sway over all the country between the Jura and the Boden See.

Not only were they redoubtable fighting men (Caesar described them as 'the bravest people in Gaul'), they were also among the most civilised and best organised of all the central European barbarians at the time.

In 107 B.C., two Helvetian tribes, the Tougeni and the Tigurines, breached the Jura and swarmed into Gaul, defeating an Imperial army under Cassius Longius. A few years later, more of them joined the southward-bound Danish Cimbrians and Teutons on a looting foray that took them through Narbonensis across the Pyrenees. After an unsuccessful assault on Rome, which ended in the almost total annihilation of the Cimbrians by Marius, many Helvetians streamed home to their Alpine fastnesses. Soon afterwards, their prince, Orgetorix, led the entire nation west of the Jura, where they were joined by their fellow Kelts, Raurici, Tulingi, Latobrigi and some of the Boii and Sequani. A confederation of these formidable tribes planned to invade Gaul through the territory of the peaceable Allobroges, but they were overtaken *en route* by Caesar and driven back before they crossed the Rhône.

The living Europeans

much of north-west Europe since at least the final glacial retreat some 10,000 to 15,000 years ago.

Neolithic impulses, bringing with them large contingents of characteristically small, long-headed food-producers, of whom the Swineherders were typical, entered Germany first from the south-west through the Rhineland and later from the northward-spreading Danubian culture province in south-east Europe. The wide scattering of material remains and settlement sites ascribable to specific secondary Neolithic cultures in Germany strongly suggests that extensive movements of shifting agriculturalists and traders took place throughout Germany during the Neolithic period. Most of these secondary Neolithic cultures in the present German area (Rössen, Hinkelstein, Stroke-ornamented, Michelsberg, Baden, etc.) arose from fusions between intrusive Neolithic and native Mesolithic traditions and nearly all appear to have spread, either by cultural transmission or, as is more likely, by actual migration across wide tracts of country.

Later influxes of Corded/Battle-Axe folk streamed in from the east through Silesia. Prevailing tall and long in the skull, these pastoralists mingled extensively with the hybrid descendants of Mesolithic gatherers and early Neolithic farmers amongst whom they settled.

Although a vast amount of skeletal evidence was obliterated in the cremation rites of the Urnfields cultures which had spread into Germany from the Balkans by the eleventh century B.C., the surviving material indicates that lofty stature, narrow skulls and long faces were familiar features throughout much of northern, central and eastern Germany in Bronze Age times.

Further south, the northern slopes and sequestered valleys of the Alps continued to harbour a locally ancient, predominantly round-headed, short-statured population. In early Iron Age times, this physically fairly homogeneous belt of peoples was disrupted by incursions of typically tall, long-skulled invaders bringing a Halstatt Iron culture north-west into Germany from Austria.

During the La Tène phase of the Iron Age, from 500 B.C. onwards, Keltic-speaking tribes began to expand outwards, from a nucleus in south-west Germany in all directions, spilling out of central Europe into

France, Spain, Italy, Bohemia, the Balkans, the Low Countries and across to the British Isles. Many of the Iron Age Kelts, who were evidently descended, for the most part, from the local Urnfielders, were, unlike their Bronze Age forerunners, predominantly meso- rather than dolichocephalic. This divergence away from an originally long-skulled type has been cited as reflecting extensive intermingling on the part of the proto-Kelts with local, round-headed aboriginals or with the descendants of the prevailingly globe-skulled Beaker folk, who had settled in the Rhineland during the eighteenth century B.C. It may just as likely be accounted for as an early manifestation of the head-shortening process that was soon to spread to all parts of central Europe.

The pre-Roman Iron Age witnessed a wholesale southward expansion of Gothonic-speaking peoples towards central and southern Germany from a nucleus in Scandinavia and along the south Baltic coasts. This movement was, of course, a part of the general 'Folk-wandering' that carried the Angles, Saxons and Jutes to England and was a continuation of the outboiling from the north of Goths, Vandals, Burgundians and others, which had been under way since the fifth or sixth centuries B.C.

The Kelts, on whom the Gothones had hitherto been, to some extent, culturally parasitic, were dislodged or assimilated as huge tracts of their former lands were settled by the Germans, as happened when the Keltic Boii were displaced in Bohemia by the Gothonic Marcomanni.¹

During the first century A.D., when Tacitus wrote his ethnographic survey, *Germania*, the Gothonic-speaking peoples were divided into several dozen 'nations' of varying sizes. Those living 'nearest the Ocean' – Frisians, Chauci, Teutons, Cimbrians and others – were known collectively as Ingaevones, 'those of the centre' – Chatti, Cherusci, Tencteri, etc. – as Herminones and 'the remainder' – Semnones, Hermunduri, Quadi and others – as Istaevones. These

¹ Those of the Marcomanni and Quadi who later moved south from Bohemia to the present Bavaria called themselves after the Keltic people whose lands their grandfathers had appropriated – Baiuvars (men from the Boii country) – whence the name of their new home, Bavaria.

appellations were believed to be derived from the names of the three grandsons of Tuisto, the eponymous ancestor of the Germani.

Although Tacitus described the Germani as having uniformly 'huge bodies, reddish hair and fierce blue eyes', such features, though no doubt as widespread as they are today, can hardly, even 2,000 years ago, have been typical of all the Gothic-speaking peoples.

During the first few centuries A.D., partly as a result of the opening up of their traditional forest strongholds for agriculture and partly as a defence against Roman encroachment, the dozens of small tribal units coalesced into larger, more formidable confederations, after which the medieval German states – Saxony, Hesse, Bavaria, Swabia, Franconia, Thuringia, etc. – were named. It is unlikely that the Iron Age Germani used any collective designation for themselves; the language-name, *Deutsch* (German), seems to have first been used by Gothic-speaking tribesmen in the sense of 'vulgar', 'common', 'of the people' (old High German *diot* = people) as opposed to Latin.

The Roman Empire, at its height, impinged on the southern and western peripheries of Germania. In the frontier provinces of Belgica and Rhaetia (the present Switzerland and its environs), Gothic clansmen traded fairly amicably with the Romans and many were recruited into the border legions. Eventually, however, pressure from the warlike and ungovernable tribes of the interior forced the Imperial *limes* (frontier) at several points, and Gothic speech was injected by the Alemanni into Rhaetia, the Franks into Gaul and Belgica and the Quadi and Marcomanni into Noricum – the modern Austria.

From the third and fourth centuries A.D. onwards, Slav-speaking agriculturalists slowly penetrated northern and central Germany from the east, both via the river routes and along the southern rim of the Baltic. Collectively known to the Germans amongst whom they settled as 'Wends', the newcomers seem to have been prevailingly tallish, narrow-skulled and, by all accounts, fair-haired.

By the eighth century, Slav-speaking Vagrians and Abodrites had reached as far west as Holstein, where they were invited by Charlemagne to settle in areas from which he had driven large numbers of native Saxons.

East of the Abodrites, the south Baltic coast as far as the mouth of the Oder was settled by the Veletians or Wiltzes (also, on account of their ferocity, called 'Liutitzi' or wild ones) whose eastern neighbours, beyond the Oder, were the Pomorians. The old Veletian and Pomorian settlement-zones still bristle with Slavic place-names (most of them ending in the suffixes *-in*, *-ow* and *-itz*), Rostock, Demmin, Güstrow and the like, whilst the Mecklenburg fisher-folk continue to use Slavic terms in connection with their trade. Other dialect words from this part of Germany, which seem to have Slavic cognates, are *wurachen*: to work hard, *Starusse*: a big, strong man, *Paschulke*: a simpleton, and *Quarcht*: a type of soft, white cheese. The names of some of the many tribes listed by Adam of Bremen in the eleventh century as inhabiting this portion of Slavia are preserved to this day in place-names. Those of the Warnawi, Heveldi and Doxani live on in the river names Warnow, Havel and Dosse, whilst the Chizzini bequeathed theirs to the town of Kessin near Rostock. The Slavic constituents of many other village names in the area are also clear; typical are; Görlitz (contains the Slavic *gora*: a mountain), Witzke (*vysok*': high), Kemnitz (*kamen*': stone), Leitzkau (*leshka*: hazel bush), Lausckhe (*Luža*: puddle), etc.

The Baltic island of Rügen was occupied by the Rojane, who, until their subjugation by the crusading Danish archbishop, Absolon, in 1169, made it a cult-centre for their heathen religion and a base for their piratical activities around the coasts of Denmark. A Slavic dialect is said to have survived in parts of the island until the year 1400.

Further south, Polabians moved along the north bank of the Elbe to within a few miles south of Hamburg, whilst, on the south bank, much of Lüneburg Heath was being settled by their kinsmen, the Dravarians, whose language survived until the first decades of the eighteenth century and whose former presence is marked by Slavic place-names of the type: Luchow, Wustrow, etc.

A further series of Slav-speaking tribes, Varny, Havoljane, Serbište, and others, were, by the tenth century, ranged across large portions of the present Mecklenburg, Pomerania, Silesia and Upper Saxony, where their influence, in the form of loanwords in the local varieties of Plattdeutsch, in typical circular villages and in such place-names

as Dresden, Leipzig, Jena, Cottbus and Potsdam, is still conspicuous.

The Lužyčane (Lusatians) settled further east, along the Upper Spree in what is now the only part of the present Germany where Slavic dialects, collectively known as 'Sorbian', are still spoken, by some 70,000 Wends – most of them elderly folk – in an enclave between Cottbus and the Neisse.

The westernmost thrust of the Slavs seems to have been achieved by a branch of the Sorabes, who, by the tenth century, had crossed the Harz Mountains and passed on as far as the Fulda. However, both here and around Würzburg and Mühlhausen, Slavic speech seems to have died out fairly rapidly, although Trautmann quotes an early thirteenth-century record of *Rustici Slavici* living in the neighbourhood of Erfurt.¹

The westward expansion of the Slavs was eventually checked and folded back by a vigorous counter-movement of Germans towards the east. This *Drang nach Osten*, which, for the next thousand years, carried men of German speech across eastern Europe as far as the banks of the Volga, was given an initial impetus by the crushing defeats of the Abodrites and the defiantly heathen Wiltzes by the crusading Saxon princes, Henry the Lion and Albrecht the Bear.

Behind the victorious Christian armies, land-hungry German settlers, among them substantial numbers of Flemings and Dutchmen, streamed into Upper Saxony, Mecklenburg, Brandenburg and what is now Bohemia, engulfing and subjugating the remaining, thinly-scattered Slav-speaking population of these areas. German settlement of the Ore mountains in the thirteenth and fourteenth centuries formed a permanent breach between the Czechs of Bohemia and their westerly cousins, the Sorabes.

In the wake of the Teutonic knights, German pressure towards the east continued, at the expense of both Slavic and Baltic speech, throughout the Middle Ages. At the outbreak of the Second World War, small German-speaking communities scattered across Poland, Czechoslovakia, White Russia and the Ukraine testified to the great

¹ R. Trautmann, *Die Slavischen Völker und Sprachen*, Leipzig, 1948.

extent of their eastward expansion, the remotest outposts lying in the Caucasus and on the Lower Volga, where German farmers were invited to settle by the Empress Catherine II during the 1760s. The defeat of Hitler's Reich in 1945 was followed by the rapid return of some 12 million Germans from the Soviet-occupied Baltic States, Poland, Czechoslovakia and Hungary to a Germany which their ancestors had left up to 700 years before. The Volga German colony, which, in 1939, had numbered over a million souls, was, together with other old-established German enclaves inside the Soviet Union, annihilated. However, whilst hundreds of thousands of Russo-Germans were deported, plenty of Soviet citizens of German descent still live in Russia, especially in urban centres. Many of the German communities in Russia clung to the old local dialects of their home districts in Germany; before the war it was still possible, for example, to hear Swabian in Odessa, Rhenish Franconian among the descendants of settlers from the Rhineland near Mariupol and broad Bavarian of the Nuremberg variety near Jamburg on the Dnieper.

Although the German communities in eastern Europe were, to a large extent, self-contained, it is impossible to believe that intermixture with the local Slav- and Baltic-speaking populations, especially in such areas as Polish Silesia and the Sudetenland where Germans have been ensconced since the twelfth and thirteenth centuries, did not take place. Consequently, we may assume that the postwar reflux of '*Volksdeutsche*' – i.e. ethnic Germans – from the former eastern provinces to the British and American zones must have introduced a considerable amount of fresh genetic material to western Germany.

The tangled ethnic history of central Europe is reflected in the great physical variability of the present inhabitants of Germany. Nowhere is there found anything remotely approaching a uniformity of physical type; both tall and short individuals, round-headed and narrow-headed, broad-faced and long-faced, snub-nosed and sharp-nosed, fair-haired and dark-haired, brown-eyed and blue-eyed, are found in every corner of the two Republics.

Certain traits, however, do seem, at present, to be more recurrent in some parts of Germany than in others. Round skulls, for example,

are commoner in southern and eastern than in northern Germany, although skulls as long and narrow as those sported by many of the Netherlands, English and Scandinavians do not appear to have been typical of any of the Germans since early medieval times at least.

Statures of 5 ft 7 in and above, whilst common throughout Germany, are especially so in the north – reaching a maximum concentration in the province of East Friesland and on the Baltic island of Femern. Ponderous, heavy-framed individuals with huge lateral dimensions and colossal, often globe-shaped or flat-sided skulls, are likewise more conspicuous in the north, especially in the old Frisian-speaking districts and along the Baltic coast.

Pigmentation, prevailingly light in the north (where excessively blond-haired individuals are referred to in Plattdeutsch as *Flassköpp* – Flax-heads), grows appreciably darker towards central and southern Germany, although there are few Germans, even in Bavaria, as dark as some of the neighbouring Swiss, Austrians and Czechs. The blond hair, blue eyes, long skulls and tall, linear build of the idealised Nordic *Übermensch* formerly so adulated in Germany, are far less often found in association than in parts of Sweden and Norway.

POLAND

Poland takes its name (Slavic: *pol* = field or plain) from the fact that its largest portion embraces a wide area of the North European Plain.

Although few fossil remains attributable to Meso- or Palaeolithic man have so far been identified in Poland, skeletal evidence from every stage of the Neolithic is abundant.

Poland, situated at the broad end of a westward-facing funnel of grassland, was the corridor through which many of the Neolithic cultural and ethnic impulses, emanating from south-central Russia, passed on their way to Germany, Denmark and the Low Countries.

Invaders, from the earliest agriculturalists to Hitler's *Wehrmacht*, have always found Poland more accessible from the west, east and north than from the south, where the Carpathian chain of mountains, with its extensions, the Tatra, Beskids and Sudetes, has effectively sealed the country from the influence of Balkan Europe. It was thus

wholly in character for the Poles to adopt western Catholicism and the Roman alphabet, rather than the Byzantine Orthodoxy and Cyrillic alphabet, embraced by the Bulgarians, Serbs and Russians.

In early Neolithic times, Poland, as the northernmost extension of the Danubian culture-province, was settled by food-producers, amongst whom stocky physiques, mesocephalic skulls and snub noses seem to have been characteristic as they are among the living Poles.

We may assume the fair hair and light eyes of so many of the living Poles to have been typical of the inhabitants of this part of north-eastern Europe since Glacial times. Other physical traits, too, appear to be locally very ancient. The round skulls and wide faces that become increasingly familiar towards Russia, have been attributed to a genetic legacy from the pre-Neolithic inhabitants of north-east Europe, the 'Uralic' substratum recognised by some Russian anthropologists. Whether this hypothetical stock existed or not, these features were both certainly typical of the Comb ceramic peoples who lived hereabouts in Mesolithic and early Neolithic times.

Mediocre stature was, as we have so often noted, typical of many of the pioneer farmers who settled the east-central European woodlands during the early Neolithic, and very short, stocky people are still widespread in parts of Poland. Of the many skeletons recovered from an early Iron Age fort in Slupca near Posen and examined by Tadeusz Malinowski, only one individual was over 5 ft tall. The frequent coincidence of short stature with very blond hair and light eyes led to Deniker's identification of a 'Vistulian' racial type – diminutive and excessively blond. From about the middle of the fourth millennium B.C., influxes of prevailingly lofty, long-headed people, bringing with them their Kurgan/Corded/Battle-Axe culture from the Russian steppe, streamed through Poland on their quest for fresh grazing-lands and trade contacts that carried them on into north Germany and southern Scandinavia. Finding conditions favourable to their pastoral way of life in Poland, many remained and mingled with the already long-established Danubian peasants. Moderately tall, dolicho- or mesocephalic, long-faced people were to remain conspicuous in Poland until the Iron Age. Later, the Globular Amphora or Globe Flask

people, hunters and swineherders whose movements are traceable from their material remains, entered Poland from the east, eventually reaching as far west as central Germany. Those of them who remained in Poland appear to have mingled fairly rapidly with the already established pastoral population to produce hybrid cultures that combined both Globe Amphora and other – notably Megalithic and Corded – traditions.

Fresh increments of prevailingly tall, long-headed peoples were later – from the sixth century B.C. – reintroduced to Poland from Scandinavia in the form of proto-Goths, Vandals, Burgundians and the Silingi (a Danish tribe who gave their name to Silesia), who settled densely on the plains about the Vistula, and again during the Middle Ages, when the *Drang nach Osten* brought north German feudal knights and homesteaders to the country in their thousands. During the Folk-wandering period, between the third and fifth centuries A.D., enormous numbers of Gothones migrated southwards, westwards and eastwards out of Poland, leaving large portions of the country vacant for the future settlements of Slav-speaking agriculturalists.

Knowledge of bronze-working was introduced to Poland through the Carpathians by itinerant pedlars and prospectors during the second millennium B.C. These were in all likelihood a north-eastern extension of the Beaker Folk, whose distinctively brachycephalic, high-vaulted skulls and long faces are matched by many of the mountain peoples, the 'Gorals', of southern Poland. From the second century A.D. onwards, Slavic dialects, emanating from a nucleus in or near the Pripet Swamps, now in White Russia, spread to all corners of the country, eventually displacing, in the north, Baltic dialects akin to Old Prussian. Literary Polish evolved out of the dialect of the Masurians (or Mazovians) with accretions from 'Little Polish', the dialect of the Lenčičane tribe (whose name is preserved in the Roumanian term – now obsolescent – 'Lesheshti' = Poles), and 'Great Polish', that of the Poljane. These three tribes had settled to the north, the south and the west of Warsaw respectively. Other important Slavic-speaking peoples who were settled in Poland by the tenth century were the Bužane (along the river Bug in Galicia), the Slenžane

(west of Czestochowa), the Bobrane (in Silesia), the Kaszuby (on the south Baltic coast, west of Danzig), the Pomorze (west of the Kaszuby) and the Veletians, who spilled over into West Pomerania as far as Rostock.

Apart from Polish proper, kindred languages of the west Slavic group are still spoken in Poland: Cassubian (or Kashubian) west of Danzig, and Slovintsian in a little area encircling Lake Leba. Both are now in decline. Considerably further west, the Polabian, or Dravanian, language was spoken until the eighteenth century between the Oder and the Elbe.

Many of the Iron Age Slav-speakers were tall and dolichocephalic: the fact that such individuals are scarce in Poland today implies the intensive genetic permeation of all the early settlers – the Slavs included – by more anciently established traits that seem to have been present in north-east Europe since long before the arrival of the Danubian agriculturalists. With the exception of the intensive infiltration of northern Poland by German feudal barons and homesteaders, from the thirteenth century onwards, post-Slavic immigration, including the frequent incursions of Asiatic Tartars, has been insignificant. Mention should, however, be made of the substantial settlements of Ashkenazic Jews, who, although largely endogamous, constituted almost ten per cent of Poland's population until their attempted systematic extermination by the Nazis, and of the large-scale German colonisation of Posen, Silesia and East Prussia following the partitions of 1772, 1793 and 1795.

At the end of the Second World War some six million of Poland's old-established German-speaking population were deported to the British zone of West Germany; the former German territory east of the Oder-Neisse line, occupied by Germans since the Middle Ages, is gradually being polonised, largely by peasants from the portions of eastern Poland that were appropriated by the Soviet Union after 1939. The place-names in this much disputed Polish-German borderland testify to the several changes of hands to which the country has been subjected in the past; most are modern Polish versions of German names which are themselves corruptions of Slavic prototypes. Thus:

Koszalin, Chojnów, Bolesławiec and Klodzko appear on our pre-1945 maps as Köslin, Haynau, Bunzlau and Glatz.

Among the modern Poles, fair hair and light eyes are common, especially in the north; stature, although it varies from region to region, averages about 5 ft 5 in to 5 ft 7 in, whilst the cephalic index increases from 82 per cent in the north to 85 per cent and above in the south, where a persistent brachycephalic factor seems to be as endemic in the Carpathians as it is in the other mountain-systems of central Europe.

CZECHOSLOVAKIA

The very shape of the present Czechoslovak State, which drives a wedge of Slavic speech deep into German-speaking central Europe, recalls the westward thrust of the Slavs during the first half of the first millennium A.D.

The Iron Age Slavs, however, were by no means the earliest occupants of Czechoslovakia. The country was certainly inhabited by game hunters in Upper Palaeolithic times and the human remains from the well-known sites of Předmost and Brunn suggest that intermixture between indigenous Neandertalers and more progressive *sapiens* intruders may have taken place hereabouts.

From Mesolithic times onwards, the country's numerous mountain-systems were home to characteristically meso- and brachycephalic peoples, and round skulls still prevail throughout Czechoslovakia. Early in the Neolithic, Danubian pioneers entered the country from the south-east, mixing first with the autochthonous hunters and fishers and later with First Northern and Michelsberg planters and herdsmen who reached Czechoslovakia from the north and south-west respectively. Cultural remains of typical Kurgan/Corded stamp indicate that cattle grazers from the Russian steppe must have settled hereabouts, as elsewhere in central Europe, during the late Neolithic. Few of the living Czechs, Moravians or Slovaks are either as lofty or as narrow-skulled as were the bulk of these plainsmen. The Corded invaders, like the earlier Neolithic colonists, probably lost any original physical distinctiveness fairly rapidly as a result of intermixture with the established, prevailingly round-headed aboriginal peoples.

Bell-Beaker mineral prospectors were active here during the second millennium B.C., and a highly influential Bronze Age centre was established at Uněťice (Aunjetitz) before 1500 B.C. Although medieval Bohemian chroniclers believed that the Čechy were the first people to settle Czechoslovakia, their country had in fact been occupied by Keltic-speaking tribes since the late Iron Age. These Kelts, whose presence in Czechoslovakia is archaeologically fully attested, are believed to have migrated here some time between the third and the first centuries B.C. Their best-known representatives hereabouts in historical times were the Boii, who gave their name to Bohemia and won renown for their home defeat of the Danish Cimbrians in 114 B.C.

As a result of the dissolution of Attila's empire in A.D. 454, the ancestral Czechs, Moravians and Slovaks penetrated the valleys of the northern tributaries of the Danube into Czechoslovakia. Ahead of the Czechs, Sorabes and others continued as far west as the headwaters of the Weser in Saxony, but they were soon absorbed by the German counter-movement that eventually reached, enveloped, but could not dislodge the Czechs in Bohemia. At the outbreak of war in 1939, over three million Germans still lived in Czechoslovakia, chiefly around the highland rims but also in such important interior enclaves as Iglau, Zwittau, Budweis and Olmutz; Germans also constituted over ten per cent of the pre-war population of Prague. The bulk of these Germans, who had been settled in Czechoslovakia for between two and seven hundred years, fled west before the advancing Soviet armies in 1945 and are now scattered throughout both East and West Germany.

Apart from German, other minority languages still spoken in Czechoslovakia include Polish (in a thin strip in the north-east), and Hungarian (east of Bratislava, where Magyar phonology has had a strong influence on the local Slovak dialects). Easternmost Slovakia (formerly known as Ruthenia), whose inhabitants speak the so-called 'Rusnak' dialects of Ukrainian, heavily influenced by Slovak, was incorporated by the Soviet Union as 'Podkarpatska' in 1945.

Roumanian-speaking shepherds and farmers wandered into Czechoslovakia from the south and east in medieval times; although their

language has almost completely given way to Slavic, these so-called 'Verkhovitsi', a tall, robustly-built, often strikingly globe-headed people, whose long faces and hawk noses recall familiar Wallachian types, are still conspicuous in the mountainous parts of Moravia and Slovakia.

The pre-Christian Czechs (including the remnants of earlier Celtic- and Gothonic-speaking communities absorbed by them) were, to judge by their skeletal remains, almost exclusively dolichocephalic. Today, however, the inhabitants of Czechoslovakia, whether Slav-, German- or Magyar-speaking, are among the most round-headed peoples in Europe, with cephalic indices ranging from 84 per cent to 87 per cent.

Stature in Czechoslovakia is about the same as the Polish norm (i.e. 5 ft 5 in to 5 ft 7 in), although pigmentation is generally darker than in much of Poland, appreciably so in Slovakia. Brunet colouring seems to have been characteristic hereabouts for a long time; Ibrahim Ibn Jaqub, a tenth-century Jewish merchant visiting central Europe to purchase the fair-haired slaves so coveted in the Middle East, bemoaned the fact that most of the inhabitants of 'The Land of Buislav' (Boleslav II of Bohemia) were 'brown-skinned and dark-haired. Few of them are fair.' Whilst broad faces with low, wide-spaced orbits and snub noses are characteristic of both Czechs and Slovaks, especially the latter, they are less in evidence than among many Polish and Russian groups.

AUSTRIA

Round-headed peoples appear, from skeletal evidence, to have been established in Austria since remote prehistoric times. There are, however, fewer exaggeratedly short-skulled individuals in Austria than in Bavaria and Switzerland, a state of affairs almost certainly occasioned by the steady infiltration of the country by long-headed peoples for at least 5,000 years.

In early Neolithic times, the present Austria (including, besides Upper and Lower Austria, the provinces of Tyrol, Salzburg, Carinthia and Styria) lay within the Danubian culture province. Food-

producing economies were here, as in the surrounding parts of eastern Europe, introduced by immigrants of ultimately Near Eastern origin who had entered Europe through the Balkans. Characteristic physical features among these colonists were a stocky physique, a moderately long head with a high vault and the somewhat reduced facial features (short nose, round chin, weakly-developed brow-ridges, etc.) typical of many of the living east Europeans. These agriculturalists tended to farm the river valleys, leaving the infertile uplands to aboriginal people.

In later Neolithic times, Corded/Battle-Axe cultures were introduced to Austria from the north-east, whilst Megalithic cults may have penetrated the Tyrol from northern Italy. The Battle-Axe folk were prevailingly tall, powerfully built and long-skulled; as a result of their extensive intermixture with the established 'Danubian' peasantry, there arose, in Austria as elsewhere, the dolicho- or mesocephalic, moderately tall skeletal type so ubiquitous in pre-historic central Europe.

During the third millennium B.C., traders and mineral prospectors from the Rhineland, the Bell-Beaker folk and their kin, arrived in Austria, Czechoslovakia, Hungary and Poland – in each of which countries their typically large, high-vaulted, brachycephalic skulls with high-bridged noses have been found in association with Beaker settlement-sites and artifacts. In Austria, individuals whose skulls recapitulate typical Beaker dimensions, are still much in evidence, especially in the Tyrol. Throughout the high Bronze Age, Lower Austria lay within the sphere of influence of the flourishing Aunjetitz culture, which embraced a large portion of Central Europe.

Halstatt, the site that has given its name to the earliest phase of the European Iron Age, lies in Austria, and it was in this region that the change from bronze to iron metallurgy was first effected as early as the ninth century B.C. Although the art of smelting and forging iron was almost certainly introduced into Europe from outside, the smiths of Halstatt were evidently of local extraction, metrically identical with, and presumably derived from, the Aunjetitz Bronze Age people, to whom accretions of nomadic horse-warriors from the plains to the east had been added.

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The language of these Austrian iron-workers is assumed to have been Illyrian, an Indo-European speech, fragments of which may survive in Albanian, whilst they themselves were characteristically tall, powerfully built and narrow-skulled with long faces and prominent noses.

Keltic-speaking tribes from the west, including the Taurisci, later known as the Norici, intruded into this Illyrian territory from the sixth century B.C. onwards, and left indelible traces of their presence in the form of place-names, of which Vienna (called Vindobona by the Kelts, after Finn, 'the fair-haired one' – an alternative name for their chief god, Lug) is one.

Austria remained divided in language between Keltic and Illyrian until the coming of such Gothonic-speaking invaders as the Alemanni, Quadi and Marcomanni during the sixth and seventh centuries A.D.

Although most of Austria was enveloped by the Roman province of Noricum (conquered from the Norici in 15–14 B.C.), only a shred of Latin speech, the obsolescent Ladin of the Tyrol, akin to Rhaeto-Romansh, survives as linguistic evidence of the Roman occupation. With the fall of Rome, Gothonic tribes, reinforced by fresh increments from the north, followed the retreating legions into every corner of Austria, and Gothonic dialects took root everywhere.

Austria proper – formerly an *Ostmark* or eastern march of Bavaria – was incorporated into the expanding German Empire of Otto I during the tenth century A.D., Carinthia, Styria and the Tyrol having already been absorbed. From now on Austria was, linguistically and culturally, an appendage of Germany.

At the same time as the Gothonic occupation of Austria from the north-west, the eastern parts of the country were being infiltrated by Slav-speaking peoples from across the Hungarian plain. Slovenes settled widely in Styria and Carinthia, where dialects of their language, locally often known as Windisch, are still spoken. Many of the German dialects of Austria abound in Slavic loans, lexical, structural and phonological.

Although a characteristically stocky, round-headed people today, the ancestral Slovenes seem to have been as tall and narrow-headed as

many of the immigrants who had settled Austria before them. They merely reinforced the already important dolicho- and mesocephalic element that is still conspicuous in the Austrian population.

As a result of the greatly expanded Austro-Hungarian Empire, influxes of non-Gothonic-, mostly Slav- and Magyar-speaking peoples, poured into the Austrian urban centres. Vienna, in particular (which also had an old-established Jewish community), was extremely cosmopolitan and was, until the last war, one of the most polyglot cities in Europe. None of these minority groups, however, nor the short-lived intrusion of the Ottoman Turks in the seventeenth century, have made any appreciable genetic contribution to the Austrians as a whole.

HUNGARY

The ethnic roots of the Hungarians are perhaps even more complex and difficult to untangle than those of the other central European peoples. The Hungarian plain, ringed by the eastern Alps, the Carpathians and the northern fingers of the Balkans, has, from time immemorial, been criss-crossed by migrating peoples and settlers; Illyrians, Kelts, Germans, Slavs, Mongols, Turks and Ugrians have all contributed to the intricate ethnic fabric of which the modern Hungarians are composed.

In early Neolithic times, the country was peopled by Danubian agriculturalists, fanning out from the Körös and Tisza rivers – characteristically stocky, sub-dolichocephalic or mesocephalic, high-vaulted and short-nosed. In the north of the country, in the vicinity of the Bükk mountains, the pioneer farmers assimilated many aspects of the hunting-fishing economy still practised in the region by Mesolithic aborigines, giving rise to the distinctive hybrid Bükk culture. Later, Corded/Battle-Axe stockbreeders, a characteristically tall, long-skulled people, settled widely on the Hungarian plain, which is still studded with their typical 'Kurgan' graves.

Tallish, fairly narrow-skulled types, metrically similar to most of the early Danubians and some of the later Corded settlers, prevailed in Hungary throughout the early Metal ages. Bell-Beaker peoples, whose

typically globe-shaped, meso- or brachycephalic skulls are to be found in scattered burial-mounds in Hungary, arrived from the west as metal-prospectors during the second millennium B.C. Partly under their auspices, Hungary became an important and influential cultural centre early in the Bronze Age, and it was from hereabouts that the Urnfields form of burial appears to have arisen before spreading north and west into Poland and Germany.

From the tenth century B.C. the characteristically tall, dolichocephalic Illyrians brought their Halstatt Iron culture to western Hungary from the Alps, and later, during the La Tène period, Keltic languages were introduced. Flat Keltic burial-grounds are numerous in Hungary. The western part of Hungary was incorporated into the Roman province of Pannonia; beyond the Danube, however, the legions were confronted by a hostile nation, the 'Iazyges', the powerful western representatives of the Sarmatians. Kelts and Scythian plainsmen not only confronted one another on Hungarian soil, they appear to have intermingled to produce the hybrid 'Keltoskithoi' mentioned by Herodotus as one of the peoples of Pannonia.

During the Folkwandering period of the early Christian era, Gothonic tribes traversed and settled sporadically in Hungary. Locally most important were the Gepids, who arrived from the mouth of the Vistula in Poland during the third century A.D. and made Hungary their headquarters. Bands of Herulean adventurers, ultimately from Denmark, also settled here at about the same time.

The first waves of east Asiatic Huns broke into Europe through Hungary late in the fourth century A.D. Contemporary Roman observers describe the Huns as uniformly 'hideous', squat, flat-faced and slit-eyed, and examination of the Hunnish skeletal material confirms that they were indeed an exaggeratedly Mongoliform people.

Having routed the Ostrogoths, who had hitherto ranged widely through Carpathian Europe, the Huns, using Hungary as a base, launched predatory raids far into Italy, Germany and France. The death of their revered leader Attila in A.D. 453 sent the dismembered Hunnish hordes streaming back towards the east, where many thousands of them coalesced with the partly Turkicised Bulgars, with whom,

during the eighth century A.D., they established a powerful kingdom between the Volga and the Kama in south Russia. The withdrawal of the Huns tempted Slav- and Ostrogothic-speaking farmers to colonise the plains around Lake Balaton, but they were not left undisturbed on their new grazing-lands for long. During the sixth century, the Avars, kinsmen of the Mongol Huns, swept into Hungary and on into Charlemagne's Empire. Here, in A.D. 796, they were defeated by the Imperial armies, and withdrew to Hungary, where many settled permanently among the Slavs and remnants of the Huns.

The next visitation, that of the Magyars, was more substantial – and more significant for the future development of Hungary – than any hitherto.

Late in the ninth century A.D., the legendary Magyar chieftain, Arpad, led his people through the Carpathian passes out on to the plains about the river Tisza in eastern Hungary. The newcomers quickly established their rule over the scattered Slav-, Avar- and Gothonic-speaking communities already settled there, implanted their outlandish language and named the country 'Magyarország' after themselves.

The ancestors of these assertive Ugric-speaking intruders had, during the long centuries before their westward migration, hunted, fished and farmed a homeland that seems to have lain somewhere between the Volga and the Urals. Although their prehistoric antecedents are unknown, we may assume that they arose from the same melding, in Neolithic times, between Danubian agriculturalists and indigenous forest folk that appears to have produced all the early Finno-Ugrian-speaking peoples. At any rate, the proto-Magyars, and the majority of their descendants who followed Arpad to Hungary, were evidently of wholly European appearance.

Early in the fifth century A.D., the Magyars came under the sway of the Kavars, a branch of the Khazar Turks, who inter-bred extensively with them, infused many Turkic terms (especially those dealing with cultivation) into the Magyar language and swept the bulk of the nation westwards towards Europe.

By the middle of the fifth century, the Magyars had reached the

present Moldavia, between the rivers Dniester and Prut, the 'land of Etelköz' still remembered in Hungarian legend.

From here they were soon dislodged by the Petcheneg Turks, and driven yet further west, across the Prut. The Magyars were but one – the most powerful – of seven kindred tribes, the others being the Nyék, the Kürtgyarmat, the Tarján, the Jenő, the Keszi and the Kér – all of whom, once settled in Hungary, were apportioned land.

By the time of their arrival in their present location, the Magyars and their kinsmen were as mongrel a people as any that had hitherto arrived in Europe from Asia. Their very name – Magyar – is of mixed Ugro-Turkic derivation, and reflects their hybrid origins.¹

Although their military leaders were evidently Turks, the rank and file of the immigrants continued to resemble their ancestors in hither Russia, whilst many of the living Hungarians display combinations of features, round skulls, broad faces, wide-spaced eyes and snub noses, typical of many of the Meso- and Neolithic inhabitants of the north-east European forest, that may have also been characteristic of the proto-Magyars in their central Russian home. After their arrival in Hungary, both Magyars and Kavars continued to prey upon their neighbours, and launched seasonal raids, south into the Balkans as far as the Bosphorus and westwards into Germany, Italy and even France and the Low Countries. Their predatory activities were finally checked by the Emperor Otto I, who defeated a large force of them near Augsburg in the summer of 955. Once established in their present home, intermixture on the part of the Magyars and their Kavar comrades-in-arms with the descendants of earlier colonists – Kelts, Slavs, Goths, Gepids, Avars, Huns, etc. – further confused the ethnic amalgam, whilst Jewish and Muslim intellectuals were invited to settle in

1 'Mag' is the same as Mánsi, the name by which the Voguls, one-time neighbours of the Magyars in Russia, still call themselves, whilst the suffix '-yar' is merely the Turkish: *eri*, a man.

The name 'Hungarians', which the Magyars have never used of themselves, is from the Turkish: On-Ugur – 'Nine Arrows' – the name of a clan that took part in the Magyar settlement of Hungary. The English 'Ogre', a corruption of 'Hungar', recalls the impression of ferocity made by these people on those amongst whom they settled and upon whom they preyed.

Hungary in large numbers. The Magyar overlords appear to have forced their Slav-speaking subjects to produce food for them, and it was probably at this time that many of the Slavic terms dealing with various aspects of agriculture entered the Hungarian language. During the early Middle Ages, Hungarians several times fell victim to over-zealous Crusaders, bound for the Holy Land, who, on mistaking the strange Magyar tongue for that of the Saracens, massacred entire communities. The language, however, had already struck root in Hungary.

One group of Magyars were, according to tradition, dispatched to the Carpathians to ward off the continued attacks of the Kuman Turks; their descendants, the so-called Szeklers (Szekely), who still live in the Roumanian province of Transylvania in the valleys of the rivers Mures and Olt, are said to perpetuate a combination of physical features characteristic of the early Magyars; they are tall, mesocephalic, and often have blue eyes and chestnut hair. Other isolated enclaves of Magyars, collectively known as 'Csángós', survive in Moldavia and Bukovina. The Magyar language, which has expunged nearly every trace of Slavic in Hungary, is, apart from its later Turkic accretions, a typical Finno-Ugric tongue, whose closest relatives are Vogul and Ostyak, carried, in the thirteenth century A.D., to northern Russia by former neighbours and kinsfolk of the ancestral Magyars.

In common with all east European countries, Hungary supported, until the end of the Second World War, a substantial German-speaking population. In the west, Austrians from the Burgenland impinged on Hungarian soil, whilst other German enclaves, most of them dating from the time of the Turkish withdrawal from Hungary, were scattered through the Bakony forest and along both banks of the Danube in the south. The majority of these Germans found their way to Austria and West Germany after the war.

Today, out-and-out Asiatic types are rare in Hungary; where vaguely 'Mongoloid' features occur, they must be attributable to a recombination of genetic traits perhaps introduced by the Huns, Avars and Turks who settled here in such large numbers. Otherwise, the most widespread physical characteristics in Hungary remain those of

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the stocky, sub-brachycephalic Danubian agriculturalists and of the metrically similar Magyar rank and file. Earlier increments, such as the dolichocephalic element introduced by the Kurgan-Corded peoples and later by Illyrians, Kelts and Gothones, appear to have been thoroughly assimilated.

ROUMANIA

The conventional belief that the Roumanians represent the lineal descendants of the Roman colonists who gave them their name, although understandable, could hardly be less accurate. Of the countless ethnic fluxes that have, even in the short compass of recorded history, washed into and across the country ringed by the Dnieper, the Danube, the Theiss and the Carpathians, that of the Romans must, despite its great cultural significance, have contributed far less to the genetic make-up of the peoples of this part of Europe than either the pre-Roman inhabitants or many of the later invaders, Goths, Slav-speakers, Huns, Bulgars, Magyars, Turks and others.

In early Neolithic times, the river valleys, plains and mountain slopes of the north-east Balkans were settled by Danubian agriculturalists presumably akin to those who pressed on to colonise the loess lands of central Europe.

Later, *satem* Indo-European dialects, ancestral to the Dacian that was still spoken in some areas after the Roman occupation, were introduced from the north-east, possibly by the characteristically tall, long-skulled Kurgan peoples from the Russian steppe. Many of the local traditions and customs of the north-east Balkans, such as the men's habit of wearing the hair shoulder length, are said to be of ultimately Dacian origin.

The Agathyrsi, a branch of the Thracians who lived in Transylvania, held sway over much of the present Roumania in pre-Roman times. Although they were disunited by the time of the Roman occupation, their traditions and language lived on a while; Virgil recorded that they tattooed their bodies, like the Scythian braves, and stained their hair dark blue.

During the Iron Age, between the eleventh and the last century

B.C., first Halstatt and later La Tène impulses reached the Dacian lands from central Europe, whilst nomadic warrior horsemen, the Scyths and their like, made frequent incursions from across the Dniester.

In A.D. 106, the Roman Emperor Trajan led his legions against a combined Daco-Getic confederation under the chieftain Decebalus, defeated them and incorporated their tribal lands into the new Imperial province of Dacia.

Some 200,000 'Romans' (more correctly Italians, as there were probably as many Illyrian, Ligurian, Keltic, Rhaetian and even Etruscan bilinguals as actual citizens of Rome amongst their ranks), mostly administrators, merchants and militiamen, are said to have been settled in Dacia; their Latin language became established in the garrisons and trading centres as a *lingua franca* and gradually spread out into the countryside, where it eventually replaced the indigenous tribal dialects.

In or around the year A.D. 271, the Emperor Aurelian ordered the withdrawal of the Roman garrisons in the face of the first full-scale barbarian visitation to break into Dacia – that of the Goths. After the departure of the legions, many of the partly Romanised Latin-speaking Dacians and Getae fled south across the Danube into Moesia (Bulgaria) and Macedonia, whilst others streamed westwards towards Italy and the head of the Adriatic.

The bulk of the native population, however, remained, having, by this time, already begun to assimilate substantial accretions of Slav-speaking farmer-colonists, who had been steadily seeping into the country from the north.

For the next thousand years, with little respite, successive waves of invaders, Huns, Avars, Turks, Mongols and others, most of them coming via Russia out of central Asia, poured into the now undefended Dacia.

Turkicised Ugrians, the Bulgars in the seventh century and the Magyars in the ninth, passed through the country on their way south and west respectively. Large numbers of both these peoples remained as settlers in Transylvania, many of whose river valleys and mountain slopes soon received fresh increments of Asiatics in the form of

Kuman and Petcheneg Turks. Two groups said to be descended from the Kumans still live in or close to Roumania, the Hutzuls, most of them shepherds in the Carpathians, who speak a variety of Ruthenian (Ukrainian) laced with Roumanian expressions, and the Gaguts, who, their Turkic language still pretty much intact, survive in dwindling numbers in the former principality of Moldavia, now a part of Russia.

By no means all the post-Roman settlers of the north-east Balkans came from the east, however. From the twelfth century A.D. onwards, when most of the Asiatic incursions had abated, large numbers of Germans, predominantly Rhinelanders despite their being dubbed 'Saxons' hereabouts, settled in Transylvania. They were joined considerably later by their kinsmen, the equally erroneously named 'Danube Swabians', who poured into the Banat district of western Roumania on the heels of the Turks and whose descendants still constitute a thriving, relatively self-contained community.

Although several languages apart from Roumanian are still spoken within the present confines of the Roumanian People's Republic, the pattern of languages in the north-east Balkans was even more confused in the Middle Ages and it is remarkable that, from this welter of tongues, one, the Roumanian language based on the Vulgar Latin of Trajan's handful of colonists, should have emerged as the national idiom.

One explanation for the triumph of Roumanian over all the other languages spoken in the area is that bands of expatriates, Romanised Dacians, Getae and others, driven from their homeland by successive invasions, retained the Latin language and returned with it in times of peace or resistance to reinforce the scattered Latin-speaking communities that remained. Roumanian thus became the language of patriots, who cultivated this Latin legacy as a mark of superiority over the polyglot minorities in their country. Although Latin at base, however, modern Roumanian is shot with Slavic, Turkic and other exotic elements and shows, in some of its constructions, the lingering influence of some local, pre-Latin language, which some have rather unjustifiably identified as Dacian.

If the linguistic mosaic in Roumania is intricate, that of the Dobrudja, the area around the Danube delta ceded to Roumania in 1879, is a

veritable kaleidoscope of languages. Here, along a narrow strip of Black Sea coast, Roumanian is spoken alongside Russian, Ukrainian, Turkish, Magyar, Bulgarian, Greek, Armenian, Romany, German and Yiddish. More languages jostle with one another here than in any area of comparable size in Europe.

By no means all the Romanised natives who left Dacia during the migration period returned to their home country and groups of Roumanian speakers are scattered to this day throughout the Balkans, from Greece in the south (where they are known as Kutzo Vlachs, Tzintzars or Aromani) through Bulgaria and Yugoslavia to the Trieste region, where a few hundred 'Chichi' or 'Istro-Roumanians' still survive. Whilst collectively known as Vlachs (from a Gothonic word meaning 'foreigner' and identical with 'Welsh') these peoples are by no means a homogeneous stock; they differ strikingly in appearance and way of life from district to district and are believed, although they all speak varieties of Roumanian, to represent the tattered remnants of originally Dacian-, Illyrian-, Thracian- and even Scythian-speaking tribes who were scattered to the four winds by the Goths and other invaders in post-Roman times. Whilst many Vlachs are wandering shepherds and goatherds, living gipsy fashion in black tents, others are traders, skilled craftsmen and, in some parts of Macedonia, constitute the bulk of the merchant class. Enclaves of Roumanian-speaking Moldavians are also scattered across the southern Ukraine to well beyond the river Bug and certain Ukrainian dialects are stiff with Roumanian loans.

As might be expected from their multifarious origins, both the widely scattered Vlachs and the Daco-Roumanians proper, display a great variety of combinations of physical features and there is obviously no such thing as a 'typical' Roumanian.

Tall stature, long faces, round skulls and very dark colouring are met with everywhere in the east Balkans, although shorter statures, somewhat narrower skulls and the reduced facial features (snub noses, round chins, etc.), so widespread throughout Slav-speaking eastern Europe, are more in evidence in Roumania than in neighbouring Yugoslavia.

YUGOSLAVIA

Unlike her northern neighbour, Hungary, Yugoslavia is essentially a mountainous country, with many isolated valleys – especially in the west – favourable to the survival of old populations. The immensely tall, powerful, huge-headed peoples of Montenegro and Bosnia, metrically and morphologically reminiscent of familiar north-west European types, were probably established in their mountain refuges long before the penetration of the Balkan valleys by the food-producing Danubians, who arrived in this part of Europe from Asia Minor as early as the fifth millennium B.C.

In later Neolithic times, fresh influxes of prevailingly tall, long-headed pastoralists along the Adriatic coast, and of sturdy, globular-skulled mineral-prospectors of Middle Eastern affinities, reinforced the already high stature endemic in western Yugoslavia.

Admixture between these newcomers and the indigenous giants has been held by some authorities to have given rise to the combination of physical features first collectively dubbed 'Dinaric' by Deniker. Characterised by their great stature, round, high-vaulted skulls, long faces and prominent noses, such peoples are commoner in the Dinaric mountain chain in Yugoslavia than elsewhere in Europe, although metrically similar individuals are also found in great numbers in Austria, northern Italy, Hungary, Czechoslovakia and southern Germany. Many of the Bell-Beaker folk who spread the knowledge of copper and bronze metallurgy throughout western and central Europe seem also to have had these characteristics, as had the Etruscans. The strikingly high-vaulted, 'sugar-loaf' skulls of many of the west Balkan peoples are often further exaggerated by local cradling habits, which cause an artificial flattening of the occiput in infancy.

From the tenth century B.C. onwards, Illyrians, the bearers of the Halstatt Iron culture, introduced their language to the west Balkans, whilst in the east, towards the present Bulgaria, Thracians, whose *satem* Indo-European language may have been introduced from south Russia in Neolithic times, continued to hold sway.

Keltic infiltration of the Balkans began during the sixth century B.C. (the Scordisci, a Keltic tribe, founded the city of Singidunum on

the site of Belgrade) and persisted until the coming of the Romans during the last century B.C. The only linguistic reminder of the Roman occupation of Illyricum – the modern Yugoslavia – survived as Dalmatian, derived from colloquial Latin, the last speaker of which, Antonia Udina, was killed in a mine explosion in 1898.

The disintegration of the Roman Empire and the arrival of the Huns in eastern Europe brought substantial influxes of Gothic-speaking peoples, notably the Ostrogoths and the Danish Herules, into Illyricum, although their stay was short, and their genetic contribution probably negligible.

Infiltration of the Balkan valleys by Slav-speaking tribes from across the Hungarian plain and through the Carpathians, began in the early sixth century A.D.

Serbs, Croats and Slovenes, in that order, peopled the valleys and mountain slopes of Yugoslavia (Slavic: *yug* = south); the Serbs (*Srbi*, whose traditions pointed back to a homeland near the headwaters of the Dnieper in Galicia) settled in the south, the Croats (*Hrvati*) to their north and the Slovenes to the north of the Croats, in northern Yugoslavia, southern Austria and the Istrian peninsula in north-east Italy.

Although the tall mountain tribes of Montenegro, Bosnia and Herzegovina gradually forsook their native idioms in favour of the Slav language of the Serbian invaders, they remained physically little altered by contact with the newcomers who, in the remoter upland districts at any rate, were a minority.

The slight cultural distinctions between the Serbs and their northern neighbours, the Croats, were exaggerated by the adoption of Greek Orthodoxy and the Cyrillic alphabet by the former and of Catholicism and the Roman alphabet by the latter and by the Slovenes. Serbs, Croats and Slovenes, however, have little difficulty in communicating with one another by means of Serbo-Croat, the standard language of Yugoslavia.

During the eighth century A.D., Charlemagne extended his Holy Roman Empire down the west Balkans through Slovene and Croat country, but failed to penetrate Slavonia, the inaccessible stronghold of the Serbs and of the by now probably Serb-speaking mountain clans in the south.

The Turkish occupation of the Balkans from the south began during the fourteenth century, after the Ottomans wrested power from the Seljuks, former masters of Asia Minor.

The Turks penetrated south-east Europe as far as Vienna, and remained overlords in the later Yugoslav states of Bosnia and Serbia until the last century. The Montenegrins, however, managed to remain independent and stubbornly Christian. After the defeat and withdrawal of the Turks, most Serbs and Bosnians reverted to the Greek Church, although Muslim communities, a legacy of 500 years of Turkish cultural influence, survive here and there, and many of the Slav dialects of southern Yugoslavia are impregnated with Turkicisms. After the withdrawal of the Turks from northern Yugoslavia, German settlers from the Rhineland poured into the Bačka; their descendants, unlike those of their kinsmen, the 'Danube Swabians', across the border in Roumania, have by now been almost completely assimilated by the surrounding Slav-speaking Croats as have the Germans in the Gottschee valley by the Slovenes.

Many of the modern Yugoslavs are tall compared with the other Slav-speaking peoples, the highest statures (6 ft and above) being commonest in Montenegro and Bosnia, shorter statures being more characteristic of the Slovenes and many of the Croats.

The present inhabitants of Yugoslavia are almost exclusively brachycephalic, the roundest heads of all (with indices up to 87) being concentrated in Montenegro – where the largest heads are also found. In contrast to the more northerly Slav-speaking countries, Poland, Czechoslovakia and Russia, pigmentation in Yugoslavia is almost uniformly dark.

It seems likely that most of the Yugoslavs, despite their Slavic speech, which is of historically recent introduction, owe their physical characteristics to peoples who were established in the western Balkans at least three millennia before the Slavic infiltration.

BULGARIA

The ethnic history of Bulgaria, Roumania's neighbour south of the Danube, in many ways duplicates that of the rest of the Balkans,

although Turkish influence has been more persistent here than elsewhere, an understandable state of affairs considering Bulgaria's close proximity to Turkey.

Food-producing communities were established in Bulgaria earlier than elsewhere in the Balkans – save for Greece. The country was pioneered, chiefly along its rivers, by shifting agriculturalists who entered Bulgaria from the west along the Nishava and the Struma and directly from Anatolia via the Bosphorus in the south.

Megalithic cults were introduced hereabouts during the fourth and third millennia B.C.

Knowledge of copper metallurgy seems to have reached Bulgaria largely through the agency of immigrants from Kurgan centres in south Russia. The Thracians, who dominated the south-east Balkans during the fifth, fourth and third centuries B.C. and were said by Herodotus to be 'the most numerous people west of India', may have been at least partially derived from these invaders. The Thracians were described by contemporary observers as a lofty, powerful, fair-haired people, just what we should expect of the probable descendants of Kurgan folk. Tall long heads seem to have prevailed everywhere south of the Danube until the coming of the Romans and the later disruptions caused by Slavic and Asiatic incursions.

Moesia, the northern strip of the present Bulgaria along the Danube, was incorporated into the Roman Empire in 29 B.C., whilst the conquest of Thracia proper was completed in A.D. 46. With the collapse of Rome and the withdrawal of the Balkan legions, Ostrogoths moved widely through the present Bulgaria and, in the sixth century A.D., infiltration by Slav-speaking tribes began, both from the west through the valleys leading from Serbia and from the north-east across the Danube delta.

In common with many Slavic groups of the migration period, these newcomers to Bulgaria were known as 'Slovenes'. Their language spread into every corner of the south-east Balkans (where it absorbed elements of the old Thracian speech, still spoken intact by such isolated peoples as the Bessi until perhaps as late as A.D. 400), intruded into Greece, where a Slavic language is still spoken in Macedonia, and

oozed north of the Danube along the Black Sea coast of the present Roumania, thus forming a linguistic continuity with the Slavs in southern Russia. In later times, the eastward spread of the Roumanian language from its cradleland in Transylvania and Moldavia absorbed elements of Black Sea Bulgarian, which still constitute a substantial proportion of the Roumanian vocabulary.

The Slav colonists, politically disorganised and unable to withstand the increasing attacks of the predatory Avars from across the Danube, welcomed the arrival, in A.D. 670, of bands of aggressive horse-warriors, who had, under their 'Khan', Ansparuch, come south from the Russian steppe in search of new grazing-lands.

Under the leadership of these warlike intruders, the Slavs managed to repel the Avars and restore peace to their farming settlements.

These newcomers were the Bulgars, originally Ugrian-speakers, whose ancestors had farmed, fished and hunted the country between the Volga and the Urals for generations before the arrival in their midst of Turkish horse-nomads from central Asia.

In the two centuries before their removal to the south Balkans, the Bulgars, whose name, in Ugrian, means 'mongrels' or 'people of mixed race', gradually abandoned their ancestral tongue in favour of that of their Turkic-speaking masters. A Turko-Ugrian empire was established between the Volga and the Kama (an area known as 'Black Bulgary' until as recently as the thirteenth century), and it was from here that Ansparuch led his 'Utiguri' Bulgars to the Balkans in the seventh century A.D. The Chuvash, a Turkic-speaking people, many of whom retain the European appearance of their Finno-Ugric-speaking ancestors, represent the 'Kutriguri' Bulgar element that remained in south Russia after the departure of their fellows to the west.

Unlike the situation in Hungary, where Magyar invaders imposed their Ugric language on the previously Slavic-speaking inhabitants, Slav speech triumphed in Bulgaria, and was rapidly adopted by the formerly Ugric- and Turkic-speaking Bulgars, although the modern Bulgarian language still carries a legacy of early Turkic elements.

During the ninth and tenth centuries A.D., fresh incursions of

Asiatic Tartars, Kumans, Petchenegs and others, penetrated and settled in Bulgaria, whilst, between the fourteenth and the nineteenth centuries, the country was, as part of the Ottoman Empire, under direct Turkish domination.

Throughout these 500 years, Bulgaria absorbed Asiatic elements drawn from every corner of the Ottoman Empire. Large Muslim, often Turkish-speaking enclaves survive in Bulgaria, where individuals whose stocky build, broad skulls, wide faces and sometimes oblique eyes, recalling familiar Asiatic types, are still in evidence. A steady drainage of Turks from the eastern Rhodopes, the Chatal Balkans and other parts of Bulgaria is, however, gradually reducing their number. In 1950 alone, some 50,000 Turks moved south across the border into Turkey.

Whilst stature in Bulgaria seldom attains such a height as in parts of Yugoslavia, long heads are much commoner here than among the Serbs and Croats. The Bulgarians are a predominantly very dark people, although fair-haired individuals occur sporadically.

ALBANIA

Albania, called by its inhabitants '*Shqipëria*', 'The Land of the Eagle', is the most inaccessible and culturally primitive country in Europe. Occupying a small enclave of the south-west Balkans along the Adriatic coast, Albania's mountainous interior is home to a series of aggressively independent, endogamous patrilineal clans, whose members continue to practise the crude methods of agriculture, coupled with shepherding, that has been their way of life for centuries. Blood feuds are frequent, superstitions abound, and strangers are regarded with mistrust.

The Albanian language, although permeated with Greek, Latin, Italian, Slavic and Turkish elements, is believed to retain the grammatical structure and much of the vocabulary of Thracian-Phrygian, which has become extinct elsewhere in the Balkans.

Only half the two million speakers of Albanian live in the present Albanian State; a million at least are scattered in colonies throughout Yugoslavia, Greece, Roumania and southern Italy.

Five hundred years of Turkish overlordship have left an indelible imprint on the Albanians, 70 per cent of whom are still Muslim. Of the remaining Christians, the Catholics are confined to the north and the Orthodox to the south of the country. This religious cleavage, that predates the Turkish occupation, further emphasises the pronounced cultural and dialectal disparity between the tribal Ghegs and the more westernised Tosks, who inhabit the north and south of Albania respectively.

Although, as inhabitants of the province of Illyricum, the Albanians were the nominal subjects of Rome, they managed to remain, in their mountain fastnesses, culturally little influenced by the Romans, although a substantial number of Latin words were adopted into their language.

The Slavic expansion into the Balkans during the sixth century A.D. resulted in the extirpation of Albanian dialects in parts of Bosnia and Montenegro, although Slavic speech failed to take root in Albania itself.

Like their neighbours and ethnic kinsmen in Yugoslavia, the now Serbian-speaking Bosnians and Montenegrins, the Albanians – especially the more isolated of the Ghegs – are, characteristically, an immensely tall people, round-headed, long-faced and strong-nosed. They and the Yugoslav giants perpetuate what are apparently extremely ancient local physical traits. Further increments of tall peoples, during the Halstatt phase of the Iron Age, when Illyrians seeped into Albania through the Balkan valleys, doubtless emphasised the already general high stature in the area.

Although the Albanians are a prevaingly dark people, fair hair and light eyes are by no means absent; their skulls are almost uniformly large and high-vaulted, often with the occiput artificially flattened by cradling.

GREECE

Considering the number of incursions, of Phoenicians, Romans, Kelts, Goths, Slavs, Vlachs, Turks and others, that have penetrated Greece during the past two thousand years, it is remarkable that the most

conspicuous physical traits displayed by the living population of this exposed and accessible little country are probably those that were ancient hereabouts at the time of the Trojan Wars, let alone in Alexander's day.

Food-producing peoples, evidently preponderantly of the small, gracile, long-headed, straight-nosed variety, reached the Greek mainland from Asia Minor and North Africa as early as the sixth millennium B.C., some from across the Aegean, others, including the apparently aggressive Dimini people, from the north Balkans, although agricultural communities were probably established on Crete even earlier. Substantial influxes of taller, equally long-headed pastoralists arrived in later Neolithic times.

Early in the Metal Age, copper was introduced to Greece by immigrants crossing from Asia Minor via the Cyclades, whilst, at the same time, bearers of Late Neolithic Painted Pottery cultures began to infiltrate northern Greece through the Balkan valleys.

Kentum Indo-European dialects ancestral to the Achæan, Dorian, Arcadian, Attic and Ionic that were all to contribute to the literary Greek of the Hellenistic period, were introduced from the north in early Bronze Age times – in the case of proto-Achæan perhaps, as early as 2000 B.C. These kindred languages soon penetrated most of the many valleys and peninsulas of Greece, although locally ancient, unidentified idioms – collectively, for want of a better name, called 'Pelagian' – continued to be spoken on many of the islands, including Crete, where the high Bronze Age Minoan civilisation had been flourishing since at least 3000 B.C. During the last millennium B.C., many of these Minoans removed from Crete to the Greek mainland.

It is also likely that Thracian and Phrygian dialects, bearing some resemblance to modern Albanian, lingered on in the less accessible northern parts of Greece until after the expansion of the Hellenes.

Connections with the later Greek colonies overseas: in Asia Minor (Mysia, Caria, Lydia, Lycia, etc.); around the Black Sea (Bithynia, Paphlagonia, Pontus, Colchis, etc.); in North Africa (Cyrenaica, etc.); the Dodecanese, Cyprus and Italy (Sicily, Lapygia, etc.) initiated reciprocal genetic exchanges that must have had a profound

influence on the physical make-up of the mainland Greeks, especially the Athenians and others living around the fringes of the Aegean.

Later infusions of fresh genes entered Greece at the time of the medieval Byzantine Empire, which, at its greatest extent, reached as far east as the Caucasus. After the dismembering of the Ottoman Empire (of which Greece, between 1435 and 1832, was a part), thousands of Greeks from Asia Minor were resettled in Hellas, bringing with them a medley of more or less exotic physical characteristics, derived from their long sojourn in Anatolia. Fresh genetic material must also have been introduced from Asia Minor when over a million Greeks from Turkey were resettled in their own country during the 1920s.

In the early Iron Age, Greece was visited by Illyrians from the north Balkans and, much later, by bands of Kelts on their way to Asia Minor, where they founded the colony of Galatia at the easternmost extremity of their expansion. At the collapse of the western Roman Empire, Greece was assailed by Goths and, during the early stages of the Russian state of Kiev, suffered the visitations of mixed Norse-Slav Vikings from across the Black Sea.

The geographical complexity of Greece, whose mainland is composed of the crenellated southern fringes of the Balkans and whose seas are littered with an intricacy of archipelagos, has led to the isolation of certain physical features – and this despite the great internal mobility of the Greeks throughout their history. There are, for example, local variations in head-shape: a zone of round-headedness runs through Pirus from Albania to the Gulf of Corinth, whilst relatively low cephalic indices are more characteristic of Thessaly, Macedonia and Thrace. Although the Greeks are, on the whole, a brunet people, exceptionally swarthy complexions, coupled with black hair and dark brown eyes, are commoner among the Ionian islanders than the Macedonians.

As a whole, the Greeks are taller than their neighbours in Bulgaria and Anatolia – though not as tall as some Albanian and Serbian types; round and long heads are equally common – and equally ancient; hair tends to be wavy or slightly curly rather than straight, and snub

noses are quite as ubiquitous as the straight, prominent ones so admired by the Minoans and their cultural heirs, the Hellenes.

TURKEY IN EUROPE

Travellers to Turkey are often astonished to find that the modern Turks, and not merely those living west of the Bosphorus, are physically well-nigh indistinguishable from their Balkan neighbours. This is no doubt due to the expectation that, as the remote origins of the Turks proper – the ethnic group who gave their name to the country – are generally known to have lain in central Asia, the present-day inhabitants of Turkey should look 'Asiatic'.

The Turks, however, were, like the Normans in Britain, a conquering minority, imposing their language and institutions on indigenous peoples rooted since time immemorial in Turkish soil. Long before the imposition of Turkish speech, ancient Indo-European languages, both of the 'Anatolian' type (of which Hittite was representative) and of the Thraco-Phrygian group (including, probably, the language of Homer's Trojans), were to be heard alongside locally even older tongues of whose nature we know next to nothing.

Considering their ethnic antecedents, which, from early Neolithic times at least, appear to have been much the same as those of their neighbours in the Balkans, the native peoples into whose midst the Turks intruded so abruptly a mere thousand years ago must have been thoroughly 'European' in appearance. Any frankly 'Asiatic' features that the Turks may have introduced must, as in Hungary, Bulgaria and other countries that received influxes of Turkic and 'Tartar' invaders, have been lost fairly rapidly.

Many, though by no means all, of the Seljuks who arrived in Anatolia in the eleventh century, and of the Ottomans who followed them in the thirteenth, seem to have brought with them characteristics typical of modern central Asiatic peoples – short, stocky build, broad heads, wide faces, snub noses and narrow-fissured eyes, although few of these features are in evidence among the Turks today.

The European Turks, with whom we are here concerned, are not, as we have seen, confined to the triangle of land west of Istanbul; they

occur sporadically throughout Greece, Bulgaria, Yugoslavia and Roumania, and have left traces of their presence in Albania and Hungary. Seldom, however, save by their dress, language, customs and Islamic faith, are they distinguishable from the surrounding Christians. When speaking of the Balkan 'Turks', a distinction must be made between such communities as the Bektashi of Albania and Yugoslavia, who, whilst they speak the language and worship the god of their former Ottoman overlords, are themselves of manifestly local origin, and others like the Yuruks of Serbia – Turks proper, who are believed by anthropologists to preserve in a very pure form the language, customs and presumably some of the physical traits of their central Asiatic ancestors.

Passing into European Turkey from Greece or Bulgaria, no appreciable difference in physical type can be discerned. Tall, moderately long-headed, powerfully-built individuals abound, as do slighter, fine-boned peoples of the same gracile variety so ubiquitous in Spain, Portugal and southern Italy.

Pigmentation of skin, hair and eyes is uniformly dark in Turkey, and the average stature about the same as that of Greece and Bulgaria. Frequencies of blood-group A run high throughout Turkey, as they do in the east Balkans, whilst incidences of the characteristically Asiatic blood-group B are only moderate.

It is apparent, from all this, that the designation 'Turk' is, in Europe and the Near East at any rate, no longer applicable to a single physical type. Most of the European and Middle Eastern peoples whose language is Turkish and whose creed is Islam are merely the culturally Turkicised descendants of local people who were established hereabouts long before the arrival of the Turks.

THE CAUCASUS

In contrast to the flat, open lands of European Russia, where the population is genetically relatively homogeneous, the Caucasus mountains, between the Black Sea and the Caspian, contain an astonishing number of languages and human types.

'Pass beyond the foothills of the Caucasus,' wrote Ripley, 'and

behold a change! A Babel of languages – no less than 68 dialects, in fact – and half as many physical types, of all complexions, all head forms and all sizes. Truly it seems to be a law that mountains are generators of physical individuality, while the plains are fatal to it.’¹

The many valleys of the Caucasus represent cul-de-sacs in which vestiges of all the peoples who have passed this way during the last 2,000 years or more have been isolated and preserved more or less intact.

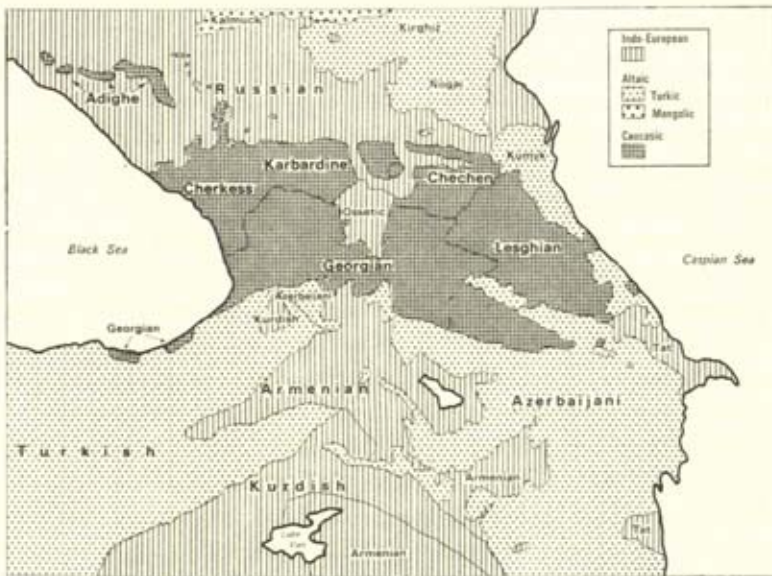


Figure 27. The languages of the Caucasus

The oldest-established, linguistically at any rate, appear to be the Georgians, Lesghians, Chechens and Cherkesses, who all speak dialects of the locally ancient Caucasian group of languages. In recent years, political factors have caused the older distribution patterns of certain Caucasian languages to alter quite considerably; large numbers of Cherkesses, for example, migrated south after the Russian conquest of the Caucasus, whilst thousands of Chechen- and Ingush-speakers

¹ W. Ripley, *The races of Europe*.

were 'resettled', possibly in Kazakhstan or elsewhere in central Asia, after 1945.

The ancestors of the Armenians, who occupy the southern reaches of the Caucasus, may have been linguistically akin to such Balkan peoples as the Thracians and Phrygians. They probably arrived in their present location, under pressure from the Hittites, during the last millennium B.C. Because of the striking resemblance between the phonemic system of modern Armenian and that of the neighbouring, though historically unrelated Georgian, some scholars have suggested that Armenian may have been adopted as an 'upper' language by the speakers of Caucasian dialects of the Georgian type from an aristocratic minority of Armenian-speakers at some early period. This would make Armenian an Indo-European language with a Caucasian phonetic substratum. The Armenians call their country Hayastan, and take their name from their eponymous ancestor, Hayk.

The Ossetes, who claim descent from the Alans, once masters of the Ukrainian steppe, probably found refuge in their present Caucasian home after the dismemberment of the Alan empire by the Huns in the fourth century A.D. Their language is a member of the Iranian group, which also includes Persian and Pushtu. Folklorists have drawn attention to striking parallels between certain Ossetic legends and some of those related in the Norse Edda. The Ossetes tell of a cultural hero named Ud-dæn (the Norse Odin?) who reputedly went to Scandinavia, where he was hailed as a god, and returned to the Caucasus in his old age. Another equation has been drawn between the Æsir – the gods of Scandinavian mythology – and the 'Asii', an alternative name for the Alans.¹

The Kalmuk shepherds of the north Caucasus are the most overtly 'Mongoliform' people in Europe; they also perpetuate the east Asiatic language spoken by their ancestors – followers of Genghiz Khan – who settled the region during the thirteenth century. There are now few Kalmuks in European Russia; the bulk of the nation was deported to east Siberia after the Second World War.

¹ See: D. Dzanty, *Odin L'Ossete*, 1953. G. Dumezil, *Legendes sur les Nartes*, Paris, 1930. *Les dieux des Germains*, 1959.

Later intrusions by Tartars resulted in the implanting of such Altaic languages as Kirghiz, Nogai and Kumyn in the north-east Caucasus, whilst Azerbaijani, a language closely related to modern standard Turkish, has been steadily impinging on Armenian from the south-east for the past half-millennium.

Physically, as well as linguistically, the peoples of the Caucasus can be distinguished from one another. The Russian anthropologist, Bunak, has recently claimed to have identified sixteen well-defined physical types in the area.

According to his findings the Caucasian-speakers, exemplified by the Georgians, tend to be shortish (5 ft 4 in–5 ft 5 in), extremely brachycephalic, hirsute and prevailing dark-haired and -eyed.

The Ossetes, or Iraettae, perpetuate some of the physical attributes said to have been characteristic of their traditional ancestors, the Alans, who were, by all accounts, lofty and blond-haired. The modern Ossetes, too, are taller than most of their neighbours and have fairer complexions.

The Armenians are typically short, stocky, extremely round-headed, high-vaulted, long-faced, dark-complexioned and aquiline-nosed, possessing an assemblage of features that is widespread throughout the Middle East, both within and outside the present Armenian People's Republic. The ancient Hittites and Assyrians appear, to judge from their portraits, to have had similar faces, and 'Armenoid' characteristics were formerly prevalent among many of the West European Jews, the Ashkenazim.

The Caucasus-dwellers of Asiatic origin vary considerably among themselves: from the stocky Kalmuks, with their round skulls, wide faces, high cheekbones, oblique eyes, lank, black hair and yellowish skins, to the beaky-nosed, less slit-eyed but equally round-headed Kirghiz, and the tall, long-faced, high-headed, Turkish-speaking Azerbaijani, the bulk of whom physically resemble their Iranian-speaking southern neighbours, the Kurds.

RUSSIA WEST OF THE URALS

In describing the peoples of European Russia, we have to consider the

inhabitants of an area as large as all the countries previously discussed combined.

Although Russia offers a wide range of natural habitats, these are not so minutely variegated as those in western Europe and tend to run in broad, lateral bands across the country from west to east. In the south, the grassy steppe reaches north to approximately latitude 40 North, where a belt of deciduous woodland begins. This, in its turn, grades rapidly into coniferous and birch forest which stretches north to within the Arctic Circle, where it thins into open tundra along the fringe of the Arctic Ocean. Away from the Ural, Carpathian and Caucasus mountain systems, Russia is exposed and accessible. Many of the ethnic fluxes that broke into Europe in prehistoric and more recent times came through or sometimes emanated from this broad area; because of the open nature of the country, these movements were frequent and often rapid.

Skeletal remains from Kiik-Koba in the Crimea and Teshik-Tash in Uzbekistan show that Neandertal man lived in Russia, whilst crania found at Podkumok and other sites combine Neandertaloid with more neanthropic traits to suggest that intermixture between Neandertalers and more *sapiens*-looking peoples took place in Russia, as it evidently did further west.

An increasing amount of archaeological evidence shows that, far from being uninhabited in Upper Palaeolithic times, as was once believed, Russia supported a considerable, though thinly scattered, population of nomadic reindeer-, bison- and mammoth-hunters.

In early Neolithic times, Danubian food-producers of the typically stocky, mesocephalic, short-nosed variety spread the knowledge of simple crop- and animal-husbandry along the rivers and across the prairies of south-western Russia. The bulk of them appear to have entered the country from the Middle East via the Balkans and Carpathians, although a possible alternative route led through the Caucasian passes into the eastern Ukraine.

The majority of the living European Russians, Slav- and Finno-Ugrian-speakers alike, perpetuate, to varying degrees, the physical earmarks of these early Neolithic colonists. However, extensive

admixture on the part of the first agriculturalists with aboriginal forest peoples, perhaps established in Russia since Mesolithic times, is said by some to be implicit in the broad faces, uptilted noses, prominent cheekbones and wide-set eyes of so many of the living Russians. These facial features seem to have been characteristic of many of the people associated with the early Neolithic Comb-Marked or Pitted Ware cultures, known from sites in European Russia and the Baltic countries.

Intermixture between such food-gathering peoples and the Danubian newcomers must have begun very soon after the arrival of the latter in Russia; the early Neolithic culture named from a site at Tripolye in the western Ukraine seems to have involved a fusion between fairly narrow-headed immigrants and a broad-faced local type.

From the fertile steppe, simple food-producing techniques, employing the familiar 'slash and burn' method, seeped slowly north from tribe to tribe into the forest zone of central Russia during the fourth and third millennia B.C. Towards the end of the third millennium, intrusive, late Neolithic cultures, in which stock-breeding was emphasised at the expense of crop-raising, made their appearance around the northern fringe of the Black Sea, presumably from dispersal centres in the Middle East. Among the newcomers were the Long Barrow folk, metrically identical with many of their co-religionists who were, at the same time, exploring and spreading their cults along the Mediterranean and Atlantic coasts of western Europe. In Russia, they settled widely around and north of the Black Sea.

Later, Pit- or Ochre-Grave cultures flourished to the north and west of the Black Sea, giving rise, in their turn, to the Kurgan culture of further east. The Kurgan people, known also as the Single Grave, or, from their customary grave-goods, as the Battle-Axe or Corded Pottery folk, were typically tall, powerfully built, long-skulled and hatchet-faced. Although their origins are obscure, they seem to have been inspired at least partially by intruders, possibly from across the Caucasus, whilst long-established aboriginals may also have played a part in their ancestry. William Howells calls them 'Mesolithic people who were touched by Neolithic influences from further away',

and this seems reasonable. Whatever their antecedents, these Battle-Axe folk were aggressive and evidently warlike; they were ranchers and landseekers and, before migrating west into central Europe along several routes, extended their range in their Russian homeland, penetrating the forest zone to as far north as Fatyanovo near Moscow, where their typical burials, furnished with tomahawks and cord-impressed pots, have been found.

Battle-Axe cultures, with their advanced Neolithic techniques, were soon implanted throughout European Russia, their authors mingling everywhere with the peasant communities into whose midst they intruded. Today, tall, long-headed individuals reminiscent of the Battle-Axe people of Fatyanovo, are rarely encountered in Russia.

The skeletal type of the Fatyanovans appears to have been ubiquitous across a wide part of both European and Asiatic Russia until well into the Iron Age, when the Mongol expansions engulfed and absorbed the long-established, thoroughly European-looking peoples east of the Urals. Bronze Age skeletal remains from Minussinsk in southern Siberia are of a familiar European type, with the long, narrow skulls that are also sported by the few skeletons that escaped the cremation pyres of the Ukrainian Urnfielders.

During the Roman Iron Age, nomadic, tent-dwelling Scyths and their like ranged as cattlemen across the rolling steppe from the Carpathian foothills to the Don. Herodotus divided them into the 'Royal Scyths' in the east – who claimed dominion over all the rest – and such agricultural groups as the Callipidae, Alazones, Aroteres and Georgi. They were, like their assumed ancestors, the local Neolithic and early Metal Age Kurgan or 'Timber Grave' people, tall, powerfully built and long-skulled. It seems likely that they spoke Indo-European dialects of Iranian affinity with possibly Ugrian accretions; many place-names in their former territory, including the river-names Danube and Don (Iranian: *danu* = water), were probably first bestowed by the Scyths.

The Greeks, who established cities and trading stations along the northern shores of the Black Sea during the sixth and fifth centuries B.C., had dealings with the Scyths and it was from them that they

learned of the Cimmerians, an enigmatic, early Iron Age people who were displaced by the Scyths as early as the ninth and eighth centuries B.C. The name of the Cimmerians may live on in that of the Crimea.

East of the Scyths, beyond the Don, lived the Sarmatians, whose descendants, the Alans, later displaced the Scyths and whose language was said to differ from Scythian in its content of 'Amazon' words. Still further east, according to Herodotus, lived the Massagetae and beyond them the Saka. These peoples were all at least partly nomadic, all were cattle-ranchers and all, to judge from eyewitness descriptions and skeletal remains, were of wholly European appearance, as yet quite free from East Asiatic admixture.

During the last century B.C. and the first A.D., Sarmatians still ranged the former Scythian territory beyond the Carpathians, the eastern border of the Roman province of Dacia. The Rhoxolani, the most powerful of the plains Sarmatians, were finally defeated in c. A.D. 60 by the Romans on the Lower Danube. Early in the third century A.D., Gothonic-speaking tribes, headed by the Bastarnae and soon followed by the Visi- and Ostrogoths, invaded southern Russia through Poland and Volhynia, subjugated the Sarmatians and adopted many of the trappings of the distinctive steppe culture, including the elaborate Scythian style of linear decoration, which was introduced to Scandinavia by Goths returning home.

East of the Don, the Alanic branch of the Sarmatians still held sway over an extensive territory, until they, in their turn, were dispersed by the Asiatic Huns towards the end of the fourth century A.D. The Hunnish invasions, which swept far west into central Europe, opened up Russia to the flood of Asiatic incursions that continued to wash into the country until medieval times.

Other Gothonic tribes traversed Russia, including the peripatetic Danish Heruli, who settled in the Crimea in the fifth century. It was hereabouts that they learned the art of writing; the 'Runic' characters which returning Heruli carried back with them to the North were merely modified versions of Greek or Roman prototypes they had seen in the Black Sea region. A 'Teutonic idiom', once thought to be the

language of the Heruli but now identified as a form of Ostrogothic, was spoken, to the astonishment of travellers from western Europe, in the Crimea until as recently as the sixteenth century.

From the first century A.D. onwards, Slavic speech was disseminated throughout European Russia, eventually piercing the Urals and spreading east across Siberia to the Pacific.

The Slavic linguistic cradleland appears to have lain in the region of the Pripiet marshes, in what was once called Podlesia, now encompassed by the White Russian People's Republic. Isolated in this swampy fastness from the turbulent movements of Goths, Huns, Avars and others, the Slavs, northern neighbours in early Iron Age times of the Scyths and later of the Sarmatians, began to expand outwards in every direction during the first few centuries of the Christian era. From their nucleus, they followed the Pripiet west into Poland and spread east into Russia along a network of wooded river valleys. The greater part of Russia west of the Urals was, until their coming, occupied by Finno-Ugrian-speaking communities, who, with few exceptions, were engulfed and assimilated by the expanding Slavs. Herodotus mentions several barbarian nations who have been equated with living Finno-Ugrian-speaking peoples; such were the 'Melanchlaeni' (Black cloaks), believed to be the precursors of both the modern Cheremiss and the linguistically extinct Merya, the 'Androphagi' (Cannibals) – possibly the ancestral Mordvins – and the 'Budini', a blue-eyed, red-haired forest people who lived on the middle course of the Volga near Samara and may have been the forerunners of the Votyaks and Permyaks, who have since migrated far to the north. Although only isolated pockets of Finno-Ugric speech survive in Russia, the phonology of many Russian dialects owes much to an indelible Finno-Ugric substratum influence, whilst place-names of Finno-Ugric origin are still ubiquitous. Other pre-Slavic languages, such as the presumably Iranian speech of the Sarmatians and their descendants, left fewer traces.

The Slav colonists of European Russia during the first half-millennium of the Christian era were known to the Byzantines collectively as 'Antes' – as opposed to the 'Sclavinae', or West Slavs, the ancestral Poles, Czechs, etc. The Russians themselves, however, continued to

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Speak of each other by their various tribal designations: Severjane, Radimichi, Krivitchi, Polotchane, Dregovitchi, etc.

Skeletally, these early Slavs were similar to their assumed fore-runners, the late Iron Age people of the Zarubintsi and Chernyakhovo Urnfields communities, although extensive admixture with the peasantry amongst whom they settled and implanted their language soon modified their once characteristically tall stature and narrow heads, two features which are rarely encountered in Russia today.

The penetration of Central Russia by Scandinavians (known to the Slavs as: Varyagi = Vaerings or Varangians, and to the Finns as: Ruotsi = 'seafarers', whence: Russians) during the eighth and ninth centuries, although it exerted a catalysing influence on the hitherto disorganised Slavic tribes, made a negligible genetic contribution to the Russian population.¹

Far more profound were the genetic influences introduced by the Mongols and Tartars of later times. For over 200 years, from the early thirteenth until the end of the fifteenth century, European Russia was subjected to successive invasions of 'Mongoliform' invaders from beyond the Urals. These Asiatics settled densely on Russian soil, where they assimilated several formerly Finno-Ugrian-speaking communities (e.g. the Chuvash and Bashkir) and exerted a profound physical influence on the inhabitants of large sections of European Russia. East Asiatic features, such as low stature, coarse, black hair, broad faces, snub noses, widely spaced, often slit or almond-shaped eyes and high incidences of the blood-group B, become increasingly more common towards and east of the Urals.

Russian Turkestan, stretching north and east of the Caspian towards China, was, until some 1,500 years ago, the home of cattle-ranchers who seem to have been physically indistinguishable, apart from their mode of dress, hair-style and tattooing, from most living Europeans. Their former territory is now occupied by such thoroughly 'Mongoliform' peoples as the Turkic-speaking Kazakhs and Uzbeks and by such partially 'Mongolised', Iranian-speaking peoples as the Tajik.

Further west, such peoples as the Kalmuk of the northern Caucasus,

1 G. Vernadsky, *The origin of the word 'RUS'*.

representing the remnants of medieval Mongol settlement hereabouts, are wholly Asiatic in appearance, whilst the somewhat less overtly 'Mongoliform' Samoyed, a nomadic, reindeer-herding people, have, in historical times, extended their range into north-western Russia across the Urals and have exerted a profound genetic influence on such formerly thoroughly European-looking peoples as the Ugrian-speaking Vogul and Ostyak.

It is true to say that, during the past 1,000 years at least, the permeation of East Asiatic genes has advanced westwards as far as the fiftieth degree of longitude. Further west, very low stature, lank black hair, exaggeratedly broad faces and other typical Asiatic earmarks, become increasingly scarcer.

West of the Urals, marked local variations in physical type are rare; the inhabitants of European Russia – apart, of course, from the Caucasians – are of remarkably uniform appearance. Among both Slav- and Finno-Ugrian speakers, mediocre stature (5 ft 5 in–5 ft 7 in), stocky build and mesocephalic skulls are characteristic, as are extremely fair, 'ash-blond', hair and light eyes, which are more often grey or hazel than blue. Fair complexion increases in frequency towards the west of European Russia, becoming especially prevalent among the White Russians (many of whom may be regarded as fairly recently Slavicised Balts) and Volhynians.

Statures of 5 ft 8 in and above are commoner in the Ukraine than elsewhere, a reminder that the Scyths and other reputedly tall peoples who once lived hereabouts were never extirpated although they lost their language and culture. Dark pigmentation is also characteristic of the Ukrainians, reaching a maximum intensity around the Black Sea and east towards the Caucasus.

Language groups in the European part of the USSR

A. Indo-European family

Russian names

SLAVONIC GROUP

Russians

Russkie

Ukrainians

Ukraintsy

White Russians

Belorusy

Poles (in White Russia)	Polyaki
Bulgarians (in Moldavia)	Bolgary
BALTIC GROUP	
Lithuanians	Litovtsy
Letts	Latyshi
ROMANCE GROUP	
Moldavians	Moldovanye
GREEK GROUP	
Greeks	Greki (near Donetsk, N. of Sea of Azov)
IRANIAN GROUP	
Ossetes	Ossetiny
INDIC GROUP	
Gipsies	Tsyganye
ARMENIAN GROUP	
Armenians	Armyanye
GERMANIC GROUP	
Yiddish-speaking Jews	Yevrei

B. Caucasian family

KARTVELIAN GROUP	
Georgians	Gruziny
ADIGHO-ABKHAZIC GROUP	
Kabardines	Kabardintsy
Cherkessians	Cherkesy
Adighe	Adygeitsy
NAKHSKIAN GROUP	
Chechen-Ingush	Checheny/Ingushi
DAGESTANIAN GROUP	
Avartsians	Avartsy
Lesghians	Lezginy
Laktsians	Laktsy
Dargintians	Dargintsy
Agulians, etc.	Aguly

C. Uralic family

FINNIC GROUP	
Estonians	Estontsy
Carelians	Karely

The living Europeans

Lapps	Saamy or Lopari
Syrjenians	Komi
Votyaks	Udmurty
Cheremiss	Mariytsy
Mordvins ¹	Mordviny
UGRIC GROUP	
Ostyaks	Khantsy
Voguls	Mansi
SAMOYED GROUP	
Samoyeds	Nentsy

D. Altaic family

TURKIC GROUP	
Chuvash	Chuvashi
Tatars	Tatary
Bashkirs	Bashkiry
Kazakhs	Kazakhi
Gaguz (in Moldavia)	Gagautsy
Azerbaijani	Azerbaydzhantsy
Kumik	Kumyki
Karachays	Karachaevtsy
Balkars	Balkartsy
MONGOL GROUP	
Kalmucks	Kalmyki

(Based on *Narody evropeyskoy chasti SSSR* (The peoples of the European part of the USSR), Moscow, 1964, and *Entsiklopedichesky spravochnik* (Encyclopaedic reference book), Moscow, 1967.)

LITHUANIA AND LATVIA

These two pocket republics of the U.S.S.R. are set in country that was, until the late Middle Ages, one of the most isolated corners of Europe.

The inaccessible nature of the region, hemmed in on the landward side, as it still largely is, by extensive forest and swamp, enabled some

¹ Those of the Mordvins who have adopted the Turkic language of the Tatars are now known as 'Karatais', whilst those who have given up their own tongue in favour of Russian are called 'Teryukhans'.

of the remoter Baltic tribes to remain obdurately pagan until as late as the fifteenth century. Indeed, superstitions and folk-beliefs of unequivocally pre-Christian inspiration are still rife in the rural parts of Lithuania and Latvia.

The same geographical conditions permitted the survival of archaic dialects that are, in many respects, closer to the assumed proto-Indo-European speech of 5,000 or 6,000 years ago than are any other recorded languages save perhaps Sanskrit. It was to Lithuania that the nineteenth-century German philologist, August Schleicher, travelled in order to hear, in the smoky darkness of peasant hovels, 'the splendid form of this language in living use'.

Indo-European dialects were probably introduced to the south-east Baltic by Single Grave/Battle-Axe colonists who, during the second millennium B.C., settled in the present Latvia and Lithuania amongst a native population in whose ancestry both Danubian pioneer farmers and aboriginal forest folk had assuredly played a part.

The area to which the Baltic languages – Lithuanian, Latvian (also called Lettish) and their several dialects – are now confined represents a meagre portion of the territory in which they were formerly spoken. Before the encroachments, from early Iron Age times onwards, of Gothones, Slavs, Finns and, later, of north Germans, the Baltic culture-province embraced a sizeable section of western Russia, as testified by the wide diffusion of artifacts of demonstrably Baltic workmanship and the presence of Baltic river-names as far east as Moscow. Indeed, during the Bronze Age, Balts seem to have been active throughout an area that stretched from their present homeland to the Urals.

Herodotus, writing in the fifth century B.C., reported that the 'Neuri' (now generally assumed to have been a complex of Baltic-speaking tribes) lived north of the Slavs and were the western neighbours of the 'Androphagi' – the ancestral Mordvins, who then, as now, lived near the Middle Volga.

From the first century A.D. onwards, these eastern Balts were engulfed by the expanding Slavs, who either absorbed or displaced them. Many Baltic-speaking groups appear to have moved north-west

to their present location; elsewhere, their languages and culture were lost.

During the last few centuries B.C., Finnic-speaking tribes had moved and settled among the Balts before proceeding north to their present homelands in Estonia and Finland. One group of Finnic-speakers, however, the Livs (who may themselves have been an autochthonous people who adopted a Finnish idiom), remained in northern Latvia, where their language lingered on until some thirty years ago. They called themselves Liivli or, more often, simply Randalist (coastal folk). During the seventh century A.D., these Livs, often in the company of their Baltic-speaking neighbours, the Curonians, were known throughout the Baltic as ferocious pirates, raiding as far afield as southern Sweden and even Denmark. Later, the Curonian coast suffered retaliatory attacks from Danish and Geatish Vikings.

In the thirteenth century there was an intensification of German activity along the southern rim of the Baltic. Hanseatic stations were planted at Riga, Dorpat and Reval, and later, German religious orders, first the Sword Brothers, then the Teutonic Knights, forcibly attempted to spread Christianity among the heathen Balts, known at that time as 'the Saracens of the North'. One of the most formidable of the Baltic tribes, the Semigallians of southern Latvia, were, after protracted fighting, defeated by the Teutonic Knights. They streamed south to join forces with their kinsmen, the Lithuanians proper, whilst the Latgali, the ancestral Letts, moved westwards to fill the void they left behind them.

From this time on, German influence, both cultural and genetic, was profound. The coastal towns of both countries supported substantial German populations, whilst, in the 1930s, the Latvian aristocracy was still of almost exclusively German extraction. The 700-year-old *Deutschbaltentum* was brought to an end with the 1939-40 German-Soviet pact, after which some 200,000 Germans were resettled in the Reich.

Between the thirteenth and the sixteenth centuries, despite the disintegration of their old tribal units by the Germans, the Lithuanians extended their sphere of influence far to the south. By the early 1400s, their kingdom, united with that of Poland, encompassed much of

European Russia, from Moscow in the north to Ryazan in the east and the Black Sea in the south and presented a formidable bulwark against the pressure of the Teutonic Orders. At this time, large numbers of Tartars, allies of the Lithuanian prince Witold, were invited to settle along the river Niemen near Wilna.

Early in the sixteenth century, the Lithuanian Empire was dismembered by the Russians, and partitioned between them, the Poles and the Swedes. The Reformation, which resulted in the Letts becoming Protestant and the Lithuanians remaining Catholic, also acted against the possibility of a reunification of the Baltic peoples.

Apart from the steady settlement of Germans in certain districts, the influx of Tartars to Lithuania in the fifteenth century and the later incursions of Ashkenazic Jews ('Litvaks'), mostly to urban centres, Latvia and Lithuania appear to have sustained a fairly stable population, especially in the country areas, throughout the past thousand years. One minor settlement in southern Lithuania, however, is of interest as it exemplifies the innumerable small, often entirely unrecorded movements that have taken place throughout European history. This is the settlement of 'Exulants', who were expelled from Salzburg in 1732 by the Archbishop on account of their Protestant faith. The Exulants were granted land in the parts of East Prussia and Lithuania that had recently been virtually depopulated by a plague. Although such an insignificant number of immigrants would have soon been absorbed by a larger population, the influx of some 30,000 Austrians to the sparsely inhabited south-east Baltic must have contributed a good deal of fresh material to the local gene-pool.

Following the Soviet occupation of the Baltic states in 1940, over 90,000 Lithuanians and Letts, together with 6,000 Estonians, were deported to Russia. Representatives of the old 'Baltic Baron' aristocracy, mostly of German descent, figured largely in these deportations.

A number of physical traits may be said to be characteristic of most of the present inhabitants of the east Baltic, not merely of the Lithuanians and Latvians, but also of many of their erstwhile linguistic kinsfolk, long since Slavicised, in the neighbouring parts of Poland and Russia.

Fairly tall statures (5 ft 7 in and above) and sturdy build are the rule, as are mesocephalic, flattish-sided skulls and straight, often excessively blond hair. The combination of blond hair with roundish skulls, common enough hereabouts, was once attributed to the feudal custom of *Jus Primae Noctis*, as practised by assumedly fair-haired German barons on assumedly round-headed local girls. Both traits, however, may be regarded as having been established in this part of Europe long before the encroachment of the Germans. Fair hair has probably been prevalent around the Baltic since early post-Glacial times at least, whilst roundish skulls were characteristic of many of the Neolithic Comb-Pottery people of Latvia. So-called 'Ladogan' facial features, combining broad skulls with widely-spaced orbits, snub, uptilted noses and prominent cheekbones are, although present in both Latvia and Lithuania, far less in evidence here than further north among the Ests and Finns. The Lithuanians tend, on the whole, to be somewhat shorter, darker and rounder-headed than their northern neighbours in Latvia, as do the natives of East Prussia (now a part of Poland), whose Baltic language, Bo-Russian or Old Russian, was encroached upon by German from the thirteenth and finally died out early in the eighteenth century.

FINLAND AND ESTONIA

Despite their somewhat divergent recent histories, the origins of the Finns and Estonians are so nearly identical that the two peoples may be regarded as ethnic, as well as cultural and linguistic, close kinsfolk.

North-west Finland was, together with adjacent parts of Scandinavia, the last portion of Europe to be released from the Pleistocene ice-caps. Until as late as 10,000 years ago, whilst Finnish Lapland and much of northern Ostrobothnia were still under the ice, central and southern Finland consisted of a jumble of irregularly sized islands that littered the north-eastern reaches of the land-locked Yoldia Sea, the freshwater forerunner of the Baltic.

In post-Glacial times, the land, freed from the pressure of the ice, began to rise and, indeed, continues to do so. From about 6000 B.C. onwards, this swampy, densely-wooded, river-laced, lake-fretted

country supported a meagre population of fishers, fowlers and gatherers, evidently descendants of game-hunters who had wandered north in the wake of the ice. In many of the remoter parts of Finland, hunting, fishing and shell-fish-gathering economies persisted until well into Neolithic and even early Metal times.

Archaeological evidence suggests that, during the fifth millennium B.C., by which time Finland had assumed an approximation of its present contour, settlers, at a Mesolithic cultural level, entered the country, both from the south via Estonia and from the east through Carelia from north-west Russia. Some of those who arrived from the south, the so-called Kunda folk, named from a site in Estonia, seem, from their cultural trappings, to have originated somewhere in east-central Europe, perhaps in Poland or the Dnieper region. Their successors in southern Finland, the pre-pottery Suomusjärvi people, gave rise in their turn to the local producers of a rough ceramic pottery decorated with comb impressions. Whilst a few of these Comb Ceramic people had acquired the rudiments of crop cultivation, the bulk of them were hunters and gatherers who ranged far beyond the confines of the present Finland and Estonia through the snowy forests of sub-Arctic Eurasia as far as Siberia. The discovery in Finland of a sledge-runner made from a type of wood not found west of the Urals gives some indication of the great distances covered by these nomads.

Skeletal remains from Comb-Marked sites in Estonia show the local practitioners of this widespread culture to have been characteristically round-skulled, with broad faces emphasised by flaring cheekbones, low-bridged noses and low, wide-spaced orbits. They must, in life, have presented a somewhat Asiatic appearance; indeed, even today, an incipiently 'Mongoliform' cast of feature is still discernible among certain Finnish and Estonian groups, as among some of their Russian neighbours.

Simple food-producing techniques, passed northwards from tribe to tribe up the river routes of western Russia and along the eastern margin of the Baltic, were late in reaching Finland. During the early part of the second millennium B.C., small contingents of characteristically lofty, powerfully-built, long-headed, hawk-nosed planters and

stockbreeders, a branch of the Corded/Single-Grave/Battle-Axe people, began to arrive around the Gulf of Finland, presumably from Kurgan dispersal centres in southern Russia. The evidence suggests that their superior material culture did not immediately strike root in Finland and that the indigenous forest folk were little touched by the newcomers and their agricultural practices. Away from the thinly scattered Single-Grave settlements, the traditional hunting and foraging way of life continued unaltered.

The Bronze Age period provides reliable archaeological evidence of immigration to Finland from Scandinavia. Many objects found in western Finland are of unambiguously east Swedish provenance, whilst the cairn-graves distributed along the western seaboard of Finland are identical in form and construction to graves in central Sweden. It seems probable that Scandinavian colonists, perhaps already speaking some form of Gothonic, were responsible for the introduction of bronze to western Finland.

The Scandinavians do not seem to have penetrated very far into the interior of Finland; the forest wilderness was still the domain of culturally-backward hunting peoples, some of whom seem to have remained quite ignorant of metal until almost Christian times.

During the first few centuries A.D., Finno-Ugrian dialects ancestral to modern Finnish and Estonian began to be implanted around the Baltic.

The first of the Finnic-speaking peoples to arrive were, evidently, the Hämäläiset or Tavasts, who crossed the gulf from Estonia and settled among the forest peoples in the central part of present Finland.

East of the Tavasts, the forests north of Lake Onega were penetrated, probably from the sixth century onwards, by their linguistic kinsmen, the Carelians, with whom, in the present province of Savolax, the Tavasts intermingled. An early offshoot of the Carelians, the Kainuläiset, moved northwards into Finnish Lapland before passing on into the northern marches of Sweden and Norway where, in medieval times, they were known as Kvaens and earned their reputation as ferocious marauders. The 'Bjarmians' encountered by ninth-century Scandinavian voyagers in the inner recesses of the White Sea are

recognised by some authorities as Carelians. They may just as likely have been a branch of the Komi or Syrjenians, 'Permian' Finns whose territory is believed to have formerly stretched as far west as the mouth of the Northern Dvina.¹

The Suomaläiset, or Finns proper, settled to the west of the Tavasts. Along the western rim of Finland, they encountered Gothonic-speaking communities who, despite their long residence in Finland, seem to have maintained cultural and, presumably, genetic contacts with their cousins in Scandinavia. These Gothones were evidently few in number, for they, their advanced iron culture and substantial elements of their language, were gradually assimilated by the numerically superior Finns.

It has been suggested that the ethnic name 'Finn' was first bestowed by the Gothonic inhabitants on the Suomaläiset. The word seems to derive from an early form of the verb 'to find', and may have originally referred to the hunting and foraging (i.e. 'finding') way of life still practised in parts of Finland at the time when the Suomaläiset arrived. However, as we know that the Suomaläiset reached Finland with some knowledge of agriculture, the name 'Finn' can hardly have been applied to them. It was, more likely, given by the Gothones to some of the indigenous pre-Finnish forest-folk – perhaps the 'People of Pohjola' with whom, relates the national epic – the Kalevala – the Suomaläiset struggled on their arrival in Finland.

What of the Finns and Estonians before their arrival in their present Baltic homeland? We have already retraced, with the help of recognisable loanwords in their languages, their most likely prehistoric migration route, which seems to lead back to a dispersal centre somewhere in central Russia between the Oka and the Urals.

In this region, some time before their departure, they came under the influence of Iranian-speaking agriculturalists, possibly the Scyths or

¹ Two isolated and rapidly shrinking enclaves of Carelian-speakers still survive in Russia far to the south of Carelia and separated from their nearest linguistic cousins by both Russians and Vepsians. In 1926, a mere 850 of these East Carelians still lived near Novgorod, whilst their kinsmen, the 'Tver Carelians', living north of Tver (Kalinin), numbered some 140,000.

their like, from whom the Finns picked up the rudiments of cereal cultivation.

The ancestral Baltic Finns undoubtedly forsook their old home in central Russia before the incursion of Asiatic Tartars to that region from the fourth century A.D. onwards, for, whilst Turkish words abound in the languages of the Volga Finns and Perms, there are none at all in the varieties of Finnic carried to the Baltic.

Their northward wanderings brought them, probably during the last century B.C., to the south-eastern corner of the Baltic. The abundance, in both Finnish and Estonian, of early Gothonic and Baltic loanwords, indicates that the ancestral Finns and Ests were in long and intimate contact with some East Gothonic people, and with the forerunners of the modern Latvians and Lithuanians – who seem to have added to the Finns' meagre knowledge of agriculture.

In Tacitus' day (first century A.D.), it appears that the Finns (Fenni) very likely still occupied Estonia, whilst the Ests (Aestii) lived further south, around the coastal rind of Lithuania and East Prussia.¹

Although Tacitus reported that the Fenni were 'astonishingly wild and horribly poor', ignorant of iron, hunting with bone-tipped arrows, dressing in animal pelts, sustaining themselves on wild grasses and sleeping on the bare earth under rough shelters made of branches, his description does not match the archaeological evidence of the Finns at this time. Tacitus never visited the east Baltic, and his ideas about the Fenni were almost certainly based on the garbled reports of Germanic tribesmen, who may themselves have heard them at second hand. The Finns, as stated, had for long been agriculturalists, and Tacitus may have been describing some of the earlier, pre-Finnic denizens of the east Baltic backwoods.

Physically, the Baltic Finns, prior to their removal from southern Russia, doubtless resembled their more sedentary kinsfolk, whose descendants, the Mordvin and Cheremiss, still live near the Volga. These Volga Finns are characteristically stocky, with small, round

1 Some authorities contend that the Aestii, described by Tacitus as cultivators and amber-gatherers, were not the ancestral Ests at all but, rather, a Baltic-speaking people, possibly the progenitors of the Borussi or Old Prussians.

skulls and light or mixed hair and eyes. These features are not, on the whole, typical of the Baltic Finns, apart from some of the Carelians. The modern Finns and Ests are prevalingly very tall, robustly built, excessively blond and boast some of the largest heads in Europe. Whilst broad, flattish-sided skulls, wide faces and snub noses are the norm among the inland peoples – notably the Tavasts, Carelians and inland Estonians – narrow heads, long faces and prominent noses are commoner along the coastal margins of both countries. Such features, often found in conjunction with golden-blond (rather than ash-blond) hair and blue (rather than grey) eyes, are especially frequent in the old Swedish zones of settlement – the Åland archipelago, southern Ostrobothnia and Nyland in Finland, and the islands of Øsel and Dagø off Estonia.¹

Swedes proper, as opposed to the old Gothonic population absorbed by the Finns, began to plant settlements along the coastal fringe of Finland during the third and fourth centuries A.D., in the Viking period. Swedish chieftains seem to have held sway over extensive areas of Finland and later, during the twelfth century, Swedish kings launched several crusades against the heathen Finns, thus paving the way for the medieval Swedish colonisation.

The Carelians, who, although their territory is now a Soviet Republic, still speak a series of archaic Finnic dialects, tend to be both darker, shorter and rounder-headed than their western neighbours. Other fragmented Finnic-speaking peoples – Ingrians, Vepses and Votes or Vaddalaiset (collectively known to the Russians as 'Chudes') –

1 A misconception that the Finns are an Asiatic people of 'Mongoloid' affinities is evidently still in circulation. In a very recent textbook on human geography (H. Robinson, *Western Europe*, University Tutorial Press, 1968, p. 67) the Finns and Lapps are described as belonging to the Mongoloid ethnic type. This extraordinary belief appears to date from the early years of the nineteenth century, when the relationship between Finnish and Lappish and the identity of both languages as members of the greater Ural-Altaic group were first recognised. Linguistic and ethnological classifications, as so often in the past, became confounded, with the result that the Lapps and Finns were lumped together with the speakers of other Ural-Altaic languages (Manchu, Mongol, Uzbek, Turkoman, etc.) in Asia.

still survive along the inner reaches of the Gulf of Finland and around lakes Onega and Ladoga in Russia. Apart from their fast-disappearing languages (the speakers of Vote, for instance, are down to about 250), there is evidently little to distinguish them from the surrounding Russian and Russianised population. Adam of Bremen, writing in the eleventh century, described the 'Wizzi' (the Vepses) as 'very hard-hearted gluttons, born with grey hair' and their neighbours, the 'Husi', as 'pale-faced and green'. Neither the 'Husi' nor the 'Scuti', 'Turci' nor 'Lami' – all of them presumably Finnic-speaking peoples living east of the Baltic, and all mentioned by Adam – survive in name to this day. An interesting offshoot of the Votes were the so-called Krevines, descendants of Votish prisoners deported to northern Latvia in the 1440s by the Teutonic Knights. Although their numbers were few, the Krevines managed to maintain their distinctive Finnic language until almost a hundred years ago.

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The search for the races of Europe

Blue eyes and blond hair are no more proof for an original Nordic race than red hair and freckles point to an original Rufous race, or short stature and heavy beards to a race of Trolls.

Stanley M. Garn, *Human races*, p. 5

This chapter may be regarded as the Museum Section of our survey. It reviews very briefly some of the more important attempts on the part of anthropologists during the past two hundred years to classify the peoples of Europe. Although invalidated by the findings of genetics and, thus, no longer applicable, these systems are of great historical interest, and a survey of this type would not be complete without a backward glance at them. Whilst it is easy for us, living as we do in such genetically better-informed times, to mock them, it must be acknowledged that, despite their irregularities and contradictions, most of these classifications result from lifetimes of dedicated investigation and were drawn up, despite the fact that they were often abused by others for political or chauvinistic reasons, with the best of scientific intentions; without the research that lay behind them, the science of physical anthropology would be infinitely poorer.

'We talk all the time glibly of races,' wrote Franz Boas in 1936, 'and nobody can give us a definite answer to the question: What constitutes a race?'¹

None the less, anthropologists before and since Boas's time have yielded to the universal human desire to make order out of apparent natural chaos and have attempted to categorise mankind into 'races', 'stocks', 'strains', 'subspecies' and 'ethnic groups' on the basis of such haphazardly selected observable traits as stature, pigmentation, head-shape, hair-form and, more recently, of such invisible factors as blood types.

In doing so, they have disregarded, either purposely or through ignorance, the enormous plasticity of our species that exists even within virtually isolated populations and that was recognised as long ago as 1749 by the Comte de Buffon.

1 F. Boas, 'History and Science in Anthropology: a reply', *American Anthropologist*, vol. XXXVIII (1936). Quoted on p. 65 of Ashley Montagu's *Man's most dangerous myth*, Meridian Books, 1965.

Every circumstance concurs in proving [wrote Buffon] that mankind is not composed of species essentially different from each other; that, on the contrary, there was originally one species, who, after multiplying and spreading over the whole surface of the earth, has undergone various changes, by the influence of climate, food, mode of living, epidemic disease and the mixture of dissimilar individuals. It is probable that they [the existing human varieties] will gradually disappear, or at least that they will differ from what they are at present, if the causes which produce them should change, or if their operation should be varied by other circumstances or combinations.¹

Buffon's thoroughly realistic explanation of the physical variability of the human species has yet to be improved upon, expressing, as it does so concisely, the attitude of today's genetically enlightened anthropologists.

In his own day, however, Buffon's opinions about 'race' were not fashionable. Most of his contemporaries were, like many modern anthropologists, inveterate typologists.

The eighteenth-century Swedish taxonomer, Carl von Linnaeus, whose monumental classificatory system embraced the entire animal and vegetable kingdoms, divided the species *Homo sapiens* into four discrete geographical varieties, African, Asian, American and European, the latter being described as characteristically 'White, ruddy and muscular.'²

It was the German physician, Johann Friedrich Blumenbach, who in 1775 first applied the term 'Caucasian', named after a particularly fine skull from the Caucasus region, to the Europeans. In his *De generis humani varietate* he described the 'Caucasians' thus: 'Colour white: cheeks rosy; hair brown or chestnut coloured; head sub-globular; face oval, straight, its parts moderately defined; forehead smooth;

¹ C. de Buffon, *Natural history*, 1749. English translation by William Smellie, London, 1860, p. 268. Quoted by L. Snyder in *The idea of racialism*, Anvil, 1962, p. 102.

² Linnaeus, *Systema Naturae*, quoted by L. Snyder in *The idea of racialism*, Anvil, 1962, p. 11.

nose narrow, slightly hooked; mouth small. The primary teeth placed perpendicularly to each jaw; the lips (especially the lower one) moderately open; the chin full and round.¹

In the following century, the English physician, Thomas Henry Huxley, based his system, as Blumenbach had done, on pigmentation and divided the peoples of Europe into the 'Xanthochroids' of the north and the 'Melanochroids' of the south.

A Swedish contemporary of Huxley's, the anthropometrist Anders Adolf Retzius, in his *Glance at the Present State of Ethnology with Reference to the Form of the Skull*, drew up a system of classification based, not on skin-colour, as Blumenbach's had been, but on head-form. He divided the Europeans into the Dolicho- and the Brachycephalae. The Dolichocephalae included the 'Germans' (under which rubric Retzius grouped the Scandinavians, Dutch, Flemings, 'Germans of the Germanic Stock', Franks, Burgundians, Anglo-Saxons, the 'Goths in Italy and Spain', the 'Celts', the 'Gauls in France, Switzerland, Germany, etc.', the 'Proper Romans' and the 'Ancient Greeks and their descendants'). Among the Brachycephalae were the 'Ougrians' (Lapps, Samoyeds, Ostyaks, Magyars, etc.), Turks, 'Slavonians', Baltic peoples, Etruscans, Tuscans, 'Rhetians', 'Tyrolese' and Basques.²

Although Retzius was never directly associated with the myth of an Indo-European (later 'Aryan') race, which arose in his lifetime, during the early nineteenth century, some of his observations – such as those which correlated head-shapes with socio-linguistic units – may, unintentionally, have contributed to it.

In 1813, the English physician Thomas Young first coined the term 'Indo-European' to embrace the many languages of Europe, the Middle East and India, whose possible mutual origin had first been suggested, in 1788, by Sir William Jones (see p. 62).

From now on, comparative philologists began to regard the speakers of these languages as the descendants of an imaginary ancestral race. German scholars, in particular, tended to stress the unity of language

¹ Quoted on p. 104 of the same book.

² Quoted in full on pp. 112–13 of the above.

and race. Franz Bopp, in a moment of zealous national pride, altered the name 'Indo-European' to 'Indo-Germanic' and it became increasingly clear, through the statements of his brother linguists, that the Germans were beginning to regard themselves as the representatives of an ideal racial type.

It was the Anglo-German philologist Max Müller, who, during the early 1860s, suggested replacing the somewhat academic terms 'Indo-European' and 'Indo-Germanic' by the more romantic 'Aryan', a word inspired by the Sanskrit 'Arya' (literally: noble), the name by which the Indo-European-speaking invaders of India had called themselves. From their Asian cradleland, proposed Müller, the Aryans had swarmed north-westwards into Europe, where they became the ancestors of the later Indo-European-speaking peoples, the Germans, Kelts, Romans, Slavs and Greeks.

In 1888, Müller repudiated his early confusion of language with race. 'To me,' he wrote, 'an ethnologist who speaks of an Aryan race, Aryan blood, Aryan eyes and hair, is as great a sinner as a linguist who speaks of a dolichocephalic dictionary or a brachycephalic grammar.'¹ Unfortunately, however, Müller's former conception of an Aryan race had captured the popular imagination. Innumerable attempts were made to locate the homeland of this imaginary parent stock, some holding that the Aryan nucleus lay in Europe, others that it was to be sought in Asia or Africa.

Whilst almost all agreed that the original Aryans had become physically debased through miscegenation, there was fierce disagreement about which of the modern European peoples could be considered the purest Aryan representatives.

The Comte de Gobineau singled out the early Germanic tribes as the most undiluted of the Aryans in Europe, a suggestion which German nationalists, notably Gobineau's great patron, the composer, Richard Wagner, found enormously appealing.

Transplanted to German soil, Gobineau's Aryanism rapidly degenerated into the narcissistic cult of Nordic Teutonism, which

¹ Müller, *Biographies of words and the home of the Aryas*, London, 1888, p. 121. Quoted on p. 42 of Snyder's *The idea of racialism*, Anvil, 1962.

extolled tall, long-headed, blue-eyed blonds as the apotheosis of all that was estimable in man. The most voluble apostle of Teutonism was the Germanised Englishman, H. S. Chamberlain, although the myth achieved its most blatant expression in the pronouncements of the Nazi racial theorists, notably Alfred Rosenberg and Hans F. K. Günther. Hermann Gauch, one of the crassest of Hitler's racial 'scientists', went so far as to attribute a range of mannerisms – facial expressions, gestures, stance – and such characteristics as voice-quality, to the Nordic race.

Alongside and in opposition to Nordicism was Kelticism. The chief protagonists of this exclusively French cult, N. D. Fustel de Coulanges and M. Barrès, made claims for their ideal racial type that were every bit as sweeping as those of the German Nordacists. It was argued that the Kelts – who, in contrast to the Nordics, were supposed to have been a round-headed race – alone enshrined all the noble qualities of the ancestral Aryans.¹

Fortunately, there were many scholars who rightly refused to be confused by the 'Aryan' myth, and who, ignoring the allegedly inherent behavioural factors beloved of the Aryanists, based their classificatory systems on observable physical characteristics alone.

The Russian ethnographer, Josef Deniker, in his influential survey *The races of man* (Walter Scott, 1900), used the term Aryan in its linguistic sense alone – as a synonym of 'Indo-European'. Deniker claimed to have

1 René Collignon, a French army doctor, drew up a 'racial map' of France, based on such criteria as the measurement of recruits, the shapes of their skulls and their complexions. Like his predecessor, the English physician W. F. Edwards who had lived in France, Collignon claimed to be able to identify two distinct racial elements in the French population, the round-skulled Celts, descendants of the Gauls, and the long-skulled blonds (whom Edwards had dubbed the 'Kymri') and Mediterraneans. Jacques Barzun (*Race – a study in superstition*, Harper Torchbooks, 1965, p. 129) asks: 'How does he [Collignon] know that a round head is a Celt? Simply by finding out from Caesar or Procopius what regions the Celts inhabited in Gallic times and measuring the people in that locality today. Collignon's science walks on crutches; one is a yardstick and the other a five-foot shelf of the classics.'

succeeded in distinguishing the existence of six principal and four secondary races, the combinations of which, in various proportions, constitute the different 'European Peoples' properly so called, distinct from the peoples of other races, Lapp, Ugrian, Turkish, Mongolian, etc., which are likewise met with in Europe.

Deniker's 'Northern race' (which included the 'Sub-Northern' variety) was tall, long-skulled and blond and inhabited Scandinavia, northern Germany, parts of Britain and some East Baltic areas.

His 'Littoral or Atlanto-Mediterranean' race (together with its 'North-western' subvariety) was tall, mesocephalic, dark and found in parts of Spain, Italy and southern France; the 'North-western' subvariety was found in Ireland, Wales and parts of Belgium.

The 'Adriatic or Dinaric' race (with its 'Sub-Adriatic' variety) was tall, dark and round-headed and distributed across central Europe from France through Italy and the Balkans to the Caucasus.

The 'Ibero-Insular' race was short, dark, long-headed and found in Spain, Italy, southern France and the Mediterranean islands.

The 'Western or Cevenole' race, which, Deniker remarks, was also dubbed 'Celtic', 'Celtic-Slavic', 'Rhetian' or 'Ligurian' by other authorities, was short, round-headed and brunet, with a range that spread across central Europe from France through Switzerland and Italy as far as Roumania.

The 'Eastern' race (with its 'Vistulian' subvariety) was short, round-headed, blond and found widely in the east Baltic area, Poland and west Russia.

The American sociologist William Z. Ripley, whose survey *The races of Europe* was published in 1899, criticised Deniker's system as being unnecessarily complicated. 'Deniker's elaborate system of six main and four secondary races', wrote Ripley, 'is, in reality, not a classification of "Races" at all. It is rather a classification of existing varieties.'

To Ripley, the races of Europe were abstractions, idealised types of humanity which, although they may have existed undiluted at a remote period in the past, had become so mixed that their original components were now rarely, if ever, to be found in one individual.

He criticised Deniker's system as being a mere enumeration of 'existent types', a 'living picture of the population of Europe as it stands, with all its complexities, its contradictions and anomalies', which corresponded in no way to the 'abstract' and 'unattainable' racial ideals recognised by Ripley himself.

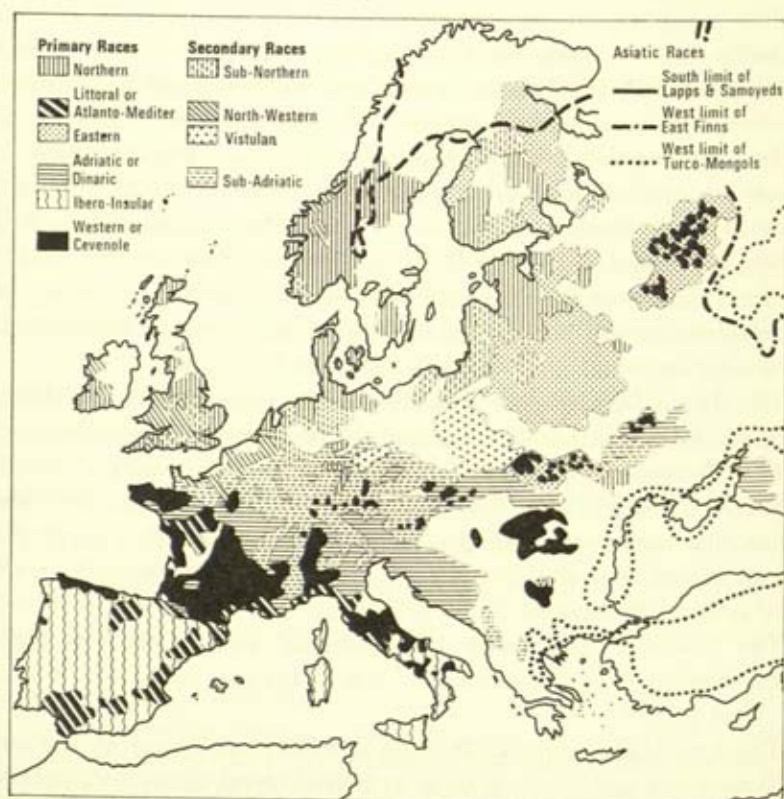


Figure 28. Deniker's map 'The Races of Europe'

Ripley's system was much simpler than Deniker's: the Europeans were, he maintained, composed of three identifiable racial strains, the 'Teutonic', a tall long-headed, long-faced, thin-nosed, blond race, 'entirely restricted to north-west Europe'; the 'Celtic' or 'Alpine', a stocky, round-headed, broad-faced, short-nosed, chestnut-haired,

grey- or hazel-eyed race occupying central Europe; and the 'Mediterranean' – 'which prevails only south of the Pyrenees, along the south coast of France and in southern Italy, including Sicily and Sardinia' – a medium-statured, slender, long-headed, long-faced, rather broad-nosed race, with dark hair and eyes.

Ripley's concept of three sharply-defined European 'proto-stocks' did little to dispel the popular equation of 'race' with behavioural traits. 'Mediterraneans' were not merely short and dark, they were also by definition 'lazy, loquacious and lecherous'; the 'Teutons' (or 'Nordics' as they became known, first in Germany) were 'fair-dealing', 'law-abiding', 'dependable' and so on, whilst the 'Alpines' were frequently dismissed, by those who considered themselves non-Alpines, as 'dirty' and 'doltish'.

One A. Basler (quoted by von Frankenberg in *Menschenrassen und Menschentum*, Berlin, 1956, p. 329) went so far as to propose an equation between the four most important European 'races' and the four human temperaments as described by Hippocrates. Thus, the Nordics were said to be melancholic, the Alpines phlegmatic, the Mediterraneans sanguine and the Dinarics choleric.

Hilaire Belloc summed up the crass conception of the three European races in three verses:

Behold, my child, the Nordic Man,
And be as like him as you can.
His legs are long; his mind is slow.
His hair is lank and made of tow.

And here we have the Alpine Race.
Oh! What a broad and foolish face!
His skin is of a dirty yellow.
He is a most unpleasant fellow.

The most degraded of them all
Mediterranean we call.
His hair is crisp, and even curls.
And he is saucy with the girls.

Whilst most would-be taxonomers of the Europeans have, by and large, adhered to Ripley's threefold system of classification, many have proposed further ramifications. All are based on whatever traits the observer himself deems to be important racial criteria and none, consequently, agree.

One of the most original was that proposed by the American, Earnest A. Hooton, in 1931. Hooton identified five 'Primary sub-races' of the 'White Primary Race' in Europe: Nordic, Alpine, Mediterranean, Keltic and East Baltic, two 'composite sub-races': Armenoid and Dinaric, and two 'Residual mixed types': Nordic-Alpine and Nordic-Mediterranean.¹

His English contemporary, A. C. Haddon, who considered hair-form to be 'the most useful characteristic in classifying the main groups of mankind', classed the 'Mediterraneans of southern Europe and North Africa', the 'Alpines' (with 'Anatolian', 'Dinaric or Adriatic' and 'Cevenole' varieties) and the 'Nordics' (or 'Teutonic race') as 'Cymotrichi', or wavy-haired, whilst the 'Mongols and the modified Ugrians and Turki' he classed as 'Leiotrichi' or straight-haired.²

By the late 1920s and early 1930s a concept of the actual post-Glacial settlement of our continent by the three stock 'races of Europe' had crystallised and was much publicised. This concept (which envisaged such phenomena as the evolution, from immigrant elements drawn from the Russian steppe, of a Nordic or Teutonic race in northern Europe, the Neolithic peopling of the European littoral by dark, long-headed Mediterraneans and of the central mountain systems by stocky, round-skulled Alpines from some vague eastern cradleland and the sporadic re-emergence of 'Palaeolithic survivors', sometimes specified as the lineal descendants of the Cro-Magnards) was, although ingenious, sheer fantasy, being completely unattested by either archaeological or anthropological evidence.

Haddon and Julian Huxley, in their valuable little survey, *We Europeans* (1935), retained Ripley's system whilst using Giuseppe

¹ E. A. Hooton, *Up from the ape*, Macmillan, 1931, pp. 575-81.

² A. C. Haddon, *Races of man and their distribution*, Halifax, p. 2.

Sergi's term 'Eurasiatrics' to embrace the 'Alpine', 'Armenoid or Anatolian' and 'Dinaric or Illyrian' races.

Although stating that 'the conception of three main European "races": Mediterranean, Alpine and Nordic, which is still commonly held, is too simple and has led to erroneous generalisations' and that the 'conception remains inadequate even if "types" be substituted for "races"' (pp. 201-2), Haddon and Huxley none the less offered stock portraits of the popular European racial types. Thus, the Nordic

is a narrow-nosed group but is distinguished from the Mediterranean group by fair complexion and tall stature. The typical Nordic has a florid or reddish-white skin, straight, wavy or curly hair of a yellow, light brown or tawny colour; typically, the eyes are blue or grey. The head is mesocephalic with a tendency to dolichocephaly; the skull is rugged with strongly marked muscular impressions; the face is long with a prominent, narrow, usually straight nose and a well-developed chin. This is the characteristic type of Scandinavia, it is also common in the north central European plain and frequent in the British Isles [p. 147].

Alfred S. Romer, Harvard Professor of Zoology, also presented, in his classic study of human evolution, *Man and the vertebrates* (1933), a Europe peopled by the predictable series of races. Here and there, Romer identified outcrops of 'Upper Palaeolithic survivors', whose 'darker hair and rounder heads' – in Norway and Germany at any rate – distinguished them from their neighbours. Romer saw the Nordics as 'bleached out' Mediterraneans, although the Kelts were 'not purely Nordic – a shade browner, a bit more round-headed than the true type'. The 'East European Roundheads' (his alternative name for the Slavs) Romer envisaged as having arisen from a 'fusion of two types. One presumably was that of the Nordics, who . . . supplied both blond complexion and language' (an equation between language and a physical attribute that would have made Ripley wince). 'The second was presumably a brachycephalic race . . . very probably from some more eastern homeland', but it was these round-headed intruders who succeeded, Romer maintained, in submerging 'the primitive Slavic

blood' of the 'originally long-headed Nordic' natives of eastern Europe.¹

The German anthropologist, von Eickstedt, in his *Rassenkunde und Rassengeschichte der Menschheit* (1934), split Ripley's Teutonic race into 'Nordics' in the west and 'East Europids' in the east, and the 'Alpines' into 'Alpine Proper', 'Dinarics' and 'Armenoids', whilst retaining the conception of a homogeneous 'Mediterranean' race.

In 1937, the Canadian, Griffith Taylor, in his *Environment, race and migration*, also used Ripleyan terminology in his proposed classificatory system. Using head-shape as the most significant racial diagnostic, Taylor divided the Europeans into the long-headed 'Dokephs' (the 'Early Mediterranean' and 'Nordic' races) and the broad-headed 'Brakhephs' (the 'Brakheph-' and 'Hyper-Brakheph Alpines' and the 'Altaic, non-Aryan Alpines', by whom he meant the 'Lapps, Turks, Finns, Magyars, etc.').

Carleton S. Coon, whose monumental *The races of Europe* (1939) superseded Ripley's as the standard text on European physical anthropology, classified the Europeans into ten 'racial types'. Whilst acknowledging the Nordic-Alpine-Mediterranean trilogy, Coon proposed minuter subdivisions for each of these three races.

The Mediterranean race comprised

- 1 'Mediterraneans proper'
- 2 'Atlanto-Mediterraneans'
- 3 'Irano-Afghans'

The Nordic race was divided into

- 1 'Keltic Iron Age type'
- 2 'Anglo-Saxon type'
- 3 'Trøndelag type'
- 4 'Østerdal type'

The Alpines, together with the Lapps and 'Ladogans' (the latter subdivided into 'Neo-Danubians' and 'East Baltics'), were held by

¹ A. S. Romer, *Man and the vertebrates*, reprinted by Penguin Books, 1966, pp. 268-76.

Coon to represent 'pure and mixed Palaeo- and Mesolithic survivors, of moderate head size' (pp. 291-3).

Coon also recognised the existence in parts of Europe of 'large-headed Palaeolithic survivors', represented by two varieties, which he named 'Brünn' and 'Borreby' after two fossil forms, and a series of 'brachycephalised Mediterranean derivatives, probably mixed', comprising 'Dinarics', 'Armenoids' and 'Nordics'.

Despite his elaborate classification and the considerable amount of evidence marshalled to support it, Coon's system fails to impress the genetically-oriented anthropologist, and merely perpetuates the hoary notion of 'pure' and 'mixed' races.¹ His 'racial types' are idealised, recognisable by combinations of traits (skull shape + hair colour + nose form, etc.) that we now know to be inherited independently of each other.

Coon's more complex version of Ripley's system was, however, employed, often unaltered, by many anthropologists in the 1940s and 1950s. Ashley Montagu's *Introduction to physical anthropology* (1945) and A. L. Kroeber's *Anthropology* (1948) reiterated it almost in its entirety, although neither mentioned Coon's 'Palaeolithic Survivors'. Kroeber confessed that the finer subdivisions of the Mediterranean race, the 'Mediterraneans Proper', the 'Atlanto-Mediterraneans' and the 'Oriental or Irano-Afghans', were 'not very sharply differentiated'!

1 Coon's 1939 definition of a race as 'a group of people who possess the majority of their physical characteristics in common' (*The races of Europe*, p. 11) is also quite unacceptable today. 'The majority of physical characteristics' are obviously common to all geographical divisions of mankind; the handful of features by which races were distinguished in the days of pre-genetic anthropology - stature, pigmentation, hair-form, skull-shape, etc., apart from being among those most susceptible to post-natal environmental influences, can hardly be said to constitute an individual's entire physical endowment.

To be fair, Coon, in his more recent *The living races of man* (1965), admits that 'most modern physical anthropologists have discarded these sub-racial divisions [Nordics, Alpines and the like] because they have been used to designate selected individuals of extreme types rather than populations' (p. 62), although he later lets himself down badly by allowing himself the indulgence of captioning one particular specimen in his photograph supplement as a 'Kafiri of Nordic racial type' (p. 134).

That the spectre of Ripley's hackneyed system, sometimes in its more elaborate form as proposed by Coon, still haunts many of today's anthropologists is shown by its revival in a number of recent textbooks.

Gerhard von Frankenberg, in his *Menschenrassen und Menschentum* (1956), distinguishes eight subdivisions of the White Primary Race ('Die Weisse Hauptrasse') in Europe:

- Nordic (with a 'Fälian' subtype)
- East Europid or East Baltic
- Alpine
- Dinaric or Adriatic
- Mediterranean
- Oriental
- Near Eastern, Anatolian or Armenoid
- Lapp

Besides reciting the by now predictable physical hallmarks of each of these idealised 'races', von Frankenberg also lists their spiritual (*seelische*) qualities. His description of the physical appearance of the Nordic Race follows the traditional formula; thus:

The hair may be yellow-blond or white-blond; it is often reddish too, as Tacitus well knew. It is straight or gently waved . . . The beard grows strongly . . . the skin is fair, rosy or reddish-white – 'like milk and blood', as Andersen says of a Nordic girl in one of his Fairy Tales . . . the lips are vivid red . . . if the skin is especially thin and fair, the blood-vessels at the temples and on the backs of the hands appear blue, whence the 'blue blood' ascribed to the Nordic aristocracy in some places . . . the Nordic Man is tall and slender; his trunk is short and his legs are long; he has broad shoulders, yet rather narrow hips . . . the skull is long and the face narrow . . . the brow-ridge is comparatively well-developed, although the cheekbones are not prominent . . . the nose is narrow and high and projects at a sharp angle from the forehead, etc., etc.

This portrait of the idealised Nordic Man then degenerates even

further into an attempt to delineate, very much in the manner of a zodiacal character synopsis, his mental and behavioural attributes. Thus:

Spiritually, the Northern Race is outstanding in its thirst for action, indeed, for its pugnacity, which also finds emotional expression . . . we generally associate this race with reliability and cleanliness . . . strength of mind and self-mastery often give its representatives an air of singular austerity . . . the community spirit and a feeling for order are frequently poorly developed; this self-reliance can lead to eccentricity . . . It would be foolish to deny the talent of the Nordic race and its significance as a stimulating influence . . . It can be creative, but also destructive, even suicidal, demented [*berserkerhaft*] . . . it appears to love governing, nor does it lack the desire to subjugate and enslave [and so on *ad nauseam* (pp. 331-3)].

A. E. Hoebel, in *Man in the primitive world* (1958), also catalogues the Mediterraneans, Alpines and Nordics. The latter, he informs us, besides being 'characteristically tall and slender' and having 'hair that usually falls out in adult males', 'do not have to worry too much about their waists!' The Alpine-Mediterranean-Nordic trio are also presented as the European representatives of the 'Caucasoid stock' in M. Titiev's *The science of man* (Henry Holt and Co., 1955) and in H. E. L. Mellersh's *The Story of man* (Hutchinson, 1959). These three imaginary races, occasionally with Dinarics and East Baltics thrown in for good measure, also continue to inhabit the Europe of most human geographers.¹

S. M. Garn, *Human races* (1961), uses the term 'Northwest Europeans' for Ripley's Teutons and Coon's Nordics and distinguishes four other 'large local races' in Europe, lumping Coon's East Baltics

¹ See, for example: J. F. Unstead, *Europe*, University of London Press, 1963, pp. 76-95. H. Robinson, *Western Europe*, University Tutorial Press, 1968, pp. 66-7. E. D. Laborde, *Western Europe*, University of London Press, 1966, pp. 42-7. D. C. Money, *Introduction to human geography*, University Tutorial Press, 1967, p. 166. J. Branigan, *Europe*, Macdonald and Evans, 1965, pp. 47-59.

and Neo-Danubians together as Northeast Europeans, comprising Poland, Lithuania, Estonia and the Great Russias.

In 1950, Garn, together with Coon and J. B. Birdsell, in their book *Races – a study of the problems of race-formation in man*, had listed four 'local races' in Europe – Nordic, North-west European, Alpine and Mediterranean, whilst they classed the Lapps apart from the other Europeans as an 'isolated small local race'. Coon, Garn and Birdsell's definition of a race as 'a population which differs phenotypically from others with which it is compared' entirely disregards the fact that such phenotypical differences may be, and often are, the result of non-genetic, environmental factors, whilst the two populations themselves may share a common gene-pool.

Still more recently, in 1961, the American, Calvin Kephart, presented in his *Races of mankind, their origin and migration* a system of classification which, despite its resuscitation of such nineteenth-century terms as 'Aryan', relies to a large extent on Ripleyan terminology. Kephart's system shows, in high relief, that it is still possible to ignore all the findings of genetic science when attempting to pigeon-hole different types of man; indeed, genetics must be a source of irritation to those who continue to seek for definable human races. Two races, Kephart tells us, at present live in Europe, the 'Brown-White' or 'Aryan' and the 'Yellow-Red' or 'Turanian' (a term employed by a former generation of philologists to describe the group of languages now known as Ural Altaic). The Aryans include the Cro-Magnards, Mediterraneans, Kelts (represented by the Neo-Kelts, Alpines and Slavs), Nordics (including the 'Getae', the Scandinavian Gothones and their descendants in Spain and Italy) and the 'Kimmerii' (Dorians, Montenegrins, Albanians, Baltic peoples and 'Sarmatians' – the latter represented by the Ukrainians and Poles, 'a composite of Kimmerii and Getae'). European branches of the 'Yellow-Red' race (which, says Kephart, also embraces certain of the American Indians) are the Finns (classed in Kephart's system as 'Ugrian'!) and the 'Turks', comprising the Hittites, 'Semites', Magyars, Bulgars and others (pp. 75–7). The Kimmerians, 'tallest of the Nordic Aryans', are represented today, maintains Kephart, by the

Highland Scots and the Balkan mountaineers, whose common descent is confirmed, he would have us believe, by the fact that both peoples, besides being tall, have hereditary clans, go in for blood feuds and play the bagpipes!

Francis Huxley, in his *Peoples of the world* (1964), tells us that 'Europe has nine major divisions of the Caucasoid race, Early Mediterranean, Mediterranean proper, Dinaric, Alpine, Nordic, Celtic, Armenoid, East Baltic and Lapp', in short, a compromise between the Ripley and Coon systems.

The first anthropologist to break with Ripley's by now apparently inviolate system was the American, W. C. Boyd, who, in 1951, in his *Genetics and the races of man*, proposed the following classifications of the Europeans based mainly on blood-group frequencies.

- 1 Early Europeans (by whom he meant the Basques)
- 2 Lapps
- 3 North-west Europeans
- 4 Eastern and Central Europeans
- 5 Mediterraneans

Soviet and east European anthropologists have also devised systems that differ from Ripley's. N. N. Cheboksarov, in 1951, divided the Europeans into two races, with local ramifications:

- 1 South European (or Indo-Mediterranean), comprising 'Mediterranean-Balkan', 'Atlanto-Black Sea' and 'East European'.
- 2 North European, comprising 'Atlanto-Baltic' and 'White Sea Baltic'.

The Poles, Klimek and Czekanowski, recognise four major subdivisions of the 'white' race in Europe: Nordic, Ibero-Insular, Lapponoid and six 'hybrid' types resulting from combinations of these four primary stocks:

- 1 North-western (Nordic plus Ibero-Insular)
- 2 Sub-Nordic (Nordic plus Lapponoid)
- 3 Dinaric (Lapponoid plus Armenoid)

The search for the races of Europe

- 4 Alpine (Nordic plus Armenoid)
- 5 Littoral (Ibero-Insular plus Lapponoid)

This system inescapably calls to mind that first proposed by Deniker in the bygone days of pre-genetic anthropology.

It seems that, despite the enormous amount of scientific evidence that should by now have eradicated the old notion of human races, pure and mixed, many anthropologists still consider it a part of their task to recognise the existence of such fictitious entities, either by unquestioningly accepting the well-worn classificatory systems of the past or by devising their own original schemes on the basis of new criteria.

The inventing and isolating of human 'races' is, although an amusing pastime, of no further service to physical anthropology; it can only hinder the progress of that science, whose primary aim is to explain the evolution of our species as a whole. 'Races as irreducible categories', wrote Jean Finot, 'exist only as fictions in our brains.'¹

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Glossary

- Abbevillean** A Lower Palaeolithic culture that lasted from the first Glacial period through to the second Interglacial period. The basic tool was a large core implement serving as a crude hand-axe.
- Acheulean** A Lower Palaeolithic culture lasting from the early second Interglacial period to the third Interglacial period, characterised by smaller and more serviceable hand-axes than those of the Abbevillean.
- Adapt** To adjust (said of an organism) to a specific environment, usually by physical changes.
- Allele** A member of a pair of genes – both of which occupy the same *locus* in homologous chromosomes derived from either parent.
- Altaic** A subfamily of the Ural-Altaic group of languages, the branches of which are: Turkic, Mongol and Tungus.
- Anthropometry** The measuring of human anatomical features.
- Antibody** A chemical in a body fluid that is capable of destroying a particular foreign protein.
- Antigen** A substance in the blood that serves to differentiate one blood type from another.
- Aurignacian** The first Upper Palaeolithic culture in Europe, possibly introduced from Asia. Characterised by tools and artifacts of flint and bone, and by a three-dimensional, representative style of art.
- Australopithecines** A Lower Pleistocene hominid species, whose remains have so far only been identified in Africa.
- Azilian** A Mesolithic culture in south-west France, transitional between the Magdalenian and the Neolithic. Compared with the Magdalenian, Azilian culture is meagre and art degenerate.
- Chromosomes** The 23 string-shaped filaments, found in the nucleus of every human egg and sperm cell, which carry and transmit hereditary potentialities.
- Clactonian** North-west European flake-tool and scraper industry, of Lower Palaeolithic date and probably contemporary with Lower Acheulean industries.
- Cline** An imaginary gradient of frequency drawn between two geographical variants of a single physical feature.
- Ecology** The study of the relationships between organism and habitat.
- Endocrine** Pertaining to the ductless glands.
- Endogamy** The restrictive customs according to which a mate is sought only within one's own segment of the population.
- Ertebølle** The Kitchen-Midden phase of the late Mesolithic in Denmark and the west Baltic.
- Exogamy** The practice of seeking a mate outside one's own social or local group.

Facial index The ratio between the height and breadth expressed as a percentage.

Foetalisation Or 'Neoteny'; retaining anatomical characteristics of the foetus into adulthood.

Gene The minimal unit of heredity, believed to determine specific anatomical features.

Gene-pool The total complement of genes present within a given breeding population.

Genetic drift A chance effect on the genetic composition of a (usually isolated) population.

Genotype The sum total of the genes of an organism.

Gravettian An Upper Palaeolithic stage in central and eastern Europe roughly contemporary with the Aurignacian and characterised by small, slender, pointed knife blades (*gravettes*) and by female statuettes.

Günz The first Glacial period in Europe.

Haemoglobin A substance inside the red blood cells, consisting of iron and chains of amino acids (globin), which transports oxygen to, and carbon dioxide from, all the cells in the body.

Hominid The family of *Homo*, with all its species and closely related species, including the *Australopithecines*.

Hybridisation The mating of two individuals with different gene structures, and usually from different geographical areas.

Hyperbrachycephalic Exceptionally round-headed, with a cephalic index of 85.9 per cent or more.

Iron Age Period characterised by the use of iron. In central Europe, from c. 800 B.C. to historical times.

Levalloisian An Upper Palaeolithic flake industry in western Europe, associated with Middle and Upper Acheulean materials as well as with Mousterian tools.

Linguistic taboo The restriction against mentioning certain objects, persons or deities by their proper names, and the substitution of these names by others; i.e. the Primitive Indo-European word for 'bear' – preserved by Sanskrit (*rkshah*), Greek (*arktos*) and Latin (*ursus*) – has long since disappeared from the Gothonic and Balto-Slavic languages. The Gothonic languages employ words akin to the English 'bear', meaning 'the brown one', the Baltic languages refer to the animal as 'the clumsy one' (e.g. Lettish: *meshka*); whilst the Slavic languages call the bear 'the honey-eater' (Russian: *medved*, Polish: *nieździędz*, etc.). These euphemisms may have arisen from some ritual or hunter's taboo. In parts of Lapland, the bear is still feared for its alleged supernatural powers,

and great pains are taken by bear-hunters to avoid calling it by its proper name, *guowzha*, and to use such circumlocutions as 'grandfather', 'the winter sleeper', 'the woolly one', 'the thick-furred one', etc.

Locus The place in a chromosome occupied by a gene.

Magdalenian Also called 'The Reindeer Age'; the last level of the Upper Palaeolithic in Europe, ranging from Spain to Bavaria. Characterised by highly representational artwork.

Maglemosean A Mesolithic culture of north-central Europe from northern England to Finland. Most Maglemosean sites are situated near existing or one-time bogs or lakes. Typical cultural trappings were: implements of ground stone, bone or wood, canoes, sledges, domestic dogs, harpoons, elaborate traps and sleighs.

Mesolithic Transitional cultural period between Upper Palaeolithic industries and Neolithic innovations. Characterised by meagre material culture and degenerate art, compared with Magdalenian and Aurignacian cultures, and by smaller (microlithic) implements. Such inventions as pottery and bows appear, and the dog was also domesticated at this time. In Europe, the Mesolithic spans the period c. 15,000-6000 B.C. (Much later in the north.)

Mindel The second Glacial period in Europe.

Mongoloid or Mongoliform Refers, in the present work, to an assemblage of morphological features, chiefly of the head and face, which are at present more typical of Asiatic than of European populations. The structural features include: a round, generally large skull, a broad face with widely-spaced orbits, low-bridged nose, flaring cheekbones, rounded, somewhat receding chin and, often, large incisors. Surface features include: straight, black hair, fat-padded cheeks and the 'epicanthic' fold of the upper eyelid. Short stature and 'yellow' skin can no longer be described as exclusively or even as typically Asiatic or Mongoliform characteristics.

Morphology Non-metrical, observable features of the human body. Also: The principle of the structure of word-units.

Mousterian A Middle Palaeolithic period of cultural history in Europe, West Asia and North Africa. Characterised by scraper tools, bone implements and fire and associated with Neandertal man.

Mutation A spontaneous physical or chemical change in the genes of some individuals, bringing about new hereditary effects.

Neanthropic Used of men of modern skeletal type, and opposed to such 'Palaeoanthropic' forms as the Neandertalers or such 'Archanthropic' forms as the Pithecanthropines.

Neolithic The period characterised by the cultivation of crops, the domestication of animals, the making of pottery and of tools from ground stone. In Europe, from c. 4000–c. 700 B.C. (Dates refer to earliest and latest occurrences of pre-metal Neolithic cultures in Europe.)

Occiput The hindmost bones of the cranium.

Palaeolithic The first 99 per cent of human history to date. Characterised by use of chipped or flake stone tools and complete absence of pottery and cultivation.

Perigordian A Middle Palaeolithic flake industry, contemporary with the Mousterian in parts of Europe.

Phenotype Any anatomical feature that may be tested or observed, i.e. the manifest (though not necessarily visible) characteristics of an organism.

Phoneme The smallest meaningful unit of sound.

Phylum A group of languages which, although often only remotely related, share certain basic structural patterns.

Pithecanthropoids Fossil hominid species of the early to Middle Pleistocene; exemplified by such forms as Java and Pekin Man, by remains recently identified in North Africa and, in Europe, by the Vértesszöllös remains, and possibly by Heidelberg Man.

Pleistocene The last 500,000–1,000,000 years plus of geological history, culminating in the final retreat of the Würm Glaciation.

Polytypic Said of an animal species that displays a number of physically disparate, but none the less interfertile, varieties.

Protomorphic The hypothetical anatomical form of an alleged ancestral population.

Riss The third Glacial period in Europe.

Solutrean A (comparatively short-lived) Upper Palaeolithic phase that succeeded the Aurignacian, at the time of the second maximum of the last glaciation. Marked by small, sliverlike flint implements made by 'pressure flaking' and by stylised symbolic art.

Species The basic unit of the Linnaean taxonomic system.

Syntax The combination of words in structures up to the sentence.

Tardenoisian A Mesolithic culture in western Europe, approximately contemporary with the Azilian, and possibly introduced from North Africa. The typical tool was a small micro-graver.

Taxonomy Classification for scientific purposes.

Würm The fourth and final Glacial period in Europe.

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