

## Letters to the Editor

### A Possible Cause of AutoAnalyzer Error

It has been noticed in this laboratory that serum specimens in polystyrene cups as used on the AutoAnalyzer often contain an air bubble attached to the cup wall and usually situated at the bottom of the cup.

These bubbles vary in size, but a volume of 0.01 cm<sup>3</sup> is not uncommon. They form when serum is put into the cup, and are more prevalent when the serum is tipped in quickly, as one might do when transferring what is obviously only just sufficient serum for a test from a small tube to a cup. Bubbles have been introduced into 80% of cups filled experimentally in this way, whereas 20% is a more usual figure with cups filled by pasteur pipette. The conical cups are affected far more often than the flat-bottomed variety. Aqueous solutions seem to be rare offenders.

In at least half the cases the air bubble is not present after sampling and so has been included in the volume taken. Obviously the effect of 'short sampling' by 0.01 cm<sup>3</sup> will vary according to the volume of specimen taken, the closeness of the reaction to equilibrium, and the precision required for that test but it is equivalent to 'short sampling' by between 40 seconds (0.005 in. orange/black) and two seconds (0.030 in. black/black) amongst the smaller tube sizes. Experimental short sampling by 0.01 cm<sup>3</sup> has shown that the precision of a number of routine estimations as done in this laboratory could be significantly affected.

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### Immunofluorescent Staining of Rat Gastric Parietal Cells

We would like to add comment to a recent paper by Muller, McGiven, and Nairn (1971) in which they describe immunofluorescent staining of rat gastric parietal cells by human antibody unrelated to pernicious anemia.

Some two years ago when establishing

immunofluorescence methods for the detection of autoantibodies we were faced with the problem of not having laboratory rats available as a source of substrate tissues. We had available, however, golden hamsters (*Cricetus auratus*) and mice, which were used in our tick paralysis research. A brief pilot study was made to assess the suitability of hamster and mouse tissues as substrates for various autoantibodies. It became obvious that hamster stomach mucosa gave brilliant results for the detection of gastric parietal cell antibody in human serum but the positive results could not be reproduced when the sera were retested using mouse gastric mucosa. It was our impression at the time that hamster tissue provided a much better source of antigen, as judged by the strength of the 'staining' reaction, but gave far too many false positives to be used routinely. Further studies are planned.

At that time rat and human gastric mucosa were the reported substrates of choice but after this initial study we have continued to use mouse gastric mucosa routinely for detecting antibody to gastric parietal cells. Concurrent mouse kidney and liver sections are also used to detect other significant antibodies such as against mitochondria. We have found that the recognition of smooth muscle antibody is difficult on mouse stomach but in nearly two years of routine use the presence of gastric parietal cell antibody has been significant and to our knowledge false positives have not been a problem.

We too recommend that mouse gastric mucosa should be used in the immunofluorescence tests for gastric parietal cells and that hamster tissue is unsuitable.

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### Reference

Muller, H. K., McGiven, A. R., and Nairn, R. C. (1971). Immunofluorescent staining of rat gastric parietal cells by human antibody to pernicious anemia. *J. clin. Pathol.*, 24, 13-14.

## Book reviews

**Verhandlungen der Deutschen Gesellschaft für Pathologie** Edited by G. Seifert. (Pp. xxxii + 696; illustrated; DM. 178). Stuttgart: Gustav Fischer Verlag. 1970.

This is the book of the 54th meeting of the German Society of Pathology, held in Berlin in March 1970 and published in the same year. The main theme was immunopathology and transplantation, all the papers being in German but preceded by a summary in English. Practically all these summaries are in completely understandable English, which is as much as can be said for many British and American papers. All the major papers and most of the others are followed by massive reference lists, and the works quoted show that our German colleagues are studying the world literature. These lists alone could prove valuable to anyone working in or alongside this rapidly spreading field. How widely it is spread is well shown in the titles of the 48 papers.

There are a further 48 papers on diverse pathological subjects, abstracts of papers to be given at the autumn meeting, and obituaries. Two of these, with photograph and bibliography, may well be of personal interest to members, namely W. E. Ehrlich of Philadelphia and Hermann Chiari of Vienna.

A. C. LENDRUM

**Frozen Section in Surgical Diagnosis** By Andrew A. Shivas and Suzanne G. Fraser. (Pp. ix + 261; illustrated. £6.00.) Edinburgh and London: E. and S. Livingstone Ltd. 1971.

To begin with one must question some of the premises adopted as the *raison d'être* of this otherwise excellent, small, but rather expensive, atlas. The reviewer does not believe that frozen section diagnosis is relatively little practised nor that the use of paraffin methods means 'the total loss of all the advantages of frozen section diagnosis.' The authors' insistence that a frozen section service must be 'instantly available, without prior notice, during