CORRESPONDENCE

Correspondents are urged to write briefly so that readers may be offered as wide a selection of letters as possible. So many are now being received that the omission of some is inevitable. Letters should be signed personally by all their authors.

Cardiovascular Control in Diabetes Mellitus

SIR,—Dr. T. Bennett and others (14 June, p. 585) propose a classification of diabetic autonomic neuropathy affecting the cardiovascular system based on observations made on a single occasion in a group of 21 diabetics with assorted complications. Only eight of their patients had abnormal responses of blood pressure and pulse rate to standing and were divided into three groups.

In our experience, postural hypotension is nearly always variable from month to month and year to year. Even on the same day a diabetic may have either a progressive deterioration or improvement of postural fall in blood pressure in the first few minutes after standing, usually with no concomitant alteration in pulse rate—that is, interchange between Dr. Bennett and his colleagues' groups (*b*) and (*c*). Further, diurnal studies show that the time relationship to insulin administration is one factor which significantly affects the degree of postural hypotension, causing some patients to pass from Dr. Bennett and his colleagues' group (*a*) to either their (*c*) or (*d*). We feel their classification is an over-simplification. If the responses to the Valsalva manoeuvre are also analysed many different combinations of abnormalities can be identified. However, we do not perform this test on diabetics with active retinal new vessels likely to bleed.

We find a poor correlation between the results of all these tests and the presence of postural hypotension. We have seen patients with abnormal responses to each test who do not have postural hypotension, and one patient who, despite normal responses, had severe postural hypotension. The distribution of diabetic autonomic neuropathy affecting the cardiovascular system is patchy and unpredictable and its understanding is not helped by too rigid a classification. Nevertheless, we agree that the study of blood pressure and pulse rate responses to standing is an excellent method for assessing cardiovascular abnormalities.—We are, etc.,

M. McB. PAGE
P. J. WATKINS

King's College Hospital,
London S.E.5

Fish Farms and Botulism

SIR,—Your leading article on this subject (19 April, p. 106) mentions the recent report by Burns and Williams[1] of *Clostridium botulinum* type B in the mud of a fish farm and you draw attention to the possibility that fish may become contaminated from the environment. The need for research on the ecology of *Cl. botulinum* in relation to food species of fish has been stressed recently.[2]

A research project on botulism in waterfowl, supported by the Wellcome Trust and the Natural Environment Research Council, is in progress at this institute. As a part of the study we recently made a survey[3] of a large proportion of the lakes and waterways of London and showed that no less than 72·5% contained mud in which *Cl. botulinum* could be demonstrated. Of the four types of this organism encountered, B was the most prevalent, though C and E were by no means uncommon; D was demonstrated once only.

It is unlikely that *Cl. botulinum* has only recently been introduced into these aquatic environments and, as no case of human botulism has been reported to the Public Health Laboratory Service for 20 years, the widespread distribution of the organism revealed by our survey can have represented no more than a slight potential risk to public health. However, as you have rightly stated, fish farming is a new and rapidly expanding industry. Our findings reinforce the point you have brought to the attention of your readers—namely, that the use of water channels with mud bottoms may lead to contamination of fish with *Cl. botulinum*.

We are grateful to the Editors of the *Journal of*