

not found it on ripe spermatozoa within the testicular tubules. In such silver preparations as we have examined, it appears after the spermatozoa have entered the epididymis, and while it is generally found in the middle region of the middle-piece its position may vary. The position of the upper bead (*NB*) never varies, though its size may slightly. The material of the lower bead (*MPB*) assumes a brown colour on impregnation, like the secretion of the epididymis. More than this we cannot say at present.

On the point of the origin of the upper bead (*NB*) by budding from the Golgi apparatus remnant, as was previously believed by observers who have studied this matter, we cannot now support such an account. It is quite true that the bead (*NB*) is closely associated with the Golgi apparatus, before, during, and for a time after, the secretion of the acrosome (Fig. 2), so as to give the appearance of budding, but this view must be abandoned, since what is undoubtedly the same bead can be seen in the newly-formed spermatocyte and spermatid both in dog and cavy. It is interesting to note that the upper bead (*NB*) in the dog is very clearly formed of a vacuole and several separate argentophil elements. A similar structure was described in the human by one of us<sup>3</sup> some years ago, only in this case not so closely associated with the Golgi apparatus. Further work in the human is being undertaken in an endeavour to clear up this point.

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Jan. 18.

<sup>1</sup> Gatenby, *Proc. Roy. Soc.*, B, 104 (1929).

<sup>2</sup> Retzius, *Biol. Untersuch.*, B, 14, No. 11-14 (1909).

<sup>3</sup> Gatenby, *Anat. Record*, 48 (1931).

## The Countryside As It Was

In his notice of my book, "Field Fellowship", the reviewer makes certain animadversions on my "scientific accuracy". The issue over whole wheat flour is not one between white and brown bread but bread deprived of the wheat germ by the modern roller mills and bread which contains this nutritive essential. The "manchet" bread of the Middle Ages was white bread, but not faked bread. When it is considered that 26,000 of the stone-grinding country mills (which retain the wheat germ) have become derelict in Great Britain owing to the enormous powers exercised by the roller mill interest, it is scarcely surprising that the public have accepted the white bread of the latter. There has been virtually no alternative except by considerable trouble to find a stone-grinding mill and at the necessarily higher price. Eighteenth century white bread was of course never wheat-germless; the process of extraction had not yet been invented.

The reviewer says that the "village garage mechanic" is an adequate substitute for the demise of the rural craftsman. The whole point of rural industry as practised in Great Britain for at least three thousand years was its intimate association with, and dependence upon, agriculture. The garage mechanic has no such organic relationship with the land.

The mechanization of agriculture is and must be as a substitute for human labour. This is quintessential in war-time, but disastrous in peace, because it

must necessarily increase unemployment at a time when the problem of employment is the most harassing that modern governments have to face. Also, the small farm can never be mechanized to the same extent as the large, so that the whole tendency of excess mechanization is the formation of "Latifundia", which experience has shown to be extremely deleterious to fertility.

The reason for "the intellectual stagnation" of village life in the past was the effect of the enclosures and the industrial revolution in breaking down the whole structure and pattern of country life. All the best blood was either transported to the Colonies or drawn off to the towns. The restoration, not the urbanization, of country life is surely the remedy.

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With regard to Mr. Massingham's first comment. The point made in the review was that the public had adopted the whiteness of the bread as their criterion of its desirability long before the roller mill was introduced, so that the roller millers cannot be accused of originating this criterion. They have never had to advertise "Eat Whiter Bread"; it is Mr. Massingham and the nutritional experts who have tried to persuade the public to "Eat off-white Bread", that is, stone ground or "manchet" bread, which the majority still prefer not to do.

The review did not pass judgment on whether any one village craftsman is an adequate substitute for any other. The point made was that new crafts are in fact springing up in the village. The good garage mechanic has often the same relation with the land as the village blacksmith. Neither are of the land, but it was the smith who enabled much of England to be brought under cultivation two thousand years ago. Was he an adequate substitute for the demise of the flint knappers?

Mr. Massingham makes three statements about mechanization. First, that it decreases employment. This statement depends entirely on economic policy, for before the War many farmers actually increased the number of men employed when they turned to mechanization, as they could then intensify their agriculture. Secondly, that the small farm can never be mechanized to the same extent as the large. Categorical statements about future developments can rarely be statements of fact, so that Mr. Massingham must allow me to part company with him here, as pointed out in the review itself. Finally, he states that mechanization tends to the formation of "Latifundia", which are extremely deleterious to fertility. It is difficult to argue a point like this, owing to the vagueness of the word "Latifundia" applied to present-day conditions. There is no evidence that mechanization has yet increased the number of large farms, and, for reasons largely irrelevant in Great Britain, the trend of agricultural engineering development is towards small machines that can work irregularly shaped fields. The real flaw in Mr. Massingham's arguments is that he thinks of mechanization as applied to grain ranching only, which was the first but will not be the last set of agricultural operations to be completely mechanized. The marriage of the tractor to the dairy cow is rapidly taking place wherever agriculture is founded on Western European methods.

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