

The latter result, obtained with the purified reductase, is surprising since human erythrocytes, shaken in air for 30 h at 38°, accumulate 5.7 g of MHB per 100 g of 11H-treated cells as compared to 0.9 g in the control sample. This would suggest either a chemical oxidation of hemoglobin (although at a much slower rate than the conventional oxidants such as sodium nitrite) or an inhibition of the methemoglobin reductase.

Other miscellaneous enzymes, which were found to be insensitive to the drugs, include: xanthine oxidase, D-amino acid oxidase, carboxylase, transaminase and adenylic deaminase.

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## THE SHAPE OF PARTICLES OBTAINED BY ACID DEGRADATION OF CELLULOSE

by

H. J. WOODS

*Textile Physics Laboratory, Department of Textile Industries, University of Leeds (England)*

In a recent issue of this Journal<sup>1</sup>, ROELOFSEN has commented on a paper by S. M. MUKHERJEE and myself<sup>2</sup> in which we claimed to have observed tabular particles as a degradation product of cellulose fibres. The tabular shape of the particles was deduced from measurements made on photographs of metal-shadowed electron microscope preparations; ROELOFSEN rejects our results, presuming that in our specimens the shadowing angle must have varied to such an extent that our measurements were totally meaningless. This presumption is, in fact, completely unwarranted. Our observations were not confined to a small area of a single grid, and one has only to refer to the figures given in our paper for the coefficients of variation to see that wide variations in the shadowing angle could not have occurred. Since, however, ROELOFSEN asks for ocular demonstration that we did not neglect to take what is, after all, an elementary precaution in work of this kind, I would refer him to an electron micrograph which we have published elsewhere<sup>3</sup>, in which the shadow of a latex particle is shown and the cellulose particles have the normal appearance described in our paper.

Since there is no doubt at all about the tabular shape of the particles, ROELOFSEN's second argument, that orientation may be due to conjunction of the (101) faces of the particles and not to the geometrical form, loses its point. His other comments do not affect us directly as authors of the paper referred to; my personal opinion is that the fibrils in lignified fibres, such as jute, are certainly "ribbon-like". In "pure" cellulose fibres (cotton and ramie) the electron microscopical examination of acid degradation products suggests very strongly that it is the particle, and not the fibril, which is the ultimate morphological entity.

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