

## LETTERS TO THE EDITORS

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The Nature of *Telanthropus capensis*

THE type mandible of *Telanthropus capensis* was found in the Swartkrans excavation in April 1949 by me. Dr. R. Broom and I published a preliminary description in this journal<sup>1</sup>. In this note the opinion was expressed that this form is "intermediate between one of the ape-men and true man". This conclusion has been somewhat sceptically received by most workers, who consider, in view of the fact that the same excavation has yielded numerous remains of the ape-man *Paranthropus crassidens*, that the specimen is more likely to be a small and slightly aberrant *P. crassidens* than a new type of man.

Hitherto the known specimens of this form comprised only the almost complete mandible containing five molars,  $P_3$  belonging to the left side of the same mandible and the proximal end of a radius. The teeth are small compared to the *P. crassidens* homologues—especially  $M_1$ . The length and breadth values for  $M_1$ , respectively, fall 5.4 and 3.8 standard deviations from the corresponding means for  $M_1$  of *P. crassidens*. The ascending ramus and corpus mandibulæ heights are appreciably lower than those of *P. crassidens*. Although the molars show general agreement in structure with the latter form, there are some points of divergence, such as the extended buccal grooves and absence of buccal pits—the latter being a prominent and consistent feature of *P. crassidens*. On this and other evidence<sup>2</sup>, it is considered that *Telanthropus* is certainly distinct from *P. crassidens*.

The exact nature of *Telanthropus* is perhaps less easily determined. However, a recently cleaned specimen from Swartkrans has proved to belong to this form and has thrown valuable new light on the matter. The specimen consists of a well-preserved portion of a snout with part of the palate intact. This differs from the corresponding region of *P. crassidens*, of which ten specimens of this region are known. The angle of slope of the subnasal region corresponds with that in euhominids, but not with that in any known prehomimid, and the palate is deep anteriorly. The nasal spine is small. The subnasal plane of the maxilla does not pass smoothly and insensibly into the floor of the pyriform aperture, as is the case in all the known australopithecines, but does so in a pronouncedly euhominid fashion: there is a sharp change of plane at the lower margin of the

pyriform aperture. The bony plate inside the nasal aperture is almost at right-angles to the subnasal plane. The left canine socket is intact except for the outer wall and is too small to accommodate even the smallest lower canine root of *P. crassidens*. The smallest upper canine root of the latter form is much too large for this socket. This probably means that in *Telanthropus* both the crown and root of the canines were reduced in size, whereas in *P. crassidens* the crown had been reduced but not the root. From the various fragments of  $P^3$  preserved on both sides, it seems that this tooth was still three-rooted; which condition is also found in the australopithecines.

This snout differs, therefore, in a number of important features from those of the australopithecines and approaches the condition in the earliest known euhominids very closely. In conjunction with the characters of the mandible, there seems little doubt that *Telanthropus* is a very primitive euhominid. There are some australopithecine affinities, and it is therefore difficult to avoid the conclusion that this form had recently passed from australopithecine to euhominid status.

Recent geological and faunal evidence<sup>3</sup> strongly suggests that the Swartkrans site is Upper Pliocene in age and that it is all a uniform deposit, that is, that the *Telanthropus* and *P. crassidens* remains are coeval. *Telanthropus* is therefore of very great interest and significance for studies on hominid phylogenesis. It demonstrates the very close relationship between australopithecines and man, and is almost certainly the oldest euhominid so far known. A fuller account is being published elsewhere.

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Transvaal Museum,  
Pretoria.  
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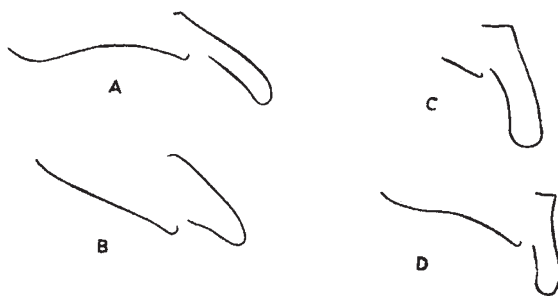
<sup>1</sup> Broom, R., and Robinson, J. T., *Nature*, **164**, 322 (1949).

<sup>2</sup> Broom, R., and Robinson, J. T., Transvaal Museum Mem. No. 6, 110 (Pretoria, 1952).

<sup>3</sup> Robinson, J. T., *Ann. Transvaal Museum* (in the press).

### Separation of an Inhibitor of Influenza Virus Hæmagglutination from Human Sputum

A SIMILARITY exists between the action of the influenza virus enzyme on the surface of the erythrocyte or cells of the respiratory tract and its action in destroying the inhibitory properties for virus hæmagglutination possessed by certain soluble mucins. This has stimulated much interest in the biological function of the mucins in relation to influenza virus infection and particularly in their chemistry as substrates for influenza virus enzyme action<sup>1</sup>. Although studies since 1948 have dealt with influenza virus action on a variety of inhibitors, ranging from those obtainable from serum and urine to those from egg-white, sheep salivary gland and human ovarian cyst, relatively little attention has been paid to the inhibitors present in the secretions actually at the site of influenza virus infection, namely, those in the human nasal and bronchial mucus. Fazekas<sup>2</sup> has described the change in 'inhibitor profile' for certain influenza viruses which takes place in human nasal mucus during influenza. Rose<sup>3</sup> has reported that sputum contains factors which inhibit both infectivity (in eggs and mice) and hæmagglutination by influenza virus.



Sagittal sections through the snouts of (A) *Plesianthropus*, (B) *Paranthropus crassidens*, (C) *Telanthropus* and (D) Bushman. In B and C the posterior portion of the palate is missing. All oriented on the Frankfort plane and  $\frac{1}{2}$  natural size