from Japan,² where about 32% of all shigellae isolated have multiple drug resistance, but nevertheless serious thought should be given now to the measures which may prevent the present problems of the therapy of bacillary dysentery becoming even more difficult.—We are, etc.,

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Treatment of the Climacteric Syndrome

SIR,—I was pleased to read the contents of the letter by Dr. F. Osmond-Clarke and Dr. M. Murray (8 May, p. 1249), and to note that their view is similar to my own, expressed on several occasions.^{1,2} I suggested that hormonal treatment should not only be given to relieve menopausal symptoms but to slow down the degenerative process of ageing. Vaginal cytology can assess the degree of oestrogen deficiency, and it is a useful guide for the dosage. In my experience, based on 700 cases, the best results are achieved by implants of oestrogen and testosterone pellets. There is no convincing proof that oestrogen is cancerogenic. Similar views have been expressed recently by Wilson^{3,4} and Davis.⁵—I am, etc.,

London W.1. E. SCHLEYER-SAUNDERS.

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C.S.F. Protein in Multiple Sclerosis

SIR,—It is pleasant to learn that even one's occasional contributions to medical journalism are devoured with such avidity and scanned with such attention as is manifest in the critical letter from Dr. H. G. Garland and others (29 May, p. 1435) dealing with my review of the new book on multiple sclerosis by Dr. McAlpine and his collaborators. It would be ungracious to deny Dr. Garland the pleasure of the pedantic skirmish he so clearly invites. Alas, however, the "unfortunate mistake" in the review to which he refers is evidence of careless reading and not slipshod writing.

It did not escape me that on page 255 of the book Professor Lumsden "refers to" the Papadopoulos method of estimating spinal fluid proteins, but it remains true that, as I stated in the carefully phrased last paragraph of my review, he nowhere mentions its application. Even more remarkably he ignores an important and widely quoted study which validated the method of a routine diagnostic test in the columns of this journal¹ no less than three years ago.

Contrary to Dr. Garland's categorical statement a simple colorimetric test has been devised for the estimation of gamma-globulin. I and my biochemical colleagues fully appreciate that the zinc-sulphate-precipitation test measures other things as well as gamma-globulin, and yields values not entirely in agreement with those obtained by electrophoresis. However, at the protein concentrations with which we are dealing the results of the colorimetric and electrophoretic estimations show a degree of correlation which fully justifies the use of the former method as an empirical diagnostic test. The fact that the simpler estimation can be rapidly performed on large numbers of specimens by a relatively junior technician has led us in this context to discard the electrophoretic technique we previously employed.² The results of the application of the colorimetric method in a consecutive series of more than 2,000 consecutive spinal-fluid examinations will shortly be published.—I am, etc.,

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Fatal Reaction to Phenelzine

SIR,—Most of the reports of fatal reactions to monoamine oxidase inhibitors have concerned tranylcypromine.¹ There have been fewer reports of serious adverse reactions in patients taking phenelzine (Nardil). It may therefore be of interest to record the history of a patient treated with phenelzine who died after a short illness resembling the "cheese reaction," in whom the precipitating factor may have been alcohol.

A man of 44 years with previous good health presented with anxiety and depression. He had been treated with sodium amylal, imipramine, and promazine without noticeable improvement. Four weeks before death phenelzine (15 mg. three times a day) was prescribed, and taken regularly until the day before death. Apart from 3 gr. (195 mg.) of sodium amylal at night as a sedative, all other drug treatment was discontinued.

Two days before death his wife thought his behaviour uncharacteristic but not abnormal, in that he was more active and helpful about the house than usual. On the day before death he complained of severe headache and later became confused, talking in a rambling and incoherent way, at which his wife, with ample justification from past experience, assumed that he was drunk and helped him to bed. Next morning he seemed well at first, but at 10.30 a.m. he was again confused and incoherent. He may have had some alcoholic drink in the interval. He tried to get out of bed but was unable to stand, and fell to the floor clutching his stomach, retching, and sweating profusely. On arrival at hospital he was in coma, had a temperature of 104° F. (40° C.), stertorous respiration, fixed dilated pupils, exaggerated tendon reflexes, and extensor plantar responses. There was a regular tachycardia of 120 per minute, the blood-pressure was 150/90 mm. Hg; the blood-sugar and urea concentrations were normal. Rapid deterioration continued and he died two hours after admission.

At necropsy the abnormal findings were as follows. The brain (1,580 g.) showed severe vascular congestion and oedema, with swelling of the cerebrum and bilateral tentorial compres-

sion marks in the uncus region indicating distortion of the brain-stem and accounting for the terminal clinical picture. There was no gross subarachnoid or intracerebral haemorrhage, and the cerebral arteries showed only mild atheroma. Histology confirmed the naked-eye diagnosis. The lungs also showed intense congestion and alveolar oedema (right 870 g., left 570 g.). Such appearances are commonly seen after a fatal rise in intracranial pressure, and since there were no respiratory symptoms until the end of the illness the lung changes may have been entirely a consequence of the cerebral swelling. Analysis of blood, urine, and stomach contents for phenelzine, aspirin, and barbiturates were negative.

This case showed most of the features of the "cheese reaction" type of adverse response to monoamine-oxidase inhibitors and considerable resemblance clinically and at post-mortem to two fatal reactions to tranylcypromine, one of which was precipitated by eating cheese² and the other spontaneous.³ Unfortunately the blood-pressure was not measured during the early phase of headache and confusion, and the only available reading (150/90) was taken about one hour before death, when the patient was comatose and with severe cerebral and pulmonary oedema.

Alcohol has been incriminated as a precipitating factor of these attacks and possibly was in this case, on circumstantial evidence; however, the possibility that it was a spontaneous reaction produced by the drug alone cannot be ruled out.—I am, etc.,

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Studies with Complamin

SIR,—We have read with interest the article by Dr. G. P. McNicol and Dr. A. S. Douglas, "Studies with Complamin, a Nicotinic-acid-Theophylline Ester, as a Fibrinolytic Agent" (1 May, p. 1149). As Complamin is much used in Sweden as well, we should like to comment on some details.

The article gives the impression that Complamin appeared as the result of a search for a fibrinolytic agent superior to nicotinic acid. We do not know the background of the synthesis, but we doubt that the fibrinolytic activity was the main purpose for the preparation. In any case we are of the opinion that the essential action of Complamin in experiments of the type described is to cause an improved peripheral blood-flow. This effect is even more pronounced in experiments ranging over a long period. The observed transient fibrinolytic effect, which has also been detected through angiography by several other investigators, can then be regarded as a positive side-effect of minor importance not comparable to the well-established effect of streptokinase and similar enzyme preparations.

According to our experience careful intravenous injections of Complamin 150 mg. will cause a distinct flush, but in general leave pulse and blood-pressure little affected. The reported fall in blood-pressure from 118/72 to 65/40 in 10 minutes in one subject and similar results in two other cases is remark-