

ervation of structure in the  $\gamma$ -chain of fibrinogen suggests it may be functionally important. And Blombäck *et al.*<sup>20</sup> have found that the amino terminus of the human  $\gamma$ -chain is linked to the amino termini of the  $\alpha$ (A)- and  $\beta$ (B)-chains in a "disulphide knot" which may maintain a conformation favourable for the specific proteolytic action of thrombin.

We thank Dr Birger Blombäck for an introduction to the three-stage phenylisothiocyanate method, Professor Ulrich Westphal for reviewing this manuscript, and Mrs Margaret White for technical assistance. This work was aided by grants from the US National Institutes of Health and the Swedish Medical Research Council.

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Received March 28, 1969.

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## Surface Ultrastructure of Platelets and Thrombocytes

THIS communication describes preliminary results obtained by scanning electron microscopy of platelets and thrombocytes. Human, baboon (*Papio cynocephalus*), chicken and turkey cells were examined. Plastic or siliconed apparatus was used for all pre-fixation stages. Platelet aggregation was induced in citrated mammalian blood by addition of ADP, and aggregated thrombocytes were obtained from clotted avian blood after defibrination. Fixation and examination under the Cambridge 'Stereoscan' electron microscope were performed using methods described in a previous communication<sup>1</sup>.

In sequestrenated blood, platelets and thrombocytes were present as individual structures. Human and baboon platelets were irregular in shape, with a generally smooth surface. Chicken and turkey thrombocytes were larger, although very variable in size, and possessed a convoluted surface.

Platelet aggregates produced by ADP in mammalian blood and thrombocyte aggregates formed during clotting of avian blood were strikingly similar in appearance. In both cases, the cell surface membranes were irregular and many elongated cytoplasmic processes were present (Fig.



Fig. 1. Aggregated baboon platelets in ADP-treated platelet-rich plasma.  $\times 6,000$ .

1). Often, these processes seemed to have fused with those of other cells to produce links within the aggregates.

It is of interest to note that, although aggregation of mammalian and avian cells takes place by different mechanisms, the morphological end result was the same. The formation of processes bore a distinct resemblance to the protrusions previously observed on agglutinated red cells<sup>2,3</sup>. In addition, the results supported transmission electron microscopic observations on platelet pseudopodal formation<sup>4</sup>.

We thank the Cambridge Scientific Instrument Company for access to their instrument and the Medical Research Council, St Bartholomew's Hospital Joint Research Board and the Wellcome Trust for financial support.

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Received April 1; revised May 27, 1969.

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## New Ultrastructural Features in the Wool Follicle

A STUDY of wool follicles from the New Zealand Romney sheep has revealed several ultrastructural features not previously reported. Here I describe briefly the occurrence of nuclear pockets, polysomes in helical array and microtubules, observed with a Philips EM 300 electron microscope.

The follicles, fixed in either 2.5 per cent glutaraldehyde or Karnovsky's fixative<sup>1</sup>, buffered to pH 7.3 with cacodylate buffer, were post-osmicated and embedded in 'Epon'. Silver sections were cut onto 'Formvar'-carbon coated grids and stained with uranyl acetate and lead citrate.

Nuclear pockets have been described in various types of normal and abnormal blood cells from humans<sup>2-5</sup>, guinea-pigs<sup>6</sup>, two species of amphibia<sup>7,8</sup>, birds and cyclostomes<sup>9,10</sup>. In the wool follicle, nuclear pockets were found in cells of the outer root sheath and cells of the