contacts as necessary the district nurses, welfare officers, almoners, health visitors, and hospital ward sisters—all at the behest of the doctor, whose real job is thereby both enlarged and made easier.

As general practice develops the doctor can fulfil his role only by having efficient and tolerant secretarial help, a practice nurse, good district nurses and midwives, and an up-to-date health visitor. There seems no reason why the last three should not be run by the local authorities across practice boundaries as at present, but the first two are personal as regards duties and hours and can only be employed by the general practitioner himself.

In spite of political interference this mode of practice developing in Britain is probably many years ahead of any arrangements offered in Europe or the North American continent.

It will be a great pity if excessive demands reduce a practice nurse to the role of a "feldsher," when, losing the confidence of the public, general practice as we know it today will disintegrate.—I am, etc.,

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H. C. H. BIRD.

Lignocaine in Cardiac Arrhythmias

SIR,—The excellent article from the department of cardiology at St. Mary's Hospital (13 January, p. 89) emphasizes the usefulness of lignocaine in ventricular arrhythmias. I thought that it might be of interest to report its use in the reversion of acute atrial fibrillation.

A 65-year-old woman with a one-and-a-half-year history of angina was found on 18 September to be mildly hypertensive. Her electrocardiogram was normal. On 20 October she collapsed with severe cardiac pain and was found to have atrial fibrillation. Despite every effort admission for immediate D.C. countershock could not be arranged. As the patient was likely to die unless reversion to normal rhythm was achieved, 10 ml. of lignocaine was given intravenously under E.C.G. control. Her blood pressure of 80/60 mm. Hg rose rapidly to 120/80. The marked ST depression over the left ventricle went, as did the cardiac pain.

She has remained well, pain free and in normal rhythm, since the episode. Apart from heparin, lignocaine was the only drug used in her treatment.—I am, etc.,

Eastbourne.

ANTHONY CHURCHER.

Stress Ulceration

SIR,—Your leading article on the above subject (27 January, p. 197), though admitting that any form of stressful situation may predispose to acute gastric or duodenal erosion, deals predominantly with the cruder stresses: burns, trauma, surgery, or intracranial lesions, and lists these as causative influences together with severe infections such as septicaemia and pneumonia. To do this risks a disproportionate view of the situation, for surely there are much more frequent, more persistent, and more recurrent stresses to be found in the lives of ulcer sufferers. Certainly Davies and Wilson¹ found emotional stress preceded perforation or haemat-

emesis in 84% of their cases, and Melton² found that the nervous strain precipitated by the outbreak of the last war caused an evident increase in haematemesis and perforation. In my series³ of 338 haematemeses 139 gave a history of preceding nervous strain (with 76 acute ulcers), while 79 had sustained physical stress, with or without nervous stress, and of these 36 had acute ulcers.

Infections, which your article lumps in with stress, and also aspirin, alcohol, and nicotine were associated with the aetiology of many of these cases, but the effect of nervous influences, such as might be mediated through the hypothalamus, was too obvious to be ignored. Your article quotes the way in which restraint produced ulceration in the stomach of a rat: would it not have been even more pertinent to have referred to the classical work of Wolf and Wolff⁴ on the effects of anxiety and kindred emotions, which they observed in Tom, their human gastric fistula subject?—I am, etc.,

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Jaundice and Liver-function Tests

SIR,—We do not believe that Dr. A. Paton's article in your Current Practice series presents a satisfactory summary of current thinking or practice about jaundice (20 January, p. 164), particularly in the sections headed Clinical Features and Investigation. It is not our intention to write an alternative account, but we would draw attention to the following points:

(1) It would have been helpful if a broad classification of jaundice had been presented at the beginning of the article—for example, into prehepatic, hepatocellular, and obstructive groups—with subdivision thereafter of the obstructive group into intrahepatic and extrahepatic causes.

(2) The decision to exclude from consideration jaundice in the neonatal period and early childhood and jaundice due to haemolytic diseases should have been made clear. We think it particularly unfortunate that the differential diagnosis of prehepatic jaundice has not been discussed, because from time to time this can present great difficulty.

(3) The importance of a full clinical history and physical examination, including simple chemical tests on urine and faeces as part of the *initial assessment* of every jaundiced patient, cannot be overstressed. This would have allowed Dr. Paton to show that, as a rule, it is possible to differentiate the prehepatic group of jaundice from the two other groups before having recourse to special investigations; there are exceptions to this generalization, one of the most frequently encountered being the patient with obstructive jaundice due to pigment stones. It is wrong to restrict consideration of these tests on urine and faeces to the section on management, and it is confusing to bring up for the first time under this heading questions which

should have been included in the initial history—for example, about drugs and injections. By all means repeat such tests and questions, but include them at the start.

(4) Dr. Paton's comments about biochemical tests are retrogressive in the extreme, and even the positive statements are unjustifiably critical in some cases and inaccurate in others. The van den Bergh reaction and its variations have largely been replaced by side-room tests on urine, interpreted in conjunction with "liver-function tests," for assessing the type of jaundice. The liver-function tests group themselves broadly into (a) tests of excretory function, (b) tests of synthetic capacity, and (c) tests of hepatocellular integrity, and it is necessary to perform a range of tests to investigate properly the many activities of the liver. Among the tests of excretory function serum alkaline phosphatase is still widely accepted as a valuable investigation,¹ but it must be performed as early as possible in the course of the jaundiced patient's illness if this and subsequent measurements are to be afforded their best chance of assisting in differentiating between hepatocellular and obstructive jaundice. Dr. Paton's reference to alkaline phosphatase isoenzymes is unclear to us, in the investigation of jaundice, but having made this reference we are surprised that he fails to mention 5'-nucleotidase.² Turbidity and flocculation tests, although their mechanism still remains incompletely explained,³ can in fact provide sensitive evidence of alterations in protein synthesis, but again their usefulness is impaired if they are not performed as early as possible. The references to electrophoresis of serum proteins are an oversimplification and suggest a greater diagnostic value for this investigation in obstructive jaundice than is justified. Finally, the reference to "the aminotransferases" (no attempt was made to discuss them separately) should have been accompanied by some comment on lactate dehydrogenase and its isoenzymes⁴ and on isocitrate dehydrogenase.⁵ It is not correct to conclude that the existence of large numbers of liver-function tests means that they are ineffective, but we have not yet arrived at the stage where the ideal combination of tests has been evolved.—We are, etc.,

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Aldosterone and Electrolyte Movements in the Colon

SIR,—The demonstration by Mr. R. Shields and others (13 January, p. 93) that primary aldosteronism causes an increased secretion of potassium into the human colon is in keeping with our own observations on faecal composition, which they were kind enough to quote.¹ However, it is surprising that they observed no increase in net sodium