## *SOME NEW BOOKS.*

### European Races and Their Origins.

What was originally a course of lectures on physical geography and anthropology delivered in 1896 before the Boston Lowell Institute has expanded into an effort to coördinate, illustrate and interpret the vast mass of original material relating to the subject which is the product of patient investigation maintained for many years by observers in all parts of Europe. The outcome of the sociological study is set forth in a large octavo volume of some 600 pages entitled *The Races of Europe* by WILLIAM Z. RIPLEY (Appleton's). The aim of this work is to arrive at definite and trustworthy conclusions by distinguishing between three things which are often confounded, to wit: language, customs or culture and race. The author shows that language is often a political or historical product. This is more rarely true of customs or culture. Again, languages seldom coalesce, while culture borrowing is common. Race is independent of language on the one hand and of customs or culture on the other, and for this reason there is no greater mistake than to confound race with nationality. Race may cut across the lines of nationality, as it does across the lines of language, or those of culture. Race underlies those three social phenomena; it constitutes, so to speak, the raw material from which their patterns are made up. Race denotes what man is; nationality, language, customs represent what man does. Race, indeed, harmonizes even less with the bounds of nationality than it does with the bounds of social caste or religious affiliation. That nearly half of France, while peopled by ardent patriots, is as purely Teutonic racially as is half of Germany itself, is adduced as a proof of this assertion. Political geography, in other words, is entirely distinct from racial, or linguistic, or cultural geography. The purpose of the book before us is not to discuss the political divisions of Europe or the linguistic divisions, or the divisions in respect of civilization, but to investigate mainly from an anthropological point of view the races by which Europe is now peopled, to explore their origins and define their actual distribution. Races, as we scarcely need to say, are distinguished, first, by the shape (not size) of the human head; secondly, by the color of the skin, hair and eyes, and, thirdly, by stature. The form of the head, which is the primary expression of racial differences, is, for all racial purposes, best measured by what is technically known as the cephalic index, which is simply the breadth of the head above the ears, expressed in percentage of its length from forehead to back. When the percentage rises to about 80, the head is called brachycephalic; when it falls below 75, the term dolicocephalic is applied to it. Indexes between 75 and 80 are characterized as meso-cephalic. That the head form is the most decisive and immutable indication of race is shown by its immunity from all disturbance from physical environment. The color of the hair and of the eyes and the stature are open to modification by local surroundings; on the other hand, the general proportions of the skull seem to be uninfluenced either by climate, by food supply, or by habits of life, so that they stand forth as the most unerring exponents of the permanent hereditary differences which exist within the human species.

Before marking what the author has to say about the origins of European races and cultures, let us glance at two preliminary chapters, in which the variations of color and stature in the human species are considered. First of all, however, we should note that even the shape of the head seems to bear no direct relation to intellectual power. It is true that the broad-headed races of the earth may not, as a whole, be quite as deficient as are some of the long heads, notably the Australians and the African negroes. On the other hand, the civilized Chinese are conspicuously long-headed, while the barbarian hordes which surround them are brachycephalic. So, too, the Esquimaux, who constitute almost the longest-headed races known, surpass the Indians in culture. Europe offers the best refutation of the notion that the proportions of the head mean anything intellectually. The English, to be sure, are distinctly long-headed. Dr. Livi finds that in northern Italy the professional classes are longer-headed than the peasants; in southern Italy the opposite rule prevails. Equally unimportant, as we have said, to the anthropologist is the absolute size of the head. It is grievous to contemplate the waste of energy suffered during our civil war, when over a million soldiers had their heads measured for absolute size. At the present day, anthropologists deny that any considerable significance attaches to this characteristic. Neither does the weight of the brain seem to be important. Intellectual capacity is proportionate not to the quantity, but to the quality, of the contents of the skull. Among the earliest men whose remains have been found in Europe there was no appreciable difference from the present living populations in respect of cerebral volume. In many cases these prehistoric men even surpassed the existing inhabitants in the size of the head. In this particular the peasant cannot be distinguished from the philosopher. The striking difference between the sexes, the head of the man being considerably larger than that of the woman, seems simply to be correlated with the taller stature and more massive frame of the human male.

I.

The ancient Egyptians were accustomed to distinguish the races known to them by indicating upon monuments and in inscriptions the color of their skins. Notwithstanding the long acquaintance with them the phenomena of pigmentation remain to-day the least understood data of physical anthropology. One point seems to have been definitely settled, namely, that, however marked may have been the contrast in color between the several varieties of the human species, there is no difference discoverable in anatomical structure. Pigmentation arises from the deposition of coloring matter in a special series of cells which lie just between the translucent outer skin, or epidermis, and the inner, or true skin, known as the cutis. It was long supposed that these pigment cells were peculiar to the dark-skinned races, but investigation has shown that the structure in all types is identical. The differences in color are due not to the presence or absence of the cells themselves, but to variations in the amount of pigment therein deposited. In this respect the negro differs physiologically rather than anatomically from the European or the Asiatic. Yet this trait, although superficial, is exceedingly persistent, even through considerable racial intermixture. The familiar legal test in our Southern States in ante-bellum days for the determination of the legal status of octoroons was to look for the bit of color at the base of the finger nails. Under the transparent outer skin in this place, the telltale pigmentation would remain, in spite of a long-continued infusion of white blood.

In respect of the color of the skin, the human species is roughly divided into four groups. The jet or coal-black color is not very widespread. It occurs in a narrow and more or less broken belt running across Africa just south of the Sahara Desert, and in a few scattered tracts further south on the same continent. Another disseminating centre of the jet characteristic, although widely separated from it, is encountered in the islands southeast of New Guinea, which, from the dark color of their populations, are collectively known as Melanesia. Next to this type in depth of color come the main body of negroes, the native Australians and the aborigines of India. This second or brownish group shades off from deep chocolate to coffee color and thence down to olive and light or reddish brown. The American Indians fall within this class, because, while reddish in tinge, their skin has a strong brown undertone. In the New World we find the color quite variable, ranging all the way from the dark Peruvians and Mexicans to the aborigines north of the United States. To this second group are allied the Polynesians, characterized by a red-brown skin. A third group, in which the skin is of a yellow shade, covers most of Asia, the northern third of Africa and Brazil, including a number of widely dispersed peoples, such as the Lapps, the Esquimaux, the Hottentots and Bushmen of South Africa and most of the people of Malaysia. Among these the skin varies from a dull leather color to a golden or buff tint or muddy white. Africa contains all three types of color, from the black Dinkas to the yellow Hottentots. In Asia and the Americas all tints obtain except the jet black. The fourth color group, which is the special subject of study in the fourth chapter of this volume, is highly concentrated in the geographical sense. It forms the so-called white race, although many of its members are almost brown and often yellow in skin color. The determinant really characteristic of this group is not the skin at all, but the pigmentation of the hair and eyes. So far as the skin may be used in classification, the very light shades of it are restricted to Europe, including, of course, that part of northern Africa north of the Sahara which, geologically, belongs to the northern continent. There is a narrow belt of rather light-skinned peoples running off to the southeast in Asia, and there including the Persians and some high-class Hindus. This offshoot vanishes in the Ganges Valley in the prevailing dark skin of the aboriginal inhabitants of India. The only entirely isolated example of very light skin elsewhere occurs among the Ainos in northern Japan, but the Ainos are so few in number, and, in other respects, so abnormal, that Dr. Ripley dismisses them from consideration.

What is the cause of the differences in the color of the skin? Some anthropologists have asserted that they are the direct effect of heat, but an examination of all the races of the earth discloses no correspondence in the color of the skin with isothermal lines. The Chinese have the same color at Singapore as in Kamschatka. Other scientists have endeavored to connect pigmentation of the skin with humidity or with heat and humidity combined, but in Africa the only jet-black negroes are to be found in the dry region near the Sahara Desert, while the inhabitants of the Congo Basin, one of the most humid regions on the globe, are distinctly lighter in tint. Others again have sought to prove that the dark color may be due to the influence of the tropical sun or to oxygenation taking place under the stimulation of exposure to solar rays. There is this to be said for this hypothesis, that the color which appears in tanning or freckles is not to be distinguished physiologically from the pigment which forms in the main body of the skin of the darker races. The objection is that, among the darker races, the covered portions of the body are no less black than the exposed ones. It is further to be noted that certain groups of men whose lives are peculiarly sedentary, such as the Jews, who have spent much of their time for centuries within doors, are distinctly darker than other races whose occupations keep them in the open air. This holds true of the tropics as well as of the northern part of Europe. Moreover, the local coloration which is observed in tanning and which is due to the direct influence of the sun is not hereditary, as far as can be determined, and a sailor's children are not darker than a merchant's even after generations of men have followed the same calling. Each of these theories taken by itself has failed as an explanation. In Dr. Ripley's opinion the best working hypothesis is that the coloration is due to the combined influences of a great number of environment factors working through physiological processes, none of which, however, can be isolated from the others. One fact is established, whatever the cause may be, namely, that this characteristic, color, has been very slowly acquired, and has become exceedingly persistent in the several races.

II.

A student of the origin and distribution of races in Europe lays much more stress upon the pigmentation of the hair and eyes than upon that of the skin for three reasons. In the first place the coloration of the hair and eyes seems to be less directly open to disturbance from environmental influences than is the skin, so that variations in shading may be more easily and delicately measured. Secondly, the relative absence of color in the hair and eyes is more truly peculiar to the inhabitants than is the lightness of the skin. There are many peoples in Europe that are darker skinned than certain tribes in Asia and the Americas, but there is no Asiatic or American tribe in which blondness of hair and eyes occurs to any considerable degree. It is in flaxen hair and blue eyes that the peculiarly European type attains its fullest physical expression. This fact reveals the third inducement for focussing study upon these apparently subordinate traits. Europe alone of all the continents is divided against itself. There alone do we find blondness in all degrees of intensity scattered among a multitude of much darker types. From the precise determination of their geographical distribution an insight may be gained into many interesting racial events of the past. The author's analysis of the statistics bearing on this subject leads to the following result: In northern Europe we find that about one-third of the people are pure blonds, characterized by light hair and blue eyes; about one-third are brunettes; the remainder, over one-half, are of a mixed type, with a tendency to blondness. On the other hand, in the south of Italy, the pure blonds have almost entirely disappeared. There about one-half of the population are pure brunettes, with deep brown or black hair and eyes of a corresponding shade; the other half have a tendency to brunetteness. The half and half line seems to lie about where it ought, not far from the Alps. Yet it does not follow the parallels of latitude. A circle described with Copenhagen as a centre, sweeping around near Vienna across the middle of Switzerland, thence up through the British Isles, might serve roughly as a line of demarcation. North of it blondness prevails, though always with an appreciable percentage of pure brunettes. South of it brunetteness dominates.

How is this distribution of color to be explained? Some cause other than race has evidently exerted an influence on all types of men alike, tending to obliterate their physical differences in regard to pigmentation. Dr. Ripley is convinced that it is not a question of Celt, Slav or Teuton. The cause lies deeper than these ethnical divergencies. The Czechs in Bohemia are as much darker than the Poles to the north of them, though both are Slavs, as the Bavarians exceed the Prussians in the same respect, although the last two peoples are both Germans. It is not asserted that thereby any direct relation of climate to pigmentation is proved, but the facts, nevertheless, point strongly in that direction. At the same time, the data of geographical distribution indicate that the traits of pigmentation stand in a definite and permanent relation to the three types of head. We should here note that, on the anthropological map inserted in this volume, the broad-headed element of the European population is shown to be localized to a remarkable extent in the Alps. By the great central highland two zones of long headedness—Teutonic in the south, Mediterranean in the south—are separated from one another. At first sight this distribution might seem to prove that color has nothing to do with race, since in the northern long-headed zone blondness preponderates, while in the southern long-headed zone brunetteness is the type. In the intervening Alpine region, occupied by broad-headed folk, the color type is mixed. Is color, then, a matter of latitude, so far as Europe is concerned? That inference will be recognized as too hasty when we observe that the Walloons in the southeastern part of Belgium, together with a strip of population running down along the Franco-German frontier, are noticeably darker than the people all around them. The British Isles offer another example of local differences in respect of color which cannot be ascribed to environment. Wales and Ireland, Cornwall and part of Scotland are appreciably brunette in comparison with other regions nearby. The contrast between Normandy and Brittany in France is even more striking. Dark hair is more than twice as common in the Breton cantons than it is along the English Channel in Normandy. Then, again, when we look at the Hungarians we begin to suspect an Asiatic influence on the dark population of southeastern Europe. Perhaps the most conspicuous example of racial fixity in regard to pigmentation is offered by the Jews. They tend to preserve the Semitic shade of their brunetteness under all conditions. We are far from saying that in northern Europe there are not many red-haired and even fair-haired Jews, with blue eyes. The percentage of brunetteness among them, however, is greater than among their Christian neighbors. In Germany to-day 42 per cent. of them are pure brunettes in a population which, on the average, contains only 14 per cent. of the dark type. As one goes south the difference tends to disappear. In Austria the Jews are less than 10 per cent. darker than the general population, and, finally, in the extreme south of Europe they are even lighter than the populations around them. The inference is that, in spite of climate, pigmentation is a fixed racial characteristic.

III.

Let us pass to variations of stature, considered as indicative of race. According to Dr. Ripley, the average stature of man, considered by racial groups, appears to lie between the limits of 4 feet 4 inches and 5 feet 10 inches. The great majority of the human race, however, is found restricted within much narrower bounds. As a matter of fact, there are only three or four groups of real dwarfs less than 5 feet tall. A map showing the distribution of human beings according to stature discloses a considerable area inhabited by the diminutive Bushmen in South Africa. Another large body of dwarfs occurs in New Guinea. The line of demarkation in the first case between the yellowish Bushman and the true negroes is very sharp; but, in the East Indies, the very tall and light-skinned Polynesians dwindle almost imperceptibly in stature through the dark-skinned Melanesians into the stunted Papuans. Other representatives of true dwarf races occur sporadically throughout the Congo region and in Malaysia, but their total number is very small. On the whole considerably more than 90 per cent. of the human species is above the average height of five feet and one inch. Among savages it is easy to localize the influence of environment upon stature, inasmuch as this agency acts directly through limitation of the food supply. In general the extreme statures of the human species are found either in regions where a naturally short race like the Bushmen of South Africa are confined within an extremely infertile district like the Kalahari desert; or, on the other hand, where a naturally tall race like the Polynesians in the Pacific Ocean enjoy with scarcely any labor all the material bounties which nature has to bestow. Dr. Ripley deems it probable that the prevalent shortness of the Esquimaux and the other inhabitants of the Arctic regions is largely due to the deficiency of the food supply. He also thinks it likely that the miserable people of Terra del Fuego are much shorter than the Patagonians for the same reason. Scarcity or uncertainty of food limits growth. Wherever the conditions of existence are, in this respect, improved, the influence of environment reveals itself in a heightening of stature. Thus the Hottentots, physically of the same race as the Bushmen, but inhabiting a more fertile region, and possessed of a regular food supply in their flocks and herds, are appreciably taller than their congeners. The American aborigines dwelling in the Mississippi Valley were taller than their kindred inhabiting the mountains on either side. Even among civilized people the effect of food supply on stature may be detected. Of Europe generally it may be said that the populations of mountainous districts are less tall than those which enjoy the fertility of the plains and river basins. This law has been clearly established all along the Apennines. Partly for the same reason the inhabitants of the Vosges Mountains and of the Black Forest are characterized by relatively short stature. Along the Carpathian Hills and in the Austrian Alps a similar shortness of stature has been observed among the mountaineers. The testimony is not all unanimous, however. In the Bavarian Alps the mountaineers are appreciably taller than the peasantry in the plains, and along the northern slopes of the Pyrenees in France a similar phenomenon has been remarked. In these exceptional cases it seems probable that, in opposition to the direct effect of environment, a selective process has been at work. Only thus can we account for the fact that, while the populations at moderate altitudes seem to be physically depressed by their surroundings, the natives of greatly elevated regions seem to be rather above the normal stature. The inference is that only human beings of decided vigor are able to withstand the rigors and privations incident to life in very high mountains, the result being that an abnormally tall, selected population is left.

The relation between stature and health is brought to a concrete expression in the armies of Europe through a rejection of all recruits that fall below a certain minimum standard of height, generally about five feet. The result of the application of this standard is to preclude the possibility of marriage for all the fully developed men during their three years in barracks, while the undersized individuals exempted from service are left free to propagate the species meanwhile. It is obvious that the effect of this artificial selection is to put a distinct premium upon inferiority of stature in so far as future generations are concerned. This enforced postponement of marriage for the normal man, which is not required of the degenerate, implies not merely that the children of the former will be born later in life, but that there will be fewer of them. Herein lies the great anthropological significance of conscription. Standing armies tend to overload succeeding generations with inferior types of men. The effect of the artificial selection made operative by conscription is akin to the influence which Dalton has suggested as a partial explanation for the dense mental darkness of the earlier Middle Ages. This darkness is mainly attributed to the beliefs and customs by which all the finer minds and spirits were withdrawn from the field of matrimony by the Church, the entire future population being thus made dependent on the loins of the physically robust and adventurous but thick-headed portion of the community; mind spent itself in a single generation upon the search for knowledge; each succeeding generation was the outcome of progenitors mentally inferior.

Considered as an index of race, stature appears to be an untrustworthy witness. A physical trait so susceptible to disturbance by circumstances outside the human body is correspondingly invalidated as a criterion of hereditary tendencies which lie within. For this reason Dr. Ripley would assign the third place to this characteristic in the series of racial tests, placing it below the color of the hair and eyes. It is certain that we cannot divide the human species into definite continental groups characterized by distinct peculiarities of stature. The so-called yellow Mongolian race comprises both tall and short people. The aborigines of America are, as a rule, tall, but in the Andes, the basin of the Columbia River, and in some other tracts, they are quite undersized. The African negroes, on the other hand, seem to be homogeneous in stature, but this may not prove anything, because in Central Africa the environment is nearly uniform. The Malays are always and everywhere rather short. The Polynesians are obstinately inclined toward tallness. With these exceptions, racial or hereditary predispositions in stature seem, outside of Europe, to be absent.

Let us now turn to Dr. Ripley's map of Europe, where gradations of stature are represented by shades. We see at a glance that Europe comprehends a very broad range of variations. The Scotch, with an average height of 5 feet 9 inches, stand on a level with the tall Polynesians and aboriginal Americans. The southern Italians, the Sicilians and the Sardinians, on the other hand, are among the shortest of men, if we except the abnormal dwarf races of Africa. Between these limits there is a regular transition, which, in Dr. Ripley's opinion, discloses a racial law; not so rigorous a law as that deduced from differences of color, and, much less, from differences of head form; but still a law. Two specific centres of tall stature appear, if we include the minor but marked tendency in that direction of the Dalmatians, Bosnians and Montenegrins on the eastern shore of the Adriatic Sea. The principal centre lies in the north, and culminates in the British Isles and Scandinavia. In Britain economic prosperity has undoubtedly had some effect on stature. But, even when allowance is made for this fact, it appears that the Teutons as a race are largely responsible for the phenomenon. Wherever the Teutons have penetrated, as in northern France or down the Rhone Valley or into Austria, the height of the population shows their influence. The circumscribed area on the east of the Adriatic, which contains a very tall population, is difficult to account for. Denikar ascribes it to the presence of a gigantic Dinaric race; the subject will be found discussed in this book. Central Europe is generally marked by medium height. The people tend to be stocky rather than tall. The same thing holds good of the Slavic countries. The explanation of the extremely short stature in Sardinia and Southern Italy is problematical. Our author suggests that too protracted civilization, such as it was, may be partly to blame for it. In Northern Africa we are confronted by a notable difference in respect of stature. All along the coast, from Morocco to Tunis, the Berbers and Arabs are finely developed men. Nor is Spain below the general standard presented in the greater part of France and of Switzerland.

The innate tendency of the Teutonic peoples toward tallness of stature may be demonstrated by following the trait from place to place as this migratory race has moved across the map. Wherever these "greasy seven-foot giants," as Sidonius Apollinaris called them, have gone, they have implanted their stature in the population, among whom, long thereafter, it has remained persistently. A clear illustration of the persistency of this racial peculiarity is offered in Brittany. The inhabitants of the interior are decidedly shorter than the dwellers on the coast. This difference is accounted for by the fact that all the southern coast of the British Channel was known in the later years of the Roman Empire in the West as the "Litus Saxonicum," so fiercely was it ravaged by the northern barbarians. The people of the littoral are not only taller, but lighter in hair and eyes, and appreciably longer headed; in other words, they show traces of Teutonic intermixture.

IV.

In the teeth of the teaching of all our textbooks on geography and history Dr. Ripley does not hesitate to assert that there is no single European or white race of men. There exists no continental group of human beings exhibiting greater diversities of physical type than is presented in Europe. Within its confines are to be found entire communities of the tallest and shortest of men, as well as of the longest and broadest headed ones. Even in respect of the color of the skin, hair and eyes, the greatest variations occur. It is high time, in our author's opinion, to correct the current ideas upon this subject, and to that end to modify our school and college instruction. The truth is that instead of a single European type, there is indubitable evidence of at least three distinct races, each possessed of a history of its own and each contributing something to the common product, to wit, the population as we see it to-day. This truth does away at one stroke with most of the current chatterings about Aryans and Pre-Aryans, and especially with such appellations as the Caucasian or Indo-Germanic race. Admitting, for the sake of argument, that the ancestors of some peoples of Europe may once have been in sight of either the Caspian Sea or the Himalayas, we still have to account for two-thirds of our European populations. We must refer the reader to the book itself for a detailed exposition of the grounds on which modern anthropologists have been led to concur in the averment that three racial types exist in Europe. We turn at once to the results of their discrimination. The first of the races distinguished is, perhaps, the most characteristic. It is entirely restricted to northwestern Europe, with a centre of dispersion in Scandinavia. Each of the other types extends beyond the confines of the Continent—one into Asia, the other into Africa. A number of portraits of officers and soldiers in the Norwegian army, reproduced in the book before us, bring out certain of the physical peculiarities of the Teutonic race, especially the great length of the head, the long, oval face and the straight, aquiline nose. The face is rather smooth in outline, the cheek bones not being prominent. A narrow nose seems to be a nearly constant trait, as much so as the tendency to tall stature. This race is strongly inclined to blondness. The eyes are blue or light gray and the hair flaxen, tawny, reddish or sandy. The whole combination accords exactly with the descriptions of the Teutons handed down to us by the ancient Greeks and Romans. Such were the Goths, Saxons, Danes, Norsemen and their fellows of other localities and times. Natural science is thus strictly corroborated by history. The second racial type is most persistently characterized by the shape of the head. This is short and at the same time broad. The consequent roundness is accompanied by a broad face, a full chin and a rather heavy nose. These traits are all shown more or less clearly in portraits of Austrian Germans and of Bavarian Tyroleans. This type is of medium height, decidedly inclined toward stockiness in build. It has an aspect rather of solidity than of agility. The color of the hair and eyes is inclined to be neutral, that is to say, intermediate between that observed in the Teutonic and Mediterranean races. There is a tendency toward grayish eyes, whereas the hair is more often brown. What name does Dr. Ripley give to this second race characterized primarily by great breadth of head, and which has its main centre of dissemination in the Alpine highlands of mid-western Europe? The name most commonly applied to it is Celtic, and it is acknowledged that this most adequately harmonizes the results contributed to our knowledge of the subject by the various sciences of history, philology, archæology and physical anthropology. There is, however, a grave objection to its use. To make this clear, Dr. Ripley is constrained to examine the so-called Celtic question, than which no greater stumbling block in the way of clear thinking exists. The leading ethnologists previously to 1860, relying exclusively upon the texts of the classical writers, generally agreed in affiliating the Celts of early history with the tall, blond peoples of northern Europe. Some doubt about the correctness of this affiliation was suggested in the following decade by Broca's researches concerning the physical characteristics of the peasants in Brittany. Here were the only Celtic-speaking people on the European Continent, yet they were of a brunette and short race. In 1865 also appeared Crania Britannica, the work of Davis and Thurnam, which furnished proof that a large part of the Celtic-speaking people of the British Isles, particularly the Welsh, were short and of dark complexion. Proofs of a widespread short and dark population throughout central Europe, even in central Germany, meanwhile accumulated rapidly at the hands of Ecker, Von Hölder, Welcker and others. They, however, evaded the issue by applying new names to the broad-headed, un-Teutonic population which they discovered in the recesses of the Black Forest and the Alps. These peoples they called Ligurian, Sarmatian, Slavic or Sion types. Eventually, however, the close correspondence between the area characterized by Celtic place names, or described as Celtic by the ancients, and that occupied by this newly discovered physical type forced an issue between the anthropologists on the one hand and the philologists and old-fashioned ethnographers on the other. The years 1873-74 brought the controversy to a head. Whatever may be the present state of opinion among students of cognate sciences, there is practically to-day a consensus among physical anthropologists that the term Celt, if used at all, should be applied to the second of the three European races, namely, the brachycephalic, darkish population of the Alpine Highlands. Despite, however, the agreement among anthropologists as to the connotation of the term Celt, its use involves us in interminable difficulties so long as the word is applied also to a definite language. The philologists insist upon calling all those who speak the Celtic language Celts. With less reason the archæologists insist upon assigning the name Celt to all those who possess the Celtic culture, while the physical anthropologists, finding the Celtic language spoken by peoples of divers physical types, hold that the term Celt, if used at all, should be applied to that physical group or type of men which includes the greatest number of those who use the Celtic language. Dr. Ripley's opinion is that the term Celt, or Kelt, should be employed exclusively in a philological sense. He is willing that the name Celtic should be given to a definite language, but he would reject the application of it to a race. Neither would he employ it as a distinctive word for the first stage of iron culture, but would prefer the term Hallstatt for the grade of civilization most frequently coördinated with the Celtic language. He considers the word Alpine best fitted for the second racial type, which has been isolated in Europe by the anthropologists. In the book before us, accordingly, the broad-headed type is described as Alpine, first because it centres in the Alpine region and secondly because it follows everywhere the elevated portions of western Europe. It is preëminently a mountain type, whether we encounter it in France, Spain, Italy, Germany or Albania. It becomes less pure in proportion as we go east from the Carpathians across the great plains of European Russia. By the use of the term Alpine our author carefully distinguishes between language, culture and physical type. The Celtic language and the Hallstatt culture may or may not be found spread over the Alpine race.

We now come to the last of the three European races, which is generally known as the Mediterranean or Iberian type. This prevails everywhere south of the Pyrenees and along the southern coast of France; also in southern Italy, including Sicily and Sardinia and in North Africa. Here again we encounter a type of long head almost identical with the Teutonic. The cephalic index drops from 87 and above in the Alps to 75 all along the line. Coincidentally the color of the hair and eyes becomes very dark, almost black. As to the bodily height of this third race, two varieties are to-day recognized: the group north of the Mediterranean is exceedingly short, while the African Berbers are of goodly size. Authorities are divided as to the explanation of this difference in stature. It may be, as Dr. Ripley has already suggested, that too protracted civilization is chargeable with the comparative diminutiveness of the peoples on the northern coast of the Mediterranean. At all events, despite this subdivision based on bodily height, the substantial unity of the southern dolicocephalic race is recognized by all authorities.

V.

Let us pass to the seventeenth and eighteenth chapters of this book in which the origins of the three European races are investigated. In view of the verified data and the reasoning thereon set forth in the first of these chapters, our author deems three propositions concerning race to be fairly susceptible of proof. We reproduce them in their order, and shall then review some of the grounds on which they are affirmed. First, the earliest and lowest stratum of population in Europe was extremely long-headed; probability points to the living Mediterranean race as most nearly representative of it to-day. Second, it is highly probable that the Teutonic race of northern Europe is merely a variety of this primitive long-headed race of the Stone Age, both its distinctive blondness and its remarkable stature having been acquired in the relative isolation of Scandinavia through the modifying influences of environment and of artificial selection. Third, it is certain that, after the partial occupation of Western Europe by a dolicocephalic Africanoid type in the Stone Age, an invasion by a broad-headed race of decided Asiatic affinities took place. This intrusive element is represented to-day by the Alpine type of Central Europe.

The present unanimity of opinion among archæologists concerning the earliest dolicocephalic population is the more remarkable because it represents a complete reversal of the earliest theories on the subject. Retzius, in 1842, from a comparison of the Scandinavians with the Lapps and Finns, propounded the hypothesis that the latter broad-headed brunette types were the relics of a pre-Aryan population of Europe. The comparative barbarism of the Lapps confirmed him in this view. To him it seemed plain that this Mongoloid or Asiatic variety of man had been pressed back to this remote northern region by an immigrant blond long-headed race from the southwest. That this is, in a measure, true of Scandinavia is not denied. Arbo's researches show a Lapp substratum extending considerably south of the present restricted area of Lappland. This fact, however, must not be twisted into an affirmation that such a brachycephalic ("Turanian") once inhabited all Europe before the so-called Aryan advent.

Such was, however, the current opinion until discoveries of abundant prehistoric remains were made all over Europe, particularly in France. These, with one accord, tended to show that the European aborigines of the Stone Age were not Mongoloid, like the Lapps, after all, but the exact opposite. In respect of head form they resembled rather the dolicocephalic negroes of Africa. The only other races approaching them in long-headedness are either the Esquimaux, whom Boyd Dawkins believes to be a relic of this early European people, or else the Australians. Huxley long ago asserted that these latter savages represented our human progenitors. Dr. Ripley does not stop to discuss either of these radical opinions. He deems it sufficient to say that Broca dealt the deathblow to the older conception of a Mongoloid pre-Aryan population by the evidence which he unearthed in 1868 from the caves of Perigord; the very district where a living, Cro-Magnon type still survives. This dolicocephalic substratum has been traced all over Europe with much detail in the Neolithic or late Stone Age; by which time the geography and the flora and fauna of the Continent had assumed, in great measure, their present condition. We know that the long-headed type now predominating on the northern and southern outskirts of Europe once occupied territories close up to the foot of the high Alps on every side. In every part of Europe, from Ireland to the Caucasus, the same indubitable fact is emphasized. Only in one place in the highest Alps is this law unverified. It seems as if this inhospitable region had remained uninhabited until the invasion of the broadheads. Assuming as proved that the first population of Europe was long-headed, what do we know of its other physical characteristics? Are we able, in other words, to decide to which branch of the existing long-headed race it belongs; that of the tall, blond Teuton, or of the shorter-statured, dark-complexioned Mediterranean type? We can prove nothing directly concerning the complexion, for, of course, all traces of hair have long since disappeared. Presumptively, however, the type was rather brunette than blond, for it would thus approach the foundation tint of all the rest of the human race. The light hair and blue eye of northern Europe are nowhere found in any appreciable proportion elsewhere, save, perhaps, among the Ainos in Japan. If, therefore, as all consistent students of natural history hold to-day, the human races have been evolved in the past from some common root type, this predominant root-color must be regarded as the more primitive. It is not for an instant permissible to suppose that 90 per cent. of the human species have varied from a primeval blond ancestry, while the flaxen-haired Teutonic type alone has remained true to the primitive characteristic. The assumption that the earliest Europeans were not only long-headed but also dark-complexioned is strengthened by certain facts to which attention has been directed in this book. Thus, in one of his chapters, Dr. Ripley has proved that the Cro-Magnon type of prehistoric antiquity still exists among the peasantry in southeastern France; among these peasants, the prevalence of black hair and eyes is very striking. He has further shown, when comparing types in the British Isles, that everything tends to demonstrate that the brunette inhabitants of Wales, Ireland and Scotland constituted the most primitive stratum of the British population. Furthermore, in a curious spot in Garfagnana, where a survival of the ancient Ligurian inhabitants of northern Italy is indicated, there, also, are the people characteristically dark. Judged, therefore, either in the light of general principles or of local details, it seems that the earliest race in Europe must have been very dark. As regards pigmental affinities, it was Mediterranean, and not Scandinavian. As to stature, a trait in which the Teuton and the Iberian differ markedly from one another to-day, there is abundant evidence that the Neolithic population was more akin to the medium-statured French than to the relatively gigantic Germans and Scandinavians. The men of the late Stone Age were not, to be sure, as diminutive as the modern southern Italians or the Spaniards; they seem rather to approximate the medium height of the inhabitants of northern Africa. The Berbers, and their fellows shading off, as they do, into the negro race south of the Sahara, must be, in fact, regarded as having the least departed from the original European type. In Europe proper the brunette long-headed Mediterranean race is but slightly aberrant from it. It may have become stunted by too protracted civilization; it may have changed somewhat in facial proportions, but on the whole it has remained true to its ancestral image.

VI.

We have seen that Dr. Ripley holds the Teutonic race of Northern Europe to be merely a variety of the primitive, long-headed type of the Stone Age. This theory of a unity of origin on the part of the two long-headed races of Europe is not entirely novel. It was mooted some twenty years ago, but only within the last decade has it attained widespread acceptance among the very best authorities. It will be at once observed that this theory, accepted by our author as the best working hypothesis, rests on the assumption that the head form is a decidedly more permanent racial characteristic than pigmentation. In so doing it relegates to a secondary position the color of the hair and eyes, which Huxley, Brinton and even Virchow have made the basis of their classification of European peoples. With due respect to these authorities, Dr. Ripley does not hesitate to aver that the researches of the last ten years have turned the scale in favor of the cranium as the most reliable test of race. He believes that Linnæus's caution concerning the lower animals should be applied to man, *Nimium ne crede colori*; do not rely too much upon complexion. We know that brunetteness varies with age in the same individual; that is one proof of its impermanence. In one of his earlier chapters our author was at pains to prove also that there is a factor of the environment in mountainous or in unfertile regions which operates to increase the proportion of blond traits among men. He did not seek, in those cases, to determine whether such changes were due to climate alone or to the defective nutrition which too often attends a poverty of environment. Now, as regards the geographical distribution of the lower forms of life, it is a well-recognized law that 250 feet increase in altitude is equivalent to one degree's remove in latitude from the equator. If this law be applicable to human beings it should lead us to expect a steady increase of blondness toward the north of Europe, a fact which is fully substantiated. Experience in colonizing Africa to-day indicates that the present adaptation of the Teutonic race to a northern climate constitutes a serious bar to its re-entry into equatorial regions. May not this adaptation be correlated physiologically in some way with the modified pigmentation? May we not assume in other words that, as the primitive dark type of the stone age gradually spread over Northern Europe, environmental influences, acting very slowly through scores of generations, ultimately induced a blond subvariety to emerge? The differentiation of this subvariety would, in such an event, be commensurate with the distance from the original southern centre of migration. It is not pretended, however, that climate by itself suffices to account for the phenomenal blondness of the Teutonic race. This blondness is something more than a direct product of the fogs of the German Ocean. This is proved at once by the fact that blondness decreases not only as we proceed southward from Scandinavia, but in an easterly direction as well. In other words, the Russians at the latitude of Norway and Sweden are far more brunette in type than the Scandinavians. How are we to reconcile this fact with the environmental hypothesis? Dr. Ripley answers that, in the first place, the hordes speaking the Slavic languages are comparatively recent immigrants in that part of Europe. They are physically allied to the broad-headed Alpine type. Consequently, comparisons between Scandinavia and the lands directly east of it are vitiated. There is another reason besides climate, however, why we may expect the Teutons to be notable for blondness, even in their own latitude. It is this: that the trait has been long so distinctive of a dominant race all over Europe that it has been rendered susceptible to the influence of artificial selection. Thus a powerful agent has been allied with climate to exaggerate what may once have been an insignificant trait. There is abundant evidence to prove that the upper classes in France, Germany, Austria and the British Isles are distinctly lighter in hair and eyes than the peasantry. It is no more coincidence that caste and color are of common derivation in the Sanscrit language. The classical Latin writers abound in testimony to the same effect. The Teutonic conquerors of historic times were of a blond type. Tall stature and blondness together constituted the insignia of noble descent. Since the time of the Eddas the servile ones have always been described as short brunettes. Borrow tells us in his "Bible in Spain" that, even in that dark-complexioned country, "negro" is an opprobrious epithet. Gummere has collected from mediæval literature some interesting materials bearing on this point. The thrall is invariably a dark type, the opposite of the flaxen-haired, blue-eyed jarl, or earl. The contrast has been observed in painting. To depict Christ as a blond, the two thieves as notably dark, was long the invariable rule in artistic composition, although up to the second century Christ had been portrayed as dark, his Jewish origin being kept in view. Let us suppose, then, that such an opinion concerning the nobility of blondness became widespread; suppose that it were intensified by the splendid military and political expansion of the Teutons in historic times all over the Continent. Suppose blondness to have become the priceless heritage of a people more or less isolated all over Europe. Is there any doubt that, entirely apart from a natural choice exerted by the physical environment, an artificial selective process would be engendered which in time would become mighty in its results? Is it not permissible to ascribe in some measure both the patent blondness of the Teutonic race and its unique stature also to this cause? Such, at all events, is Dr. Ripley's hypothesis.

VII.

Now, as regards the invasion of Europe by a broad-headed race of decided Asiatic affinities. We know that the broad-headed layer of population was not contemporary with the earliest stratum in which the remains of human beings have been found in Europe. This we know because the remains of representatives of this broad-headed layer are found directly superposed upon that stratum geologically. From all over Western Europe comes testimony to this effect. France affords the clearest proof of it. In that country, where several layers of human remains are found in caves or other burial places, the long-headed type is often quite unmixed in the lowest stratum; gradually, the other type becomes more frequent, until the specimens of it outnumber those of its predecessor. It appears that, in Gaul, the Alpine type first entered over two routes, and it is curious to note that these did not correspond with the usual channels of immigration; the broad-headed race seems to have come by infiltration, so to speak, proceeding along the upland districts and the mountain chains. Salmon, who has traced this movement archæologically in great detail, finds the first appearance of the newcomers in the vicinity of the Ardennes plateau. That is to say, these broad-headed immigrants entered France from the northeast. Their second avenue of approach was directly from the high Alps, crossing the Rhone, and thence passing over Auvergne toward the southwest. The central plateau of Gaul, like the Alps, seems to have been first settled at this period. The whole basin of the Seine was overflowed, and the incoming human tide swept clear out to the point of Brittany, where it has completely held its own, even to this day, in relative purity. The intensity of the supersession of the old race by the new one becomes more marked in proportion as we approach the Alps, the present stronghold of the Alpine broad-headed type. In the mountains themselves, indeed, as has been already pointed out, no displacement of an earlier population seems to have been necessary, for the inhospitable highlands, both in Switzerland and in south central France, seem to have been but thinly, if at all, occupied by the earlier long-headed race.

The extent of the occupation of Europe by the Alpine type was once much greater than it is to-day. Evidence accumulates to show that the type spread widely at first, but that it was afterward obliged to recede from its first claims to possess all Europe. The broad-headed race seems to have invaded Britain for a time, but was exterminated or absorbed before reaching Ireland. A colony of these Alpine invaders seems also to have intrenched itself in the Netherlands so firmly that its influence is apparent to this day. It may be considered as a link in the chain connecting the Alpine race, of which there are traces in Denmark and the southwest coast of Norway, with its representatives in the central European highlands. In the opposite direction, the intrusive race seems to have entered Spain, although with difficulty; by reason of its inflow the population of the mountainous northwest provinces is even at this time less purely Iberian in type. One spot alone south of the Mediterranean Sea was perceptibly affected by it; recent evidence from the island of Gerba, off Tunis, proves such colonization to have taken place. In the eastern half of Europe the occupation was more or less complete, with the sole exception of the lower Danubian plain. Apparently, also, this type was unable to hold its own in eastern Russia. The only bond of union between the race and its congeners in Asia was by way of Asia Minor, over the primitive population; upon both strata the Turks are now superposed. If the broad-headed race entered Europe from the east, as is generally assumed, it must have come by this route, for no signs of an entry north of the Caspian are anywhere visible.

What right have we to assert that this infiltration of population from the East—it was not a conquest, for everything points to its being a gradual, peaceful occupation, and often the settlement of merely unoccupied territory—marks the advent of an overflow from the direction of Asia? The proof of this assertion, such as it is, rests largely upon our knowledge of the people of that continent, especially the Pamir region, the Western Himalayan highlands. Just here on "the roof of the world," where Max Müller and the early philologists placed the primitive home of Aryan civilization, there prevails a human type, which tallies almost exactly with our ideal Alpine European race. The Galchas, mountain Tajiks and their fellows are gray-eyed, dark-haired, stocky in build, with cephalic indexes ranging above eighty-six for the most part. From this region, a long chain of peoples of a similar physical type extends uninterruptedly westward over Asia Minor and into Europe. How would Dr. Ripley solve the problem presented by the temporary supersession of the primitive populations of Europe by this invading race, complicated as the problem is by a reassertion of rights so active as to have now relegated the intruder almost entirely to isolated upland areas? His solution is economic rather than military or cultural. It rests upon the fundamental laws which regulate density of population in any given area. Our author's hypothesis is this: that the north of Europe, the region peculiar to the Teutonic race to-day, is, by nature, unfitted to provide sustenance for a large and increasing population. In that prehistoric period, indeed, when a steady influx of population from the East took place, there was yet room for the primitive inhabitants to yield ground to the invader. A time was bound to come, however, when the natural increase of population would saturate, so to speak, the northern part of Europe. A migration of population toward the south, where nature offered the possibilities of continued existence, consequently ensued. This may have, at times, taken a military form. It undoubtedly did in the great Teutonic expansions of historic times. Yet it may also have been a mere drifting or swarming force, ever trending toward the south. We know that such a pacific migration is taking place to-day. Germans are pressing into northern France, as they have always done. Swiss and Austrians are colonizing northern Italy. Danish immigration into Germany is common enough. Wherever we turn we discover a constantly increasing population, seeking an outlet southward.

VIII.

We can indicate but briefly the conclusions at which Dr. Ripley arrives regarding the evolution of European civilization, or, as he prefers to term it, culture. These conclusions may be stated in four definite propositions, concerning which there is substantially an agreement among archæologists. First, in western and southern Europe an entirely indigenous culture was gradually evolved during the later Stone Age. This culture was characterized by great technical advance in fashioning instruments, in carving and in designs in stone, bone, ivory and copper; by the construction of dolmens and habitations of stone; by pottery making, and possibly even by a primitive system of writing. Second, throughout the eastern Alpine Highlands, a culture far more highly developed than the neo-lithic one in the West and betraying certain Oriental affinities, appears at a very early date, a thousand years or more before the Christian era. This prehistoric European civilization, called Hallstatt, from the little Alpine hamlet in Upper Austria where most of its remains have been found, represents a transitional stage between bronze and iron. For a discussion of this curious primitive culture, which bore no resemblance to any of the then known classical cultures of the Mediterranean basin, we must refer the reader to the book itself. Third, the Hallstatt civilization of bronze and iron roughly overlies the present area occupied by the broad-headed Alpine race; nevertheless, this race is not always identified with the semi-Oriental culture. The broad-headed type seems to have appeared in Europe in a far lower stage of civilization, and to have subsequently made progress culturally upon the spot. Fourth, the remarkable prehistoric civilization of Italy is attributable to the union of two cultures; one from the Hallstatt region which entered Europe by way of the Danube, the other coming from the southeast by sea and being distinctly Mediterranean. From these two diverse streams of culture were evolved the Umbrian and the Etruscan civilizations, followed in the historic period by the early Latin. Fifth, the northwestern corner of Europe, including Scandinavia, Denmark and the Baltic plain of Germany, throughout the prehistoric period, was characterized by backwardness of culture, as compared with the rest of Europe. It was peopled from the south, deriving a large part of such primitive civilization as it possessed from the south and the southeast as well. That this region was, necessarily, uninhabited during the Glacial epoch, long after the advent of man in southern Europe, is indubitable. Moreover, the Palæolithic, or oldest Stone Age, is entirely unrepresented in Sweden. Norway, also, seems to be lacking in evidence of human population at the very lowest stage of civilization. From the absence of very early stone implements, and from the sudden appearance of others of a far more finished type, the possibility of a gradual evolution of culture in Scandinavia in situ is denied on all hands. The only place to look for the source of this culture is to the south.

It is obvious that the general effect of this deeply interesting book on the notions formerly current regarding "Aryan" races and an "Aryan" cradle is iconoclastic. Dr. Ripley, however, would not go so far as to assert that "Ignoramus" sums up our entire knowledge of the subject. He has aimed simply to emphasize the danger of correlating data drawn from several distinct sciences, to-wit, anthropology, archæology and philology, the only bond of unity between which is that they are all concerned with the same object—man. The positive contribution to knowledge which our author has endeavored to make is a demonstration that the whole subject of European origins is by no means so simple as it has been often made to appear. The order of races, for example, need mean nothing as respects priority of culture. Neither do the two sciences, philology and archæology, involve one another's conclusions, so far as civilization is concerned. Language and industrial culture may have had very different sources; their migrations need stand in no relation to one another. Each science is fully justified in its own deductions, but must be content to leave the results of others in peace. Such is the ultimate conclusion to which all the latest authority is tending.

M. W. H.