

The Skull and Ancestry of Robert the Bruce.

WE know men better when we have seen them in the flesh, even if we have no speech with them. A knowledge of their homes fills out our mental picture of them. Darwin becomes more alive to us when we have been round his home at Down. There have always been a few who cherish the belief that the skulls of our famous dead, the homes in which their brains lived, and the bony screens on which their living visages were spread, can speak with a precision and with an intimacy beyond even the efforts of the best artist. For the human skull has a language of its own; one which is hard to decipher. After centuries of endeavour we can construe only its simpler hieroglyphics; yet we do continue to improve, and our progress justifies the belief that the day will arrive when a rational craniology will become the handmaid of biography. This is the belief of Prof. Karl Pearson; in a monograph he has published on "the skull of Robert the Bruce, King of Scotland," he has written thus:

"I can imagine a time, when public opinion being sufficiently educated, it shall be looked upon not as a desecration but as a solemn duty, reverently to exhume and study the crania of the departed great with a view of adequately correcting portraiture, or of supplying it where it is deficient."¹

As all good Scotsmen know, Robert the Bruce was born in 1274 and died in 1329, aged fifty-five. He was buried in Dunfermline Abbey, and there his bones lay until 1819, when they were uncovered during certain rebuilding operations. The traditional and circumstantial evidence leave little if any doubt that the skull and skeleton found were those of the great king. Accurate moulds of the skull were taken before it was reburied; a cast taken from this mould is in the Museum of the Royal College of Surgeons, England, where it is placed cheek by jowl with a King Robert of a later date—Robert Burns. Another and, in Prof. Pearson's estimation, a better cast of Bruce's skull is preserved in the Museum of Edinburgh University, and it is this which he has made the subject of his monograph.

The writer of this notice has also made a study of the cranial cast of the Bruce,² and although his methods differ from those employed by Prof. Pearson, yet the main conclusions reached by each are in agreement. The skull of the Bruce has characters of the most outstanding kind, chief of which are the rugged robustness of its face, the outstanding ridges over the eyes, the enormous width across the face from jowl to jowl, and the strength of jaws. He was bull-necked, as is plainly indicated by the extent and strength of the bony platform on the base of the skull whereto the neck is fixed. Such an extensive platform signifies large and strong muscles in the neck, and such muscles in the neck require equally strong muscles of the spine and body. There is in the Museum of the Royal College of Surgeons a rib of King Robert; it is the 9th of the left side. It had been broken in some mischance which had befallen the King, but had healed well and soundly.³ The rib shows him to have been a big-

chested man, one we should expect to have a relatively long body; and yet his thigh and leg bones were not long. Prof. Pearson finds that their dimensions answer to those of a man about 5 ft. 6 in. in height. Bruce may well have been one of those men who seem tall when seated and yet of medium height when standing up, in which case we may add two or three inches to the estimate given by Prof. Pearson.

Bruce's skull is long and particularly wide—its width being about 78 per cent. of its length. His brain was large; Prof. Pearson estimates his cranial capacity to have been 1595 c.c.—about 8 per cent. above that of the average Briton. Neither Prof. Pearson nor the writer attach importance to the size of the brain; what has impressed both are the massiveness and strength of the cranium itself. "Bruce's skull," writes Prof. Pearson, "suggests a man of most exceptional muscularity and strength, with a bull-neck and ardent passions." The writer has expressed his conclusions thus: "It would be the strength and configuration of the face rather than the size of the brain that would weigh with most students if they sought to hazard a guess as to the nature of the man of whom such a skull had formed part. We should suppose him to have been a forceful leader of men."⁴ Herein Prof. Pearson and the writer are drawing their inferences not from any systematised body of knowledge but from the everyday observation open to all—that men with such cranial characters as we find in Bruce are swayed by the strong appetites and passions of the natural man. If tradition speaks true, Bruce was no exception to this widely held belief.

Of what race was Bruce? Prof. Pearson, following tradition, looks upon him as a hybrid between Norseman and Celt, and adds: "He was able by Celtic imagination, with a certain dash of slimness, to win the Scottish nation to his side, and by aid of Nordic physique and persistency to be triumphant over his enemies." This statement might well be a quotation from the speech of a political historian; it certainly is not the language of craniology. The term Celt has been applied to diverse breeds of men, but Bruce's cranial type is not prevalent in any of them. Nor is it a type which is found in Saxon or Danish graveyards, although samples do occur in the Frankish burials of the north and west of France. Bruce's skull has more in common with what has been named by British anthropologists in recent years the "beaker" type than with any other known to the writer. Men with this type of skull began to take up their habitation along the eastern coasts of Britain early in the second millennium B.C. They are known as "beaker" men because of the peculiar kind of earthenware vessel buried with them. Before they appeared in Britain they had penetrated to Baltic lands and spread southwards into France. Bruce's ancestry may have acquired the "beaker" blood in Baltic lands, in France or in Cleveland, where the type still persists.⁵

It is this persistence of type which lends interest to the comparison of ancient and modern skulls. Those familiar with the skulls of beaker men obtained from

¹ *Biometrika*, December 1924, vol. xvi., Pts. III-IV, p. 260.

² Phrenological Studies of the Skull and Brain cast of Sir Thomas Browne of Norwich, Henderson Trust Lectures, No. 111. Edinburgh, 1924.

³ This rib was taken from the open tomb in 1819 by Dr. William Mackenzie, whose life appears in the "Dictionary of National Biography." He died in 1868. He was both accurate and learned, and was regarded in his day as the leading ophthalmic surgeon in Scotland.

⁴ *Loc. cit.*

⁵ The spread of the "beaker" type has been discussed in an address given by the writer on "The Bronze-Age Invaders of Britain," Journ. Roy. Anthropol. Institut., 1915, vol. 45, p. 12.

the round barrows of Wilts have no difficulty in recognising their counterparts among their companions of to-day. After a hundred matings or more in a land where long heads have vastly outnumbered the round heads, this beaker type still persists. Darwin was almost a representative "beaker" man; wherever leading British men are met together there is certain to be an undue proportion of round-heads. In more senses than one the beaker type is dominant.

The first article⁶ in the number of *Biometrika* which contains Prof. Pearson's study of the Bruce's skull, helps us to understand such a persistence of a human type. This article by Dr. Ernest Warren deals not with human beings but with foxgloves, but we can legitimately transfer his results from the one to the other, for we have every reason to believe that heredity works in the human stirp just as it does on that of the foxglove. Dr. Warren observed that parental characters may form a perfect blend in the progeny, or there may be no blending—the characters of one parent dominating or ousting the corresponding character of the other parent. To use his own words: "Mendelian inheritance and perfect blending inheritance may be regarded as the two end terms of a series, and all grades of partial blending or partial segregation lie between." The same must be true of human matings; at least such a supposition accounts for the facts which are brought daily to the notice of anthropologists. The man of the Magdalenian period, unearthed recently near Bonn, had just such a development of cheek and jaw as reappeared in Robert Bruce some ten or eleven thousand years later.

In his search for authentic portraiture of the Scottish king, Prof. Pearson consulted the image on the Scottish coins of Bruce's reign. He found that the stamped image was in no sense a portrait. "As for the eye," writes Prof. Pearson, "it is remote from the orbit, but this is an artistic (?) convention even in the case of modern designers' profile portraits. On a penny postage stamp or a half-crown of his present Majesty the King, the distance from nasion to outer border of orbit is about one-third of the distance from the nasion to auricular passage, whereas in the profile of a skull it is nearer one-fifth." Herein Prof. Pearson does the designer of His Majesty's image a certain degree of injustice. The extent to which the nasion (or root of the nose) projects in front of the side wall of the orbit, when a skull is viewed in true profile, is a guide to race, and hence the writer has given this facial character some attention. In Bruce's skull the nasion lies 97 mm. in advance of the mid-point of the ear passages; the sides of his orbits 72 mm.; the difference between these measurements—the *naso-orbital depth*—is 25 mm., this being 25.8 per cent. or rather more than a fourth of the auriculo-nasal projection.

Herein King Robert was typically British, for in ten male British skulls taken at random, the mean of the corresponding measurements were 95.8 mm. and 71.2 mm.—the *naso-orbital depth* being 24.6 mm.—or 25.7 per cent. of the naso-auricular line. To obtain a face in which the *naso-orbital depth* falls to Prof. Pearson's standard, a fifth or 20 per cent., one has to go to skulls of Chinamen. Ten male skulls of this race,

taken at random, gave these measurements, 92.8 mm. and 74.4 mm.—the *naso-orbital depth* being 18.4 mm.—almost exactly one-fifth of the naso-auricular projection. In the image on the half-crown which lies before the writer, the nasion is 8 mm. distant from the ear passage and the margin of the orbit 5 mm. The *naso-orbital depth* given by the designer of the coin is 38.5 per cent. of the naso-auricular distance—certainly 12 per cent. more than it should be were His Majesty's head represented in true profile. But then it is not a true profile; the artist has purposely turned the head far enough towards him to make the opposite (right) eye-brow visible, and his drawing gives His Majesty's features in their just position. It is otherwise with the photographs which Prof. Pearson has reproduced of the Bruce's skull; the camera, as cameras always do, has given a distorted view of the skull, reducing Bruce's *naso-orbital distance* to one-fifth of the naso-auricular line, thereby committing an error of nearly 6 per cent. The photograph of a skull cannot take the place of an accurate drawing; in the writer's opinion, photographs are useless as craniological documents.

It is a curious circumstance that although Scotland has produced an undue share of anatomists, she has had to depend, until lately, on Englishmen for a knowledge of her own people. It was Dr. John Beddoe who made the first anthropological survey of Scotland; it was Sir William Turner who first made a study of the craniology of its inhabitants past and present. Now Prof. Pearson has given the first adequate account of the skull of their great king. To those who have studied Prof. Pearson's monograph it must seem particularly ungracious on the part of a Scotsman to allow such carping criticism as he has just made above to escape from his pen, for in his final paragraph Prof. Pearson makes an appeal which must dissipate the "Scots-wha-hae-ism" of the most stony-hearted native of North Britain. There the great biometrician writes thus: "Even the aged dream dreams, and I should like to see a national monument to Bruce at Westminster, an effigy based on the skull as only a great sculptor could conceive it. But it should be the gift of Englishmen only to the united nations. . . . The union of our nations needs no artificial cement, but it would be a graceful act for Englishmen to present Scotsmen with what at present they lack, a real characterisation—which I hold is still feasible—of one of their great heroes."

Far be it from the writer to damp in the slightest degree so gracious a proposal; and yet there may be some who will think that Prof. Pearson, while he gives with one hand, does take somewhat away with the other. He suspects that Robert Bruce may have been the subject of syphilis—a suspicion which never crossed the minds of the very able medical men who examined the king's skull and bones when they were disinterred. The writer has searched the pre-medieval graves of England and Scotland for traces of syphilis and found none, and those who know our medical records believe that Robert Bruce had been asleep in Dunfermline Abbey for two centuries before this fell disease appeared in Britain.

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⁶ "On an Interspecific Hybrid of Digitalis," by Dr. Ernest Warren.