

been under the spell of the presence of a truly great man; it is impossible to describe our experiences. We loved him as no master was ever before loved by his disciples. We know something of the greatness of his work, but we are too close to him to measure its real grandeur. It is only at far-away Interlaken that one can see the magnificence of the Jungfrau; it will be a hundred years hence that anybody will be able to write justly about Kelvin. That Ayrton should write as he has done was a thing astonishing to many, but quite expected by us. That Larmor should have written as he has done has filled us with unspeakable pleasure.

THE STATURE OF THE RACES OF EUROPE.

THE spread of interest in anthropometry during recent years is clearly indicated in the second part of Dr. Deniker's treatise on European ethnography, which has just been issued by the Association Française pour l'Avancement des Sciences. A comparison of the data collected by the author in this paper with those he was able to draw on for his Huxley memorial lecture in 1904 shows that all over Europe active work is in progress, and that many of the gaps in our knowledge of the physical characters of the living populations are being rapidly filled.

In the present paper Dr. Deniker has supplemented his observations on the cephalic index published in 1899 by a study of the average stature of the male population of the various territorial units of Europe, the results being shown by means of varying shades and colours on a large-scale map. There are separate shades for each difference of twenty-five millimetres in average stature between 1599 and 1725.

The greater part of the material available for study consists of returns of the stature of conscripts in the various countries, and unfortunately the mode of return employed is not uniform. In some States the returns include the stature of all called up for service, whether ultimately enrolled or not, while in others the figures for those rejected from military service on account of deficiency in physique or other causes are omitted. To obviate as far as possible the difficulty arising from this difference of method Dr. Deniker has designed and applied various correction factors. In the main these have consisted in adding one centimetre to allow for growth subsequent to the age of twenty, when the average was based on the stature of all called up for service, whether ultimately accepted or rejected; to make no change when the stature of accepted individuals only was recorded, the deficiency of the rejected being regarded as a counterpoise to the subsequent growth of the recruits actually enrolled; and to deduct a centimetre from the average when it was based on measurements of soldiers between twenty-two and twenty-five years of age.

Dr. Deniker would seem to have utilised every possible source of information, with the result that the bibliography appended is most exhaustive, and is particularly valuable in its references to publications in the various Slavic languages. The value of the averages as recorded on the map shows wide variation, since they are based in some cases on thousands of observations, and in others only on tens. This is pointed out in the text, but it might be possible in a succeeding volume to indicate by shading, not, as in this case, the actual average, but the range within which subsequent series of averages might be expected to fall.

Information is absolutely lacking from very few districts, chiefly small areas in Russia and the Balkan peninsula, though in these countries recent work has done much to fill up the gaps appearing in previous maps of the distribution of physical characters. Far more regrettable is the fact that there are no returns at all of stature from North Germany other than Schleswig-Holstein and part of Mecklenburg. This is the more astonishing when we consider the standing and the activity in other directions of the German school of anthropology.

The map shows that the populations with the tallest average stature are to be found bordering on the shores of the North Sea and the Baltic in the British Isles, Scandinavia, Finland, and Esthonia. These people, also characterised by long heads and fair or light brown hair, are termed by Dr. Deniker the Nordic race. This term is coextensive with Teutonic, the designation more commonly employed in this country, but presents the advantage of being less liable to misconception.

The word Teutonic is rapidly tending to become as comprehensive and therefore useless as the word Celtic.

Another zone of tall populations stretches up through the Balkan peninsula into Central Europe as far as the Tyrol, and a third is situated in the Caucasus.

These latter populations are broad-headed, and, as has been pointed out by Prof. J. L. Myres, very probably represent a race which entered Europe at the close of the Ice age from the Anatolian highlands, and are referred to by Dr. Deniker as the Adriatic or Dinaric race.

Short statures predominate in two great centres, Russia, where the population is in the main broad-headed, and the Italian and Iberian peninsulas, where long-headedness is the rule. The former group is termed the Oriental race; the latter, usually referred to in this country as the Mediterranean or Iberian race, has been divided by Dr. Deniker into two groups, according to stature. Where the average exceeds 165 centimetres he refers to a population as belonging to the Atlanto-Mediterranean race; where it is below this level he terms them Ibero-Insular. Since in other characters the two groups are very similar, it would seem doubtful if the subdivision were quite necessary. The remaining populations of Europe are of intermediate stature.

The division of the European populations into northern and southern long-headed groups, the former characterised by tall stature and fair hair, and the latter by short stature and dark hair, rests on plainly established foundations, and all the members of each group are clearly related, though it is uncertain whether the two main groups had a common origin in comparatively recent times. The relations of the central European broad-headed group are less clear, and further research is needed to determine the affinities, if any, of the Cevenole or Alpine race of short broad-heads with the short eastern European broad-heads who chiefly speak Slavic languages and the taller Balkan and Caucasian broad-heads. It is only by more complete knowledge and detailed analysis, such as characterises the present work, that we may look for answers to these and allied problems.

The value assigned to the population of the British Isles in Dr. Deniker's map is probably an example of the dangers of incomplete surveys. From the figures obtainable chiefly from the report of the British Association Committee in 1883, and the work of Haddon and Browne, Beddoe, Gray and Tocher, it would seem that this country presents the highest

average stature of Europe. It is to be feared this estimate, based on somewhat small numbers, is too favourable. The impression gained on returning to England after a tour in Scandinavia is scarcely that of the superiority of the English physique. The probable explanation is that the majority of the recorded observations in this country has been made in rural districts, while the actual majority of the population has been subjected to urban influences.

During the last few years a large number of measurements of children in our large towns have been made in connection with the study of school hygiene, and afford data for comparison with the series obtained in Stockholm by Axel Key, and it may be noted that at all school ages the Swedish children show a distinct superiority both in stature and weight. Indeed, the British children present averages very nearly the mean between the Swedish and Italian averages, which would agree well with the view that both Teutonic and Mediterranean races are represented among the present-day English in about equal proportions.

A final feature of great interest recorded in Dr. Deniker's work is the distinct increase in stature which has taken place during the last half-century among several of the European populations, chiefly those which have participated in the general amelioration of social conditions and improvements in hygiene without being to a great extent subjected to urbanising influences.

Further investigations into national physique are urgently needed from the economic and public health standpoint, as well as to elucidate the problems of the systematic anthropologist. It is to be hoped that in time a detailed survey of this country may be undertaken, and that the results may be available for subsequent volumes of Dr. Deniker's comprehensive and illuminating work.

ARTHUR LISTER, F.R.S.

BY the death of Mr. Arthur Lister, F.R.S., which, as announced in our issue of July 23, took place at his residence at Leytonstone, Essex, on Sunday, July 20, the science of cryptogamic botany has sustained a severe loss. The deceased gentleman, who was a J.P. for his native county, was the son of the late Mr. J. Jackson Lister, F.R.S., of Upton Essex, where he was born in the year 1830. He was a brother of Lord Lister, and in 1855 married Susanna, daughter of the late Mr. William Tindall, of East Dulwich. From an early period of his career Mr. Lister devoted himself to the study of the Mycetozoa, a group formerly classed with the fungi, but now, largely owing to his researches, allowed to rank as a group of equal value by itself, characterised specially by the peculiar mode of development of its members. In addition to numerous separate papers on the subject in the journals of various scientific societies, Mr. Lister wrote the valuable "Monograph of the Mycetozoa," published in 1894 as one of the well-known British Museum catalogues. Since the date of its appearance this thick green volume, which is illustrated by a large number of plates and text-figures in black and white, remained the standard work on the subject. By the lapse of time it had, however, as a matter of course, become out of date, and, until incapacitated by failing health, Mr. Lister, aided by his daughter, was engaged on preparing a new and enlarged edition.

The issue of this work, as we have been kindly informed by the keeper of the botanical department of the Museum, will not be stopped by the demise of

the senior author, Miss Lister having undertaken the task of bringing it to completion single-handed. The new edition will be far superior to its predecessor in the matter of illustrations, these including a number of plates reproduced by the three-colour process from Miss Lister's sketches.

In addition to cataloguing the species in the Museum collection, Mr. Lister gave in the original edition of this work a valuable account of mycetozoa development and physiology. Mr. Lister joined the Linnean Society so long ago as 1873, serving on the council from 1891 to 1896, and as a vice-president during the last year of this term of office. In 1898 he was elected a Fellow of the Royal Society.

NOTES.

ON August 5, 1858—fifty years ago—the work of laying the first Transatlantic cable was completed, and telegraphic communication was established between Great Britain and America. As is well known, the cable failed to transmit after a few weeks, but the practicability of connecting the two countries electrically had been demonstrated, and the jubilee of this enterprise cannot be passed without a word of congratulation.

COUNT ZEPPELIN started in his airship from Friedrichshafen at 6.45 a.m. on August 4, and after passing over Bâle, Strassburg, and Karlsruhe, reached Mannheim at 2.40 p.m. A descent was made near Oppenheim at 6 p.m., and the journey was continued at 10.15 p.m. The airship passed over Mainz at 11.0 p.m., and then headed up the Rhine for the homeward journey, reaching Mannheim at 1.45 a.m. on August 5, Eppingen at 4 a.m., and Stuttgart at 6.20 a.m., where, according to the latest telegrams, it broke away from its moorings and caught fire during a storm, and disappeared into the air, Count Zeppelin being safe.

The Paris correspondent of the *Times* reports that the Russian Government has offered a prize of 50,000 roubles (5000*l.*) for a flying machine competition which is to take place next year at St. Petersburg between July 1 and August 15.

The annual meeting of the French Association for the Advancement of Science was opened at Clermont Ferrand on August 3, when the gold medal of the association was presented to Sir William Ramsay, K.C.B., F.R.S.

The President of the Board of Trade has appointed Lord Rayleigh, F.R.S., Prof. J. J. Thomson, F.R.S., Dr. R. T. Glazebrook, F.R.S., Sir John Gavey, C.B., and Mr. A. P. Trotter to be the British delegates to the International Conference on Electrical Units and Standards which is to assemble in London on October 12. Mr. W. Duddell, F.R.S., and Mr. M. J. Collins, of the Board of Trade, will act as secretaries to the British delegates, and Mr. F. E. Smith and Mr. C. W. S. Crawley as assistant secretaries.

At the meeting of the Royal Society of Edinburgh on Monday, July 20, Dr. R. H. Traquair, F.R.S., vice-president, in the chair, the following prizes were presented in accordance with the award of the council:—(1) the Keith prize for the biennial period 1905-7 to Dr. Alexander Bruce, for his paper entitled "Distribution of the Cells in the Intermedio-lateral Tract of the Spinal Cord," published in the Transactions of the society within the period; (2) the Neill prize for the triennial period 1904-7 to Mr. Frank J. Cole, for his paper entitled "A Monograph on the General Morphology of the Myxinoid Fishes, based