

fable. The same writer makes some remarks on misapprehensions respecting the Basque language.

Many wild theories have been promulgated as to the origin of the Basques, one of the most absurd being an attempt to relate them with a certain tribe in Central America. Several scholars have sought to affiliate the people with Lapps and Finns, and they have been supposed to be related to the ancient Egyptians, the ancient Phœnicians, the extinct Etruscans and to the Picts. The Basque language appears to be absolutely without connection with any of the so-called Turanian (Ural-Altaic) languages, since, as Keane shows in his "Man Past and Present" (p. 460), there is no longer any doubt as to the relationship of the Basque with the Berber language.

The anthropometrical evidence has given rise to much controversy. The French Basques have an average cephalic index (on the living) of 83, while the Spanish Basques average 78, according to Collignon, and 79 according to de Aranzadi in the graphic curve published by the latter anthropologist, who, by the bye, is himself a Basque; there are two distinct maxima, one at 76 and the other at 80, indicating, probably, that there are at least two elements in the group. The French Basques are on an average three-quarters of an inch shorter than their Spanish brethren, 1657 mm. (5ft. 5¼ins.) and 1638 mm. (5ft. 4½ins.) respectively. Both branches of the stock have a similar very characteristic head; the cranium is distinctly long even in the most brachycephalic subjects, and is enormously swollen in the temporal region, a character which is absolutely peculiar to this people, the forehead is high and straight and narrow below, the face is very elongated and has the shape of an inverted triangle, the chin being thin and pointed; the nose is correspondingly long and narrow.

Certain anthropologists have claimed that those Basques who live north of the Pyrenees more nearly represent the primitive stock, while the same has been asserted for those south of that range. De Aranzadi thinks that those Spanish Basques with dark hair and eyes and a rather narrow head and of middle stature are of true Iberian origin and are related to the Berbers. Those with darkish brown hair and greenish hazel eyes, a broad head and low stature are, according to him, of Ugrian or Finnish descent. G. Buschan, in a recent number of *Globus* (Bd. lxxix. p. 123), regards it as highly probable that the Basque race resulted from a crossing of the short-heads of the earliest prehistoric time, who probably wandered from Asia into Europe, with the long-headed indigenous Mediterranean race. The first of these two constituents he recognises as the race of Grenelle (French authors) or as the type of Sion or Disentis (His-Rüttimeyer) or as the Celts of Broca. Buschan has overlooked the fact that Canon Isaac Taylor, in his "Origin of the Aryans," had suggested this same explanation in 1890 and Beddoe had alluded to it in his "Anthropological History of Europe" in 1893. De Aranzadi recognises a third element with light hair, blue eyes, narrow head and tall stature, which is a later addition of Kymric or Germanic origin, and he suggests that this element is related to the accursed race of the Cagots who were isolated from their neighbours and had a separate church door for themselves.

Collignon, who has made many brilliant studies in the anthropology of France, draws attention to the very anomalous relation that exists between a cephalic index of 82.5, which is clearly brachycephalic, and a cranial length as great as 191 mm. He is of opinion that this permits us to look for the affinities of the Basque race more in the direction of the long-headed races; the Nordic, or Teutonic, being clearly out of the question, relationship must be sought among the Mediterranean group of peoples rather than in the direction of the brachycephals of France and of Central Europe. Collignon's view is that the Basque type is a variety of the Mediterranean race that has for a long period of time been geographically isolated, and the retention of a difficult and uncouth language has formed an equally efficient linguistic barrier. These factors induced in- and in-breeding, and a well-marked human variety has resulted. Collignon's contention that the French Basques more nearly represent the primitive stock is now generally admitted; the head of the Spanish Basques has been narrowed and their stature diminished by mixture with Spaniards who had been driven into the mountains by the Moorish invasion. Those who desire to learn more about this paradoxical people will find numerous references to the literature in the valuable appendix to Ripley's "Races of Europe," and additional titles are given by Buschan in *Globus* (Bd. lxxix. February 28, 1901).

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THE DIAGNOSIS OF PLAGUE.¹

I HAVE no doubt that the plague expert, who has seen epidemic plague in the East, will think it unnecessary on the part of a bacteriologist to ask, What is plague? for is not plague, as it occurs in China, India, at the Cape, and other parts weekly, nay, daily, by the score of cases, quite readily diagnosed by its clinical features and by its pathology? No one can have any doubt about this being so; that is to say, when plague appears in a locality in epidemic form, the diagnosis of any new case does not offer much difficulty; nor would there be experienced much difficulty in diagnosis by etiological, clinical, pathological and bacteriological methods of a case, or of cases, occurring in a ship coming from a plague-infected port: as, for instance, the cases that occurred in connection with a vessel which arrived about the middle of January in the port of Hull—cases which belonged to the pneumonic type, and which from the outset were, or ought to have been, at once diagnosed as such.

The difficulty in diagnosis commences when you have a single or a first case occurring, where either the etiological data are not satisfactory, or where the clinical history and symptoms are not distinct and not typical. The cases of two sailors recently examined illustrate these two difficulties.

The outcome of the bacteriological analysis of one sailor who arrived in London in October 1900 was that the case was plague. In the second case a plate made with a small droplet of pus from a swelling yielded, besides staphylococci and streptococci, a considerable number of colonies of the *bacillus pestis*. Tests by subcultures and animal experiments (both as subcutaneous and intra-peritoneal injections) proved this conclusively.

A third case is that of a boy that had recently occurred in one of the London hospitals. This much is certain, that the boy suffered from an illness the symptoms of which to a large degree were compatible with true plague; that etologically no satisfactory evidence was forthcoming to elucidate the disease. The bacterioscopic evidence, which in certain respects supported the diagnosis plague, in another essential respect—animal experiment—negated it; and I would particularly draw attention to the total absence of any microbes in the pus of the suppurating bubo of the boy in the later stages of his disease, and to the total absence of agglutinating action of his blood in the convalescent stage.

Apart from the difficulties in diagnosis of isolated cases, there are to be gathered, I think, several interesting and instructive facts from the cases hitherto mentioned.

In the first place, it is a fact that neither of the ship-borne cases mentioned above gave rise to infection in other persons, although during the whole journey they were freely intercommunicating with other members of the ship's crews. It will be no doubt said that *pestis ambulans*, the mild form with which, at any rate, one of those two cases compares, is known to possess only slight infectivity, and this infectivity might be referable only to the matter of the open and discharging bubo. In the two cases mentioned the number of bacilli *pestis* were still considerable, and in one at least of the cases there was a history of severe illness previous to arrival in English ports. And I would, in this connection, express a *primâ facie* strong scepticism as to the alleged high degree of infectivity of the bubonic type of plague in general. In the case of the pneumonic and septicæmic type, a high degree of infectivity is in complete accordance with the bacteriological facts and with the wide distribution of the plague bacilli in, and the copious discharge from, the body of the patient. In the pneumonic type, the exudation of the inflamed lung and the expectoration teem with the plague bacilli; in the septicæmic or hæmorrhagic form the blood contains an abundance of the bacilli, hæmorrhages occur in the membranes of the alimentary, respiratory and urinary organs; and therefore the voiding of plague bacilli is extremely great and their diffusion easy. But in the bubonic form, in the early phases of the disease, plague bacilli are rare in the blood; they are practically limited to the spleen and lymph glands, and as long as these latter do not open I do not see how they can be the agents of further infection. In the urine and in the alimentary canal they certainly cannot be demonstrated in a living state in this form of the disease. When the lymph glands, after the acute stage is passed, suppurate and open, then, no doubt, plague bacilli can and do become available.

¹ Abstract of a paper read before the Epidemiological Society on Friday, May 17, by Dr. E. Klein, F.R.S.