

magnum, I have taken both these dimensions in a large number of the crania. In far the greater number the length exceeded the breadth—in the Bush skull Chal. B. by as much as 12 mm.—but usually the difference between them was much less, sometimes not more than 1 mm. In one New Zealander and in one Chatham Islander these dimensions were equal. In one Admiralty Islander the breadth exceeded the length by 1 mm., in another by 0.5 mm.

Variations occurred in the series of skulls in the relative width of the face as estimated in the interzygomatic diameter, and that of the cranium in the parietal or parieto-squamous region. In the mesaticephalic Bush and Chatham Islanders, the brachycephalic Hawaiians and Oahuans, and the dolichocephalic Admiralty Islanders, the rule was for the interzygomatic diameter to be less than the interparietal; in the male Australians as a rule the interzygomatic was the greater diameter, but in the Fuegians and New Zealanders these relative diameters varied in different crania. In many specimens the greater interparietal breadth was associated in the same cranium with a relatively large interstephanic breadth, so that the skull was cryptozygous; but this was not constant, so that in some of the crania examined the breadth in the parietal region was greater than the interzygomatic diameter, and yet the skulls were phænozygous.

The relative length of the frontal, parietal, and occipital arcs varied materially in the crania under review. As a rule the occipital longitudinal arc was the smallest of the three, but in the Fuegian and so called Patagonian group of skulls the occipital arc was in the majority of the specimens longer than either the frontal or parietal. The relative length of the frontal and parietal arcs was very inconstant. In the whole series of crania, except the New Guinea, the Loyalty and Admiralty Islanders and New Hebrideans, the tendency was for the frontal arc to exceed the parietal, but in the Melanesians it was the rule for the parietal arc to be longer than the frontal, and in the Loyalty Islanders very considerably to exceed it, so that this may be considered as a racial character of the Papuans. In a paper on Cranial Deformities, published twenty years ago, in which I discussed the mode of production of the scaphocephalic skull¹ I stated that one cranial bone might infringe upon the areas of adjacent bones if its ossification proceeded at a more rapid rate than theirs. This will doubtless account for the variations in the relative magnitude of the cranial bones, more especially those of the vault of the skull, in different individuals. For the fibrous primordial matrix in which these bones arise is continuous over the cranial vault, and does not have the limits of the several bones defined in it by sharp lines of demarcation. The ossific spicules, growing at a greater rate from a centre within one area than in the others surrounding it, would necessarily extend the area of the bone to which they belong and give it a greater superficial magnitude. It is probable that in those Melanesian crania in which the parietal longitudinal arc dominates so much over the frontal and occipital, that the parietal ossific centres are relatively more active than both

¹ *Natural History Review*, January 1864.