

the egg, at least in some species, is not a prerequisite of fertilization. Clearly, therefore, the destruction of the cumulus prior to sperm entry is not an essential function of hyaluronidase, though the local presence of the enzyme may conceivably assist the passage of the individual sperm.

Illustrations of fertilized eggs in apparently intact cumuli, together with details of microscope technique, will be included in a full paper being prepared, in collaboration with Mr. J. Smiles, for submission to the *Journal of the Royal Microscopical Society*.

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### Metabolism of Aminohydroxybenzoic Acids

We have recently been studying the metabolism of some aminohydroxybenzoic acids. In view of the interest in these compounds which has been stimulated by the observations of Lehmann<sup>1</sup>, Vallentin<sup>2</sup> and of Dempsey and Logg<sup>3</sup> of the beneficial effects of 4-aminosalicylic acid (*P.A.S.*) on patients with various tuberculous lesions, a preliminary statement of some of our results seems opportune.

We have already identified some aminohydroxybenzoic acids (or amides) as metabolites of aminobenzamides in the rabbit<sup>4</sup>; for example, 3- and 5-hydroxyanthranilic acids from *o*-aminobenzamide, 5-aminosalicylic acid from *m*-aminobenzamide and 4-amino-3-hydroxybenzoic acid from *p*-aminobenzamide. It is our intention to study the metabolism of the ten isomeric aminohydroxybenzoic acids, and so far we have carried out a preliminary examination of four, namely, 3-, 4- and 5-aminosalicylic acids and 3-amino-4-hydroxybenzoic acid. The three aminosalicylic acids appear to be metabolized by the rabbit in similar ways, being excreted partly unchanged and partly as acetamidosalicylic acids, all three of which have been isolated from the urine. No increase in ethereal sulphate excretion was observed. (Salicylic acid itself is not excreted as ethereal sulphate<sup>5</sup>.) 3-Amino-4-hydroxybenzoic acid, however, does appear to be conjugated with sulphuric acid to a slight extent (about 4 per cent), as well as being excreted unchanged and as 3-acetamido-4-hydroxybenzoic acid.

Owing to its clinical interest and to the kind co-operation of Mr. D. E. Seymour, of Herts Pharmaceuticals, Ltd., in supplying us with the compound, we are examining 4-aminosalicylic acid in somewhat greater detail. In the rabbit, approximately 50 per cent of a dose of 1-2 gm. is excreted unchanged and 50 per cent as 4-acetamidosalicylic acid (m.p. 238-239°), which has been isolated and characterized. There has, so far, been no evidence of the formation

of ethereal sulphate or of glucuronides of either ester or other type. 4-Acetamidosalicylic acid has also been isolated from human urine after oral administration of 3 gm. sodium 4-aminosalicylate. Considerable amounts were excreted unchanged.

A fuller account of this work will be published elsewhere.

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### Lipoid Content of the Oxyntic Granules of the Rat's Stomach

THERE have been a few suggestions in the literature that the granules of the oxyntic cells of the stomach might consist in part of a lipid material. The evidence for this view has, up to date, been circumstantial, having been based on (a) the tendency of these granules to show some blackening after fixation in fluids containing osmium tetroxide<sup>1</sup>, and (b) the assumption that, since they can be readily demonstrated by the Altmann-Regaud technique<sup>2</sup> and can be supravitaly coloured by Janus Green B<sup>3</sup> they are mitochondria, and therefore contain lipid.

Recently, more positive evidence for a lipid component has been forthcoming. Foster<sup>4</sup>, using a method by Baker<sup>5</sup>, has shown that these granules have, in frozen sections of formol calcium chloride fixed rat's stomach, a strong affinity for Sudan Black (Fig. 1)

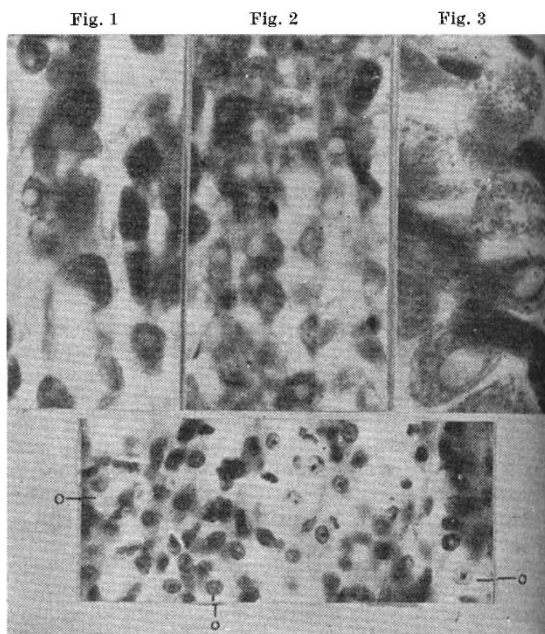


Fig. 1. Fig. 2. Fig. 3. Fig. 4.  
Figs. 1, 2 and 4.  $\times 375$ . Fig. 3.  $\times$  approx. 800. Fig. 4. O, OXYNTIC CELL. NOTE POSITIVE REACTION OF NUCLEI AFTER PYRIDINE EXTRACTION