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144. On an Improved Method of Measuring the Vertical Proportions of the Head.

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**Australia.****Spencer.**

*The Australian Ethnological Expedition; part of a Letter received from Professor Baldwin Spencer.* Communicated by J. Edge-Partington. **143**

Writing from Barrow Creek, under date June 17, 1901, Professor Baldwin Spencer gives the following account of his work :—

“On the whole we are having a very good time though travelling is rather rough and horribly monotonous in this part of the globe, which is about the last place created, and there were no picturesque features left. We have been riding for a week or two through a kind of broad road cut through the mulga scrub so as to make a clearing for the telegraph line. From the Alice to here is just about 200 miles and during the whole time we spent on the road we only saw two solitary blacks. The whole country has been stricken with a great drought, which has affected the natives as well as the plants and beasts. However, here we have a good number of Kaitish natives gathered together and are doing some work amongst them. At Alice Springs we got hold of some good things, and the British Museum shall certainly be remembered when we get back, but much will depend upon how many of our things get lost on the road. The loot which we have got during the past few days, and which is now lying in a heap close to where I am writing, would make your mouth water—Churinga spears, big and little bean-tree pitchis, shields, sacred hair girdles, knives, &c. Further north we ought to get much better things. Two hundred miles ahead the natives are already waiting for us with plenty of stone knives and hatchets. The difficult things to get are the sacred implements. The only way to secure these is to go and rummage about in their camps where they keep them concealed in the bushes out of which they build their miamias. . . .

“As far as the Alice we carried a cinematograph with us and spent some time there recording sacred ceremonies, but I am afraid that they are not a great success as it is not easy to fix the instrument so as to include the whole performance. However, they will be better than nothing. We also had a phonograph and got twenty-four good cylinders with records of corroboree songs, initiation songs, and so on. These are decidedly good. We shall not get much that is new in the way of implements until we get north, but I have hopes of securing interesting things there. Near to Tennant's Creek is the great place for making stone knives and hatchets, and I hope to secure several good series of these in different stages of development. . . .

“When we have finished here we go north for 200 miles and intend to spend two months among the Warramunga tribe. Then we make north again for another 200 miles, and then probably work out north-east towards the Gulf of Carpentaria, on to the Macarthur River. We intended making out west on to the Daly River, but we shall not have time to do this before the summer rains come on and with them heavy floods, which if we happen to be caught in them will prevent our moving about for two or three months. . . .

“This letter goes south by a stray wanderer who has just come in here. Goodness knows when you will get it. Our next post office lies 700 miles ahead of us. There are no such things as papers here and we know nothing of the world. . . .”

**Anthropometry.****Risley.**

*On an Improved Method of Measuring the Vertical Proportions of the Head.* **144**  
By H. H. Risley, C.S.I., Director of Ethnography for India.

It is, I believe, the experience of most observers that the measurement of the vertical dimensions of the head, commonly called “projections,” on the living subject presents some material difficulties. After several experiments I believe that I have discovered a simple method of overcoming these difficulties, which I venture to describe,

in the hope that it may be of use to anthropologists. It has been tried in India on a large scale with marked success.

The measurements are taken with the graduated T-square (*Equerre céphalométrique*) and the smaller steel sliding-scale or the wooden triangular slide. Their accuracy depends upon the subject's head being exactly upright, and being kept in that position while the measurements are going on. There appear to be two recognised methods for placing the subject's head in an upright position. The first, devised by Dr. Barclay in 1803, consists in making the subject hold with his teeth a flat plate of metal mechanically levelled. Topinard discusses this plan, and condemns it as too complicated. For use in India and wherever notions of ceremonial purity prevail it is open to the serious objection that unless all the subjects operated on at the same time belong to the same caste and sub-caste the plate of metal would have to be continually washed in deference to caste prejudices. It also appears to me that if a man has got a plate of metal between his teeth the height from the top of his head to the bottom of his chin cannot be correctly measured, and will in practice vary considerably. The second method, which Topinard prefers, "consists in directing the subject " to look steadily at the horizon, and in correcting the position of his head if by " accident or through nervousness he does not look straight before him in the natural " manner." "In this manner," Topinard adds, "the head will be adjusted in accordance with the plane of vision, and will necessarily assume a correct position for the " purpose of measurement."

We must, I think, take it on Topinard's authority that the head can be correctly placed by following these instructions. We are met, however, by the further difficulty that after the correct position has been ascertained the subject cannot keep his head absolutely still, and that every movement, however slight, materially affects the measurements. Having got the correct position, we want to fix it, in order that there may be no movement while the measurements are going on, and in order that the position may, if necessary, be reproduced for the purpose of repeating and testing measurements already taken. For this purpose I had a small clamp, with a horizontal bar attached to it, made by the Mathematical Instrument Department, Calcutta. The clamp runs on the height-measure which is in the box, and is used in the following manner.



measurement of the height of the nose. So long as the subject rests his nose on this bar he will be in the correct position as previously ascertained; and if the height of the

Adjust the subject's head correctly by the plane of vision as explained above. Then place the height-measure with its plummet attached on either side of the subject, and see by observing the plummet that the measure is upright. Run the clamp up until the horizontal bar attached to it touches the central cartilage of the subject's nose, and renders it impossible for him to depress his head. Then screw the clamp tight. The bar will rest exactly at the junction of the upper lip with the central cartilage—at the point, in fact, which forms the lower starting point for the

bar on the gradations of the height measure is noted, the position can be reproduced at any moment. In fact, the sources of error are reduced to one—the possibility of the subject raising his head—and this can be easily guarded against by seeing that his nose is tightly pressed against the horizontal bar.

It will be seen that the horizontal bar in no way interferes with the process of measuring. It may even assist it, if the vertical arm of the T-square be steadied against the horizontal bar in taking the dimensions from vertex to tragus.

The annexed photograph shows the horizontal bar and clamp being used by my anthropometric assistant, Babu Kamud Behari Samanta, who is now engaged in measuring the typical castes and tribes of the Bombay Presidency and Sind. These measurements will complete a preliminary anthropometric survey of India, the results of which I propose to publish next year in the report on the census of India taken on the 1st of March 1901.

H. H. RISLEY.

## Crete : Prehistoric.

## Report.

*Abstract of the Report of the Committee of the British Association on Explorations in Crete.* Presented at Glasgow, September 13th, 1901. Communicated by the Secretary of the Fund. Cf. MAN, 1901. 2. 145

The Cretan Exploration Fund was formed in 1899 with the object of assisting British explorers and the British School at Athens to investigate the early remains of the island, which from indications already apparent seemed likely to supply the solution of many interesting questions regarding the beginnings of civilisation in Greece (cf. MAN, 1901. 2). To the furtherance of this work, begun in the spring of 1900, the grant of £145 was made last autumn by the British Association.

Already in 1894 Mr. Arthur Evans had secured a part-ownership (completed last year) in the site of Kephala at Knossos, which evidently contained the remains of a prehistoric building. Excavations, to which the fund has largely contributed, begun by him in 1900 on this site and continued during the present year, have brought to light an ancient palace of vast extent, which there is every reason to identify with the traditional House of Minos, and at the same time with the legendary "Labyrinth."

The result of the excavations of 1900 was to unearth a considerable part of the western side of this great building, including two large courts, the porticoes and entrance corridors, a vast system of magazines, some of them replete with huge store jars, and a richly adorned room, where between lower benches rose a curiously carved gypsum throne, on which King Minos himself may have sat in council. The second season's work has uncovered a further series of magazines, the whole northern end of the palace including a bath-chamber and an extensive eastern quarter. It was only towards the close of this year's excavations that what appear to have been the principal state rooms first came into view. A triple flight of stone stairs, one flight beneath another, here leads down from an upper corridor to a suite of halls, showing remains of colonnades and galleries. It was at this interesting point that, owing to the advanced season, Mr. Evans was obliged to bring this year's excavations to a close.

Apart from the architectural results already gained, the finds within the walls of the palace have been of such a nature as to throw an entirely new light on the art and culture of prehistoric Greece. . . . Among the minor arts represented is that of miniature painting on the back of crystal and intarsia work of ivory, rock-crystal, enamel, and precious metals, of which a splendid example has been found this season in the remains of a royal draught-board. Other finds illustrate the connections with ancient Egypt and the East. Part of a small diorite statue from last year's excavations bears a hieroglyphic inscription fixing its date about the beginning of the second millennium B.C., while a more recently-discovered alabaster lid bears the cartouche of the