THE RACES OF BRITAIN.

IT is the praiseworthy custom of the Welsh national Eisteddfod to offer prizes for essays upon some topic relating to the ancient national life. This has produced excellent results in many directions, especially in the encouragement thus bestowed upon ethnological studies. Among the substantial fruits of such competitions are to be reckoned an able study by Mr. Luke Owen Pike on 'The English and their origin,' and Dr. Thomas Nicholas's valuable treatise upon 'The pedigree of the English people,' which in 1878 had reached its fifth edition. To neither of these learned works, however, was the great prize awarded. It was bestowed upon an essay presented by Dr. Beddoe, the late president of the Anthropological society of London, which has just been published, in an expanded form, in the volume now before us.

Differing from previous works, like those just alluded to, and Professor Rhys's 'Celtic Britain,' which are principally based upon historical and linguistic investigations, this is made up, to a large extent, of tables, maps, and plates compiled from the author's personal observations on color and stature, conducted on a large scale.

Dr. Beddoe's system is founded essentially upon the belief that permanence of color of the hair and eyes is most indicative of racial differences. The opposite opinion seems to have prevailed, ever since the days of Galen and of Celsus down to quite a recent date, that the color of the hair depends simply upon temperature and latitude. Our author's method separates eyes into three sorts, — light, intermediate or neutral, and dark. This distinction is founded as much upon shade as color. They are further subdivided into five classes, in accordance with the color of the associated hair; viz., red, fair, brown, dark, and black. Thus is derived, as a ready means of comparing the colors of two peoples or localities, the 'index of nigrescence,' by "taking 100 of each, and subtracting the number of the red- and the fair-haired persons from that of the dark-haired, together with twice the black-haired." This gives a number which compendiously represents this tendency. The black is doubled in order "to give its proper value to the greater tendency to melanosity shown thereby; while brown (chestnut) is regarded as neutral." This method Dr. Beddoe believes to be preferable to that of Virchow, which notes only the percentages of the pure blond type (blue eyes and fair hair) and of the pure brunette type (brown eyes and dark hair), and pays but little attention to other combinations, which are regarded as results of crossing.

As a striking example of the great value of the color of the hair as a test of race, he instances one of the most distinct anthropological frontiers of Europe,— a real ethnic division along the line that separates the Flemish tongue, which represents a German stock, on the north, and the Walloon, descending from an ancient Belgic race, on the south. The difference in the physiognomy of the two peoples is very marked; but such tests as head-measurements and stature fail, while that of the color of the hair everywhere holds good. So, too, as proving that the color of the hair does not depend upon latitude and temperature, be brings forward the example of the occurrence among the dark-haired Italian race of two centres of comparative fairness, — one in the north-western part of the valley of the Po, the other in the region lying between Terracina and Naples.

But Dr. Beddoe had by no means confined his attention to observations upon the hair and the eyes. In the absence of "sufficient osseous material in the museums for determining the form and size of the skull," he has measured a considerable number of living British heads. He gives an amusing account of the way in which he obtained a series of head-measurements in Kerry, without running the risk of fatiguing or irritating the subjects. The people there have large heads, but are of low intelligence, with a great deal of cunning and suspicion. The travelling party consisted of four, and, "whenever a likely little squad of natives was encountered, the two archeologists got up a dispute about the relative size and shape of their own heads, which I was called in to settle with the calipers. The unsuspecting Irishmen usually entered keenly into the debate, and, before the little drama had been finished, were equally betting on the sizes of their own heads, and begging to have their wagers determined in the same manner."

So far as concerns the survival of the prehistoric races in Great Britain, Dr. Beddoe accepts the probability of Boyd Dawkins's theory that the paleolithic people were the ancestors, or at least the near relations, of certain still existing Mongoloid races, particularly of the Eskimo. In this opinion, however, he is opposed by the eminent Hunterian lecturer, Professor Flower, who, in his president's address, delivered last January before the Anthropological institute of Great Britain, argued that the Eskimo are probably of comparatively late origin, on the ground of their being such an intensely specialized race. But our author thinks he has sufficient ground for assuming the existence of traces of some Mongoloid race in the modern population of Wales and the west of England. He in-

The races of Britain: a contribution to the anthropology of western Europe. By JOHN BEDDOE, M.D., F.R.S. Bristol, *Arrowsmith*; London, *Trübner*, 1885. 8°.

stances in particular the examples he has noted of the oblique or Chinese eye, and of prognathism, or prominence of the jaws. The latter peculiarity, by itself, would not be of much value if it were not for the great similarity in other respects that exists among the individuals in whom it is manifested. But prognathism by no means implies a low type of humanity, and it is remarked by our author that eloquence, or at least readiness of speech, seems to be a general characteristic of it.

For the neolithic period, while accepting in a broad way Thurnam's formula, 'Long barrows, long heads; round barrows, round heads,' Dr. Beddoe cannot allow that this represents accurately the character of the entire population. He believes that the distinctive practice of dolmen-building was established in Britain by a pure long-headed race, while the broad-headed people were the introducers of bronze. "Whencesoever they came, the men of the British bronze race were richly endowed physically. They were, as a rule, tall and stalwart; their brains were large, and their features, if somewhat harsh and coarse, must have been manly and commanding." It has been objected to this type, that the great development of the brows, and the transverse furrow on the forehead above, are shared by the Australian and other savage races. But it is well established that such points of likeness as these to the anthropoid apes are distributed variously among the different races of mankind, and that no one of them, taken by itself, implies intellectual or moral inferiority. "Certainly," says Dr. Beddoe, "the British bronze type is found frequently — I should say with disproportionate frequency — among our best as well as our ablest and strongest men."

But at the bronze period the mass of the population cannot be regarded as belonging to this type. Their skulls present a shape intermediate between those of the long barrows, and those of the round barrows, — a form for which Wilson has proposed the name of 'pear-shaped,' and our author the one, not very satisfactory to himself, of 'coffin-shaped.' This type may be the result of a partial fusion of the two races, or it may have been imported, already made, by the very numerous invaders from Belgic Gaul. It has usually been styled the Keltic type, but Broca thinks that the name of Kelt ought to be restricted to the race that predominated in old Keltic Gaul, from Bretagne to Savoy. Their short, thick-set figures, and large, broad heads, are very different from the ancient British type, whose general distribution throughout the three kingdoms tells strongly against its being a late importation.

Such was the population of Britain at the time of the Roman conquest, composed of several strata, unequally distributed, of a Keltic-speaking race, some Bryothonic, others Gaelic, in dialect. This ancient British race belonged to the tall, blond stock of northern Europe, rather than to Broca's Keltic race; and they probably greatly resembled in appearance the provincials carved upon the sarcophagus of the Roman prefect Jovinus, — now preserved in the Museum of the Hôtel de Ville, at Reims, — who are conspicuously different in features from the modern Germans. This race was superposed upon a foundation principally made up of the dolichocephalic dark race of southern Europe, the so-called Iberian, which is still strongly represented in the north of Scotland and in Ireland; but no Germans, to be recognized as such by speech as well as person, had probably as yet entered Britain.

The Roman conquest, however, had no material effect in changing the character of the population. Far different was it with the Anglo-Saxon invasions that followed upon its abandonment by the Romans. The most important chapter in the volume is naturally devoted to a careful review of the various theories as to the origin of the different invading tribes, and to a thorough study of the evidence of all kinds that might tend to shed light upon the process of 'the making of England,' — ethnological and linguistic, as well as that derived from laws and social institutions. We have space to touch, and that only in the briefest manner, upon one or two of the points discussed.

Our author's researches are quite in accord with the conclusions reached by Senator Hoar in a paper read last spring before the American antiquarian society, in regard to the origin of the Yankee of caricature, the typical Uncle Sam, and Brother Jonathan, "with his long, loosely-set limbs, his sharp nose and chin, his high cheek-bones, his narrow shoulders and high head." Dr. Beddoe paints this Yankee portrait to the life, when he is describing the true Frisian type, to be seen in the people dwelling around the Zuyder Zee, who are very different in their appearance from their neighbors the Hollanders. He proves that differences existed, physical as well as dialectic, between the ancient Frisians and the Saxons; and he shows that the county of Kent was the first to be invaded by the Frisians and their neighbors the Jutes. So the main object of Senator Hoar's paper is to show the obligations of New England to Kent for much of its laws and social institutions, and the strong physical resemblance of the people of the two regions. Dr. Beddoe also brings out the notable likeness between the people of Boston, in Lincolnshire, and the frequenters of the Antwerp market. In no considerable town in England is the index of nigrescence so low. In one

particular, however, Dr. Beddoe differs from Senator Hoar; that is, in respect to the origin of the custom of gavelkind, by which the land of the father descends to all his sons in equal portions, — a custom adopted by our ancestors from the usage of Kent, and which has had a most important effect upon our history in fostering democratic institutions. Our author believes that this institution was derived from the Kymric branch of the ancient Britons, and not the Germans, and that the term can be best explained by the Welsh language.

Great differences of opinion prevail among recent writers as to the consequences of the Anglo-Saxon conquest of England, hinging mainly upon the degree of credibility attached by them to the statements of the old British chronicler, Gildas. Some hold with Freeman and Green that the ancient race was mostly exterminated; while Nicholas, and the Keltic school in general, are equally convinced that the British element predominates in the modern English people. Our author's conclusions upon this interesting subject may be summed up as follows: About the middle of the fifth century certain German tribes, invading the country, settled some districts almost exclusively, making serfs of some portion of the prior population, and forcing the remainder to the west and the south. They uprooted Christianity, and changed to a great degree the local nomenclature. But they adopted, or allowed to remain, many usages relating to the land, and they intermarried largely with the native women; so that their descendants exhibit changes in physical type which approximate them somewhat to the original inhabitants. In language the most important and necessary words, particularly among the verbs, are Teutonic; so are most of the grammatical forms and rules; and so, also, is the pronunciation.

The Danes, in the latter part of the ninth century, by their invasions, gave a strong Scandinavian tinge to the eastern counties of England, and made themselves exclusive masters of the islands around Scotland: in other parts of the country their influence is not marked.

But the Norman conquest, although it did not at once introduce any very large accession to the population, undoubtedly produced the type that is still the prevailing one among the upper classes of England. Our author finds, by an examination of the color-tints of portraits of the nobility, a prevalence of dark hues, even more marked in the sixteenth and seventeenth centuries than in the nineteenth. The severity of the conquest was chiefly felt in Yorkshire and parts of Lancashire, where the Anglo-Danish population was nearly destroyed. In other parts of the country no permanent change in the physical type or racial elements seems to have resulted from it. In this branch of his inquiries, Dr. Beddoe has drawn, principally from Domesday book and other mediaeval records, interesting and useful inferences, which we regret not to be able to quote.

We will conclude by calling especial attention to three exceedingly well executed plates, in which are represented living faces, which, in the judgment of our author, reproduce the various types of 'the races of Britain.' His remark about 'the singular beauty of the women of Devonshire' seems fully warranted. H. W. H.

THE CAUSATION OF PULMONARY CONSUMPTION.

SCARCELY four years have elapsed since the important discovery of the tubercle-bacillus by Koch was announced. Many then thought that the key to the various problems of pulmonary consumption was close at hand, if not in our actual possession. Certainly therefrom a new impetus has been received in the study of these problems, — an impetus that may eventually bring about their solution; but so far this discovery has added but little to our actual knowledge of the causation of this most insidious disease.

This bacillus is readily and definitely distinguished from other allied micro-organisms. It seems to be present in tubercles wherever found, and is usually apparent in the sputum of consumptives; in some few cases it is believed to have been detected in the sputum when no signs of the disease were discovered; and other cases are known where the most careful examinations have failed to detect them, though tubercles were unquestionably present. Still the evidence so far is only negative. We may, without doing violence to the facts, assume that the bacillus Kochi is a constant accompaniment of tuberculous disease. They are remarkable for their vitality: decomposed or even dried sputum containing them retains all the powers of the fresh microbe, even after months have elapsed. Inoculated into the tissue of animals, either in the fresh state or after cultivation, they almost invariably produce tuberculous disease, though never the ordinary chronic consumption, but quick consumption, or miliary tuberculosis, which is held to be distinct in its nature. From these facts the conclusion would seem self-evident that floating particles of dried sputa, or at least when freshly thrown off from the diseased subject, might easily enter the lungs of healthy persons, and reproduce the disease. Unfortunately clinical evidence does not support this *a priori* deduction. Recent observations demonstrate that food impregnated with tubercu-