

work in Canada. Such Councils, and especially the Conferences held in connection with them, can never fail to have the excellent effect of lifting its members out of the narrow groove into which they have fallen by too exclusively confining their attention to one special object.

Science Notes.

THE "MISSING LINK."

A SHORT time ago fossil remains were discovered in the island of Java which are in many respects intermediate between man and the ape.

The remains are three in number: the upper portion of a cranium, a right upper wisdom tooth and a left femur. These have been described by Dr. Eugene Dubois, who has given the name of *Pithecanthropus erectus* to the animal, and proposes to place it in a new family, to which he assigns the following characters:—Cranium absolutely and relatively to body size, much more roomy than in Simiidæ (apes), but less roomy than in Hominidæ (men); cranial capacity about two-thirds of the average capacity of the human cranium. The inclination of the cervical surface of the occiput distinctly stronger than in Simiidæ. Dentition after the type of the Simiidæ. Femur similar in its dimensions to that of man, and designed for the upright walk and attitude.

A comparison of the skulls of man and the gorilla shows that the cranial capacity of the latter is reduced (a) by a receding forehead, (b) by a reduction of vertical height. The gorilla's skull is also remarkable for the strongly developed ridges above the eyes.

It has frequently been noted that the idiot and the habitual criminal show a more receding forehead and lower cranial arch than is seen in the normal man. It is interesting, therefore, to compare drawings of the cranium (seen in profile) of (1) the ordinary man, (2) a microcephalic idiot, (3) *Pithecanthropus* and (4) a young gorilla. Numbers 2 and 3 are strikingly similar in outline, and moreover they are about as far removed from (4) on the one hand, as they are from (1) on the other.

The fossil wisdom tooth is of great size, and has strong divergent fangs, whereas the wisdom tooth of modern man is less in size, as to its crown, than the other molars, and has an undivided fang. The mean of the length and breadth of the crown of the fossil tooth is 13·3 millimetres (a little over half an inch). The same mean of the wisdom tooth of a negro is given as 11·5 mm., and three Irish upper wisdom teeth, selected at random, gave an average of 9 mm.

There is, however, in the Museum of the Dublin School of Dental Anatomy, a wisdom tooth extracted from the jaw of an Irishman, which has a mean measurement of 12·5 mm., and is therefore but little inferior in size to the fossil tooth, while in structure it is even more remarkable, having seven cusps on the crown and four stout fangs.

Granting that the skull and tooth both belonged to the same individual, which of course cannot be proved, there does not appear to be any ground for the formation of a new family. Anatomists consider the remains

to be undoubtedly human, and inasmuch as they were discovered in a Pleistocene formation, they cannot possibly belong to a transition form between any of the existing anthropoid apes and man, since fossil remains of man have been found in Indian beds belonging to the Miocene period, which is much older than the Pleistocene. The divarication of the ape and man must therefore have taken place much before the time of *Pithecanthropus*, which is on the direct human line. It occupies a lower place, however, than any human form at present known, and of course may exhibit atavistic characters, and so have no importance whatever as a type.

Reviews.

"BEYOND the Dreams of Avarice," by Walter Besant. (Chatto and Windus, Piccadilly.)—Reader, if belonging to "middle-class respectability," that knows not its own grandfather, you had been brought up to believe in the mysterious vital force of heredity, and to feel the truth of the old Jewish proverb, "The fathers have eaten sour grapes, and the children's teeth are set on edge"; and that given the opportunity, an evil ancestral trait will recur again and again from generation to generation, what would you do, what psychological changes would you undergo, if suddenly, without previous expectation, you learnt that you are the heir to a fortune "Beyond the Dreams of Avarice"; a fortune of twelve millions of pounds; but that with it you are presented with a family history numbering a swindler that ruined his master and founded the fortune, a highway robber, hanged at Tyburn, a madman, and a cheese-paring miser, and a forger, and then the proprietor of a gambling and dancing saloon—the ruin of hundreds. Reader, would you touch those begrimed millions "the harvest of iniquity," and thus become "a sharer in the guilt"?

There on the one hand is the plain fact of twelve millions; there on the other the awful legacy of a criminal, a debased family history. You cannot tell what to think? "Beyond the Dreams of Avarice" will enable you at least to analyse your feelings. Soon after the death intestate at an advanced age of the proprietor of gambling saloons, John Calvert Burley, it is noised abroad that these millions wait the coming of the heir. Then the press of the whole civilised world take up the cry, "Where is the heir?" And then the Treasury receives claims from Burleys innumerable—Burleys, who spell the name Burleigh and Burghley. There is a Burleigh, a New Zealand statesman, and Burghley, an actor, and the aged daughter of

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