and in chronic renal failure a satisfactory diuresis may be obtained.

That no deafness was evident with the smaller dose suggests that the effect is dose dependent, not a sensitivity phenomenon. In view of its inconstancy from person to person, however, there clearly are other variables, such as patient idiosyncrasy or possibly degree of renal failure to consider. The phenomenon appears to be of a benign prognosis.—I am, etc.,

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- ¹ Schwartz, G. H., David, D. S., Riggio, R. R., Stenzel, K. H., and Rublin, A. L., *New England Journal of Medicine*, 1970, **282**, 1413.
- ² Vargish, T., Benjamin, R., and Shinkman, L., *Annals of Internal Medicine*, 1970, **72**, 761.

Blood Flow in Ischaemic Feet

SIR,—We read with great interest the recent report (24 July, p. 220) by Mr. A. J. McEwan and Dr. I. McCa. Ledingham on the blood flow characteristics of apparently ischaemic feet. While we would agree that in cases of peripheral vascular disease there is a considerable dampening of the pulsatility of both the blood pressure and blood flow waveforms, our own measurements indicate that the total limb perfusion is higher in normal subjects.

Using a Nycotron electromagnetic flowmeter we have measured arterial blood volume flowrate in patients undergoing femoro-popliteal bypass grafting or profunda femoris angioplasty for atherosclerotic occlusions. Our measurements (taken from 17 subjects) have shown that the typical pre-reconstruction flow is 103 ml/min (S.D. $\pm$ 32) and that the post-reconstruction flow is typically 159 ml/min (S.D. $\pm$ 66).

Other work conducted by us on femoral vein flows has shown that in a total of 26 patients suffering from varicose veins the mean flow was 151 ml/min (S.D. $\pm$ 57). In those patients where measurements have been made simultaneously on the femoral artery and vein there has been no significant difference between the arterial and venous flow.¹ This would support our assertion that mean flow in an ischaemic limb is lower than in the normal limb.

We have found that examination of the flow traces, with respect of their pulsatility, is of value in picking up any thrombosis and dissection that may have occurred immediately following reconstruction. Without per-operative assessment of the flow such faults may only become apparent after the patient left the operating theatre.—We are, etc.

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- ¹ Sabri, S., Roberts, V. C., and Cotton, L. T., *Cardiovascular Research*, (in press).

Safety with Lasers

SIR,—After your leading article on "Safety with Lasers" (3 July, p. 3) we are surprised that your correspondent (7 August, p. 370) should quote a threshold level for human

eye damage using such inadequate information. In the case cited intraocular energy was not estimated because not only was the pupil diameter unknown but there were no details of beam geometry or the refractive state of the eye. The retinal energy density, which was the critical parameter, could not be calculated because the spot size was not determined.

We would take this opportunity of pointing out what must be a misprint in your leading article (3 July, p. 3). The second sentence of the second paragraph should read "A laser with a pulse duration of 50 nanoseconds could produce a miniature explosion within the retina . . ." Symbols can be easily misprinted and this may be a justification for writing such units in full.—We are, etc.,

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Fatal Complications of Central Venous Catheters

SIR,—Dr. R. Adar and Professor M. Mozes, (25 September, p. 746) report two fatal complications of central venous catheterization. It would be interesting to know the type of intravenous catheter involved, as the complications did not seem to be of technique of central venous catheterization but of catheter material. A stiff catheter could obviously perforate heart or vein tissue more easily than a soft catheter. At the moment there are three types commonly available—Nylon (Portex), Intracath (Bardic), and Venocath (Abbott). The Nylon catheter is quite stiff, Intracath is soft but stiffens slightly if left in place for more than three days, the Venocath is particularly soft, and although perforation could be caused by its stylet, it should not give rise to such complications once established.

The variability of physical characteristics of intravenous catheters should make it mandatory to report complications in relation to the type of material and make of catheter used.—I am, etc.,

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Psychogeriatric Care

SIR,—May I comment on a couple among the many important points raised in the correspondence which followed your leading article (24 July, p. 202) and my paper in the previous week (17 July, p. 166)?

Dr. M. Silverman (14 August, p. 435) argues that the psychiatry of old age is not a separate subspecialty. I agree with him, if by specialism he means "sapiential" specialism. But the present situation is such that there is surely an urgent need for a "functional" specialism—for some psychiatrists to take a special interest in tackling this urgent job of psychiatric work. There are analogies here with, say, drug dependence, which is not a subspecialty either. However, the issue he raises highlights an important practical point: at present the psychiatry of old age is an under-cultivated field and it does sometimes need to be considered separately from psychiatry as a whole in planning and in allocation of resources and staff. In particular, at a time

when extra money is said to be being channelled into services for the elderly, the special needs of psychiatric services for old people can be overlooked through being regarded merely as part of psychiatry as a whole.

I was characteristically kind of Dr. T. B. Dunn (31 July, p. 308) to write so generously about our unit at Goodmayes; the size of our continuing debt to him is obvious to anyone who knows the unit. I think his doubts about my view that the needs of most ambulant demented patients who are not able to be cared for at home would be better met by residential rather than hospital care may be based more on what he sees as the likely administrative consequences than on the objective appropriateness of such a shift. He feels that such a pattern of care, inasmuch as residential units would be the responsibility of local authorities, implies that the doctor would lose control over admissions, so that ultimately patients would reaccumulate in hospital blocking the acute beds. But this is to assume that there would be no expansion of residential facilities, while my argument implies the need for a great expansion. I was careful not to say that "residential" necessarily means local authority care—many hospital boards have long had such "hostels"—but no doubt such units would come mainly under the local authority.

Surely what is at issue is the need for a unified service, which for old people (and for any other people) means that the whole range of facilities should be planned and distributed according to need, rather than according to which side of an administrative fence a problem happens to crop up. This implies that collaborative deployment of hospital and local authority resources should no longer depend merely on local goodwill, vital as that is, but must be built into the new health service as a part of its structure. The "Consultative Document"¹ recognizes the problem but gives no indication of how it is proposed to remedy it, and one hopes that, along with expansion of the relevant facilities, this is high on the agenda of the working party which is now looking at the relationship between health and social services.—I am, etc.,

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- ¹ Department of Health and Social Security. *National Health Service Reorganization: Consultative Document*. 1971.

Neurofibromatosis with Leukaemia

SIR,—Dr. M. W. McEvoy and Dr. Jillian R. Mann (11 September, p. 641) report a 5-year-old boy with café-au-lait spots and acute myeloid leukaemia, whose mother has neurofibromatosis. Hardisty *et al.*¹ have recorded a 3-year-old boy with juvenile chronic myeloid leukaemia whose father and three siblings suffered from neurofibromatosis, though the patient himself had no signs of the disease. We have at present under our care a boy of 23 months who appears to have juvenile chronic myeloid leukaemia, having first presented at the age of 3 months. This patient has a large number of café-au-lait spots of varying size, as do his mother and older sister, though there is no family history of neurofibromatosis. As Drs. McEvoy and Mann have pointed out, both

neurofibromatosis and leukaemia are uncommon conditions and the above three cases suggest that there may be a link between them. It may well be merely co-incidence that all three patients are males.—We are, etc.,

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D. C. L. SAVAGE
B. M. WILLIAMS

Maryfield Hospital,
Dundee

¹ Hardisty, R. M., Speed, D. E., and Till, M., *British Journal of Haematology*, 1964, 10, 551.

Pupillary Paralysis after Tranquillizer

SIR,—Though I accept Dr. R. Pearson's criticism (11 September, p. 639) that the evidence in my letter (28 August, p. 530) is not proof that pimozide caused the side effects mentioned, there are two aspects of this subject on which I would like to comment.

First, it is common experience with high doses of the phenothiazine and butyrophenone groups of drugs that blurring of vision along with other side effects occurs, and that pupillary dilation and sluggish light reactions are observed concomitantly. Administration of antiparkinsonian agents often alleviates the condition, though the dose of antipsychotic drug usually has to be reduced before this side effect is removed. There is often a wide gap between the theoretical effects predicted by known pharmacology of drugs (often inferred only from animal experiments), and what is clinically observed. I would put forward the proposition that while one would expect anticholinergic agents such as benztropine and orphenadrine to cause pupillary dilation, the clinical observation remains that blurring of vision is diminished by these drugs in the complicated iatrogenic state of affairs introduced by the administration of antipsychotic agents.

My second point is that pimozide is suggested by the manufacturers (Janssen Pharmaceuticals) to have a very low incidence of side effects—and yet the case under discussion showed all the usual complications.—I am, etc.,

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Survival in Severe Congenital Heart Disease

SIR,—Your recent correspondents (4 September, p. 579, and 18 September, p. 701) have illustrated some of the problems facing all those trying to provide services for infants and children with cardiac lesions. Of course the situation imagined by Dr. E. T. O. Slater (18 September, p. 702) infrequently arises in such a clear cut manner. More often the problem is that of an infant who clearly must have an operation very early or die, and one therefore defers an older child who is in a less pressing situation. If this is done on a sufficient number of occasions it will eventually turn out that one has guessed wrong, and an older child will suffer, perhaps irremediably. One is weighing the life of one older child against those of several infants, an equation perhaps less simply solved than Dr. Slater's.

Similar problems arise at the diagnostic stage. Cardiac investigations have to be rationed, and one does this partly by not

investigating some of those who clearly can afford to wait, in the hope that some day it will be possible to deal with them; and partly by denying investigation to those small infants who seem likely to be unsavable. Again one cannot always be right, but to detect each of those infants with a reasonable chance of a long and happy life after operation would also mean investigating several who turn out to be incurable. Even with such rationing many treatable infants are imperilled by unavoidable delay. The marginal cost of saving more ill infants than at present is high, but this should be faced.

Other difficulties face administrators. Apart altogether from the fact that poor facilities are unlikely to attract good applicants for posts, both equipment and staff are expensive and it is uneconomic to supply one without the other. Another problem concerns the relationship with other services. Paediatric cardiac services should certainly be linked in some way with a nearby adult service, but operations are being done progressively earlier in life and the problems are increasingly those of the small infant. There seems, therefore, increasing reason to associate this work preferentially with those other services, such as neonatal surgery, which require similar expertise—particularly that of paediatric anaesthesia.

Not all administrations are able to solve these problems, and because of the expense I wonder if it is not time for some help and guidance for them from the Department of Health.—I am, etc.,

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Nephrotoxicity of Cephaloridine

SIR,—Dr. R. Gabriel and others (31 October, 1970, p. 283) reported reversible acute renal failure after cephaloridine. We recently encountered a case of fatal acute renal failure following cephaloridine administration and thought that this complication of the drug deserves documentation.

The patient was a 70-year-old woman with a complex mitral valve defect. She was febrile and very ill. *Streptococcus viridans* was cultured from her blood. Though the patient was known to be sensitive to penicillin a therapeutic trial with ampicillin was attempted. This resulted in a widespread rash, and cephaloridine was therefore substituted. During the course of this treatment progressive oliguria was noted. Blood urea rose from 38 mg/100 ml to 200 mg/100 ml and creatinine reached 5 mg/100 ml. Though peritoneal dialysis brought about an improvement in serum biochemistry, the patient's general condition continued to deteriorate and she died. Necropsy was refused, but a percutaneous renal biopsy was performed within one hour after death.

All the glomeruli were intact. Many tubules were without their epithelial lining. The tubular lumina contained amorphous eosinophilic material which was in some cases granular. There were patches of tubular atrophy with interstitial oedema and lymphocytic and eosinophilic infiltration. The acute renal failure could have been determined by several causes. Subacute bacterial endocarditis may produce renal damage. However, it does not usually produce acute renal failure. Ampicillin is a fairly innocuous drug so far as the kidneys are

concerned, and in any event, it had been given for one day only, while cephaloridine was given for a whole month.

Our patient was known to be sensitive to penicillin, and cross sensitivity between penicillin and cephaloridine has already been described.¹ The clinical manifestation of sensitivity ranges widely from mild urticaria to severe renal damage and anaphylactic shock. There have been numerous reports on the aspects of nephrotoxicity of cephaloridine.²⁻⁵ These range from mild damage manifested by casts and albuminuria to the severe damage of acute renal failure. This drug has caused necrotic changes in the proximal tubules in experiments on animals, and these changes include hydropic swelling with fragmentation of the tubular cells.⁶

We conclude as others before us that cephaloridine should be used cautiously. Repeated estimation of the renal function must be performed and the dose should be related to the level of renal function.—We are, etc.,

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Diverticular Disease of the Colon

SIR,—We were interested to read Dr. J. F. Calder's account (12 June, p. 654) of a single case of diverticular disease of the colon in a 40-year-old Bantu female resident in Zomba, Malawi. We have recently seen a Rhodesian African female patient with this condition. This would appear to be the only reported case of diverticular disease of the colon in an African resident in Rhodesia. The patient, a 42-year-old female, underwent cholecystectomy for cholelithiasis. Multiple diverticula of the descending colon and sigmoid colon were noted at laparotomy and confirmed later with barium studies.

It is important to record the rarity of a disease in a region where its incidence is much lower than that seen elsewhere. If the disease should show an increase in incidence during subsequent years, the study of features related to the change in environment of this group of people may help elucidate the cause of the particular disease.—We are, etc.

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An XYY Individual of Average Height

SIR,—In reply to Dr. Dora Black's criticism (25 September, p. 768) we would like to make the following points:

(1) We reported the finding of an XYY