last. First from Bournemouth and Weymouth, where they were found not unfrequently dead on the shore. Again, one of the Leigh "shrimpers" took about a dozen specimens in his trawl net near Sheerness, at the mouth of the Thames. Another two specimens were taken likewise in a shrimp trawl off Harwich. None of these survived, no doubt having been too long in the trawl net, which is frequently three or more hours in the water. Dead specimens of these were sent for my observation, by Mr. Andrew, the aquarium fish collector of Southend-on-Sea. He says the Essex fishermen call them red dorees, but none remember having seen them on that coast before this year.

JOHN T. CARRINGTON

Royal Aquarium, Westminster, July 6

Habits of Ants

MY attention was lately called by a friend to the operations of a party of ants. The theatre of their work was a cherry-tree partly decayed in the centre. From this portion of the tree the busy creatures were bringing forth small grains of sawdust-like *débris*. These particles were conveyed to the prominence left by an amputated branch, and thrown over to the ground, a distance of about five feet. The particles were passed on from one ant to another—as water-buckets were at old-time fires. Nor was this all, for on the ground below, another party removed the accumulated material. In this connection the reader should consult a remarkable note on page 21 of Kerner's "Flowers and their Unbidden Guests" to further illustrate the intelligence of ants and their recognition of the principle of division of labour. I am unable to state the species of ant I observed, as I am not an entomologist. It was a rather large red ant.

W. WHITMAN BAILEY

Brown University, Providence, R.I. (U.S.), June 17

WILLIAM FOTHERGILL COOKE

THERE has slipped away noiselessly and quietly one of England's scientific pioneers and one of the world's benefactors. Sir William Fothergill Cooke was the father of electric telegraphy. Born in 1806, educated in Durham, where his father was a professor, he joined the East India Company's military service in 1826, from which he retired in 1835 to study anatomy and physiology in Paris and Heidelberg. He was very clever at wax modelling. In 1836 a lecture on Schilling's telegraph directed his attention to the electric telegraph. His was the active sanguine mind that saw the great future of telegraphy before him, and that, in spite of supineness and unbelief, forced the new agent on an unwilling world. He was not an inventor nor a discoverer, but he was a far-seeing, practical man, with a determined will, indomitable energy, and of great resources. Associated with Wheatstone, he established telegraphy as a commercial undertaking. The first experimental line in England was put up in 1837. The first Electric Telegraph Company was incorporated in 1844. The first cable was laid in 1851. Now the world is one network of wires, and while the pioneer of this great system is carried to his grave, representatives from every civilised nation of the earth meet in telegraphic parliament in London without heaving one sigh or casting one thought

"O'er the grave where our hero we buried."

THE COMPARATIVE ANATOMY OF MAN[1]

II.

The Andaman Islanders (continued)

HITHERTO the osteological characters of these people have only been known from one skeleton, briefly described by Prof. Owen, two crania by Mr. Busk, and two by Prof. Quatrefages. During the last half year, the College museum has received a valuable series of skeletons, collected, at the request of Sir Joseph Fayrer, by the late Dr. J. Dougall, senior medical officer at Port Blair; others have been lent for the purpose of illustrating this course by Professors Rolleston and Allen Thomson, amounting altogether to nineteen skeletons, and about thirty crania.

The common estimate among Europeans, which is fairly correct for averages, is that the length of the femur is to the height of the living person as 275 is to 1,000. Only one of the above-mentioned Andamanese skeletons has been articulated, but this shows exactly the same proportion. Calculated on this basis, the average height of the skeletons of males would be 4 feet 9 inches, the tallest being 5 feet 3 inches, and the shortest 4 feet 6 inches. The average height of the ten skeletons of females would be 4 feet 6 inches, the tallest being 4 feet 10 inches, the shortest 4 feet 3 inches.

Attention was first drawn to the fact that the proportions of the different segments of the limbs might differ in various races by the announcement in 1799, by White, of Manchester, since amply confirmed, that the forearm of the Negro is proportionally longer than that of the European. Unfortunately, skeletons of most races are so rare in collections, that we have at present but few reliable data on this subject, and it is only when a sufficient number can be obtained, on which to found a fair average, that any satisfactory law can be established.

The first ratio, or index, is that obtained by the comparison of the entire upper and lower limbs with each other, the *intermembral index*, or the length of the humerus and radius added together, as compared with that of the femur and tibia, the latter being taken as 100. This ratio, in the nineteen Andaman skeletons, is 68·3; in fourteen Europeans, measured in the same manner, 69·2, showing a slight diminution in the length of the arm of the former, as compared with the latter. This has been also found by Broca, to be the case with African Negroes. The *femoro-humeral index* is the ratio of the humerus to the femur, the latter being taken as 100. In Europeans, according to Prof. Flower's and Broca's measurements, this is 72 to 73; in Negroes, according to Broca, 68·9; in the Andamanese, 69·8; showing that in both the latter races the humerus is relatively shorter than the femur. The *femoro-tibial index* is the length of the tibia to the femur, the latter being 100. In Europeans, this is 82; in Negroes, according to Prof. Humphry, 84·7; in the Andamanese, almost exactly the same, 84·5. The *humero-radial index*, or the length of the radius, compared to the humerus is, perhaps, the most important, as being subject to greater variations in different races. In nine Europeans measured by Broca, it is 73·9; in fourteen Europeans in the College Museum, it is exactly the same; in fifteen Negroes measured by Broca, 79·4; in the nineteen Andamanese, 81. Thus the differential characters of the Andamanese, as compared with Europeans, in respect to the proportions of the limb-bones, lie mainly in the greater length of the distal segment of each limb as compared with the proximal segment, a peculiarity most especially manifested in the upper extremity.

In the *Bulletin* of the Paris Anthropological Society of last year, Broca called attention to the form of the scapula as a race-character, and showed that one of the principal modifications of the form of this bone could be expressed by an index formed of a ratio between the two chief diameters of the bone, *i.e.*, the length from the posterior superior angle (C) to the inferior angle (D), and the breadth from the middle of the posterior margin of the glenoid cavity (A) to the point on the posterior or vertebral border from which the spine arises (B). The ratio of the length (C D) to the breadth (A B), the latter being 100, is called the *scapular index*. In the anthropoid apes the index varies between 70 and 100, and in most of the lower forms of monkeys and other mammals, it is considerably higher. A high index is, therefore, a sign of inferiority. Broca found that the average in

[1] Abstract of Prof. Flower's Hunterian Lectures, delivered at the Royal College of Surgeons, commencing on Wednesday, March 5. Continued from p. 225.

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