This remarkable fact, that A and B are represented in very different proportions in different races may be discussed from two standpoints. One can imagine that when man appeared on the earth A and B were present in the same proportions in different races. In this case the differences which are now present in different races would depend on the assumption that for unknown reasons A is more suitable for increased resistance of the organism to disease in a temperate climate, while B is more suitable in a hot climate. The hypothesis is improbable.

We see that the Russians in Siberia have the same proportion of B as the natives of Madagascar. The Jews who have lived for centuries in Monastir show a type of blood different from that of the other Balkan peoples. It is also a priori improbable that the climatic conditions should influence the frequency of A and B. If B could not be acclimatised in a temperate climate it should have died out in those climates long ago in the extended periods of time which we can take into consideration. It is very difficult to imagine one single place of origin for the human race in view of our statistics, since it would then be inexplicable why A diminishes from west to east and south, while B increases. The figures arrived at by us are most easily explained on the assumption that A and B had different points of origin and that there are two different biochemical races which arose in different places. In this case the mutual infiltration of these races is the cause of the varying proportion of A and B. Since the greatest frequency of B is found in India,⁶ we should then look for the moment on India as the cradle of one part of humanity—namely, of the biochemical race B. Both to the east (Indo-China) and to the west, towards Europe and Africa, a broad stream of Indians poured out, ever lessening in its flow, which finally, although continually diminishing, penetrated to Western Europe. A similar single place of origin for A cannot be indicated, since all European peoples show a greater or less preponderance of A, which only seems to diminish somewhat in the Italians. Since, however, the Asiatic and African peoples are poor in A, we must assume hypothetically that A arose in North or Central Europe and spread out thence southwards and eastwards. A detailed examination of the northern races may lead us to unexpected and important conclusions on this point.

Conclusion.

We see then that the analysis of the figures we obtained has led us to remarkable results and that the highly interesting problem of a possible double origin of the human race has become a question which can be studied by means of serological methods. A problem of such dimensions may be propounded, but can hardly be resolved by the experimental results of a science, the introduction of which into these problems is here attempted for the first time. Still, we believe that we have shown in this paper that experiments in immunisation deserve to be made use of for the solving of anthropological questions. A close coöperation would be necessary between anthropologists and serologists, and the researches should be conducted on an international basis. The present war has brought so many races and peoples together that the main problems should certainly be capable of solution in a short time and without great labour. A series of important special researches, such as the examination of various stocks, primitive races, and anthropoid apes, should be begun without delay.

In our experiments we received much help from many medical and other officers of the Allied Armies in Macedonia. We owe our gratitude to the Directors of the Medical Services of the several armies for permission to examine soldiers and for other assistance. Major Stefanovitch and Captain W. L. Murphy, the liaison officers of the Serbian and British Army Medical Services, have undertaken the translation of the paper into English, for which we offer them our best thanks.

⁶ Of the greatest importance are the researches from the Central Asia plateau.

THE War Office states that nurses whose names are mentioned in despatches for work in France, Egypt, or other places overseas will receive a certificate of the King's appreciation of their services.

TWO STUDIES OF MENINGOCOCCUS CARRIERS.

I.—THE SITE OF CARRYING IN CHRONIC MENINGOCOCCUS CARRIERS.

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(Reports to Medical Research Committee.)

I.

THE "site of carrying" of the meningococcus has been investigated in 40 chronic carriers, 21 of these had already suffered from cerebro-spinal fever, 19 had never suffered from the disease, but had been found to be carriers on examination of the naso-pharynx. With only five exceptions these chronic carriers had been subjected to treatment with a Levick spray, charged with either chloramine or zinc sulphate daily for two months or more prior to this investigation. All the carriers were known to have carried for at least four weeks, the most chronic had been carrying for 15 months.

The naso-pharynx was illuminated by means of a forehead mirror and direct sunlight, material for culture being taken with a small-looped platinum wire from the various sites chosen. The patients were not exposed to any form of antiseptic treatment for 24 hours prior to examination. The sites chosen were:—

Through the nose.—Anterior ends of the lower turbinates, anterior ends of the middle turbinates, posterior ends of the lower turbinates, anterior wall of the sphenoid, fossæ of Rosenmüller upper, Luschka's tonsil.

Through the mouth.—Faucial tonsil crypts, fossæ of Rosenmüller lower, back wall of the naso-pharynx.

These sites were also strategical, as any discharge from the accessory sinuses of the nose would appear at one of these points. Thus discharge from the sphenoid sinus would appear on the front wall of the sphenoid; the discharge from the anterior ethmoidal, frontal, and maxillary sinuses over the anterior third of the lower turbinate; and the discharge from the posterior ethmoidal cells over the posterior third of the lower turbinate.

The utmost steadiness and care was required to obtain an uncontaminated loop through the obstructed nasal fossæ from the deep structures. Only such loops as were thought to be uncontaminated were used for culture. The following method of obtaining cultures from these sites was devised in order that the various parts examined might not be contaminated by infected material before they were themselves cultured.

The anterior end of the lower turbinate was cultured first, as it was accessible in every case. The anterior end of the middle turbinate was often hidden. Eucaine and adrenalin had to be applied in these cases to the anterior end of the lower turbinate before the middle turbinate could be seen and reached without contaminating the platinum loop. The posterior end of the lower turbinate was cultured after it was brought plainly into view by shrinking the anterior portion. Then the anterior wall of the sphenoid was exposed by shrinking the middle turbinate.

Up to this point a straight wire was employed, but for the investigation of the fossæ of Rosenmüller a platinum wire was bent slightly on the flat of the loop. The nasal orifices were held apart by a speculum, the wire was passed along the floor of the nose steadied against the speculum, with the loop well up from the floor. After the loop had passed by the posterior end of the lower turbinate and the Eustachian ring the wire was rotated, bringing the loop pointing towards the fossæ of Rosenmüller. The loop was