

LETTER TO THE EDITOR

Liver Extracts

SIR,—At the British Pharmaceutical Conference this year I reported the Vitamin B₁₂ content of various commercial liver extracts as shown by microbiological analysis, using *Lactobacillus lactis* Dorner¹. The reference standard used was a dry liver extract supplied by Dr. Rickes of Messrs. Merck, U.S.A., and this was alleged to be equivalent to 0.4 µg of B₁₂ per ml. In the discussion at the Conference² I stated that a commercial preparation of crystalline vitamin B₁₂ assayed at three times the labelled strength when compared with Rickes' standard. Subsequent investigation in these Laboratories, using crystalline B₁₂ as reference standard and *Lactobacillus lactis* Dorner and *Lactobacillus Leishmanni* as test organisms, has shown that the real value of the Rickes' liver extract was one-third of that declared. As a consequence of this apparent discrepancy, Dr. Rickes retested his stock of the same liver standard held by him in America, and he now informs me that the present value is one-third of that originally found to be present. It is fruitless at the moment to discuss possible causes of the apparent loss in potency of this liver standard. The net result, however, is that all the figures previously given by me which have been based on the Rickes' standard must be divided by three.

It will be seen that, with this correction, a large number of the liver extracts tested from manufacturers in both hemispheres show very low figures and if the sole active material in them were the indicated vitamin B₁₂, a considerable number of the liver extracts should be almost without activity for the treatment of pernicious anæmia. In some of the low value liver extracts examined, blending experiments were performed which provided no evidence for the presence of any inhibitors. Moreover, although inhibitors have been described by Shorb, such as folic acid, the concentration at which these known inhibitors are likely to be present in liver extracts is considerably under the effective inhibiting concentrations given by Dr. Shorb.

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REFERENCES

1. Shaw, *J. Pharm. Pharmacol.*, 1949, 1, 701.
2. Shaw, *ibid.*, 1949, 1, 709.