developing in a nearby still larger country, the Zaire, formerly Congo, where I have been working since 1923 and which I left voluntarily only a few weeks ago. My letter is not prompted by any personal grudge—I am 76 and was given to understand by the local authorities that they had orders not to touch me so long as I chose to stay—but by a wish to continue to help the people of the Zaire.

For a rapidly increasing population there were about 1,000 doctors in 1959 and about 600 last year, two-thirds of them being foreigners. This year a good many have left, and the trend continues. They are being replaced by Zairian doctors graduated since 1960, nearly all of them much later. According to the Minister of Health there will be 2,200 physicians by 1980, but this is wishful thinking, as new graduates number only a few score every year. Scholarships abroad have been curtailed and the three medical schools reduced to one.

Two and a quarter years ago the right of foreigners to practise became subject to the approval of committees named by the Minister of Health on which foreign doctors—the majority—are not represented. All practising doctors had to ask for registration, providing copies of their diplomas, police and tax office certificates, and finger prints, and to pay repeated registration fees and contributions. To this day no doctor in Oriental Province, where I have been working, has received his membership card. Thus all foreign doctors work on sufferance and may have their surgeries closed at any time, as has happened twice to all national and West African doctors in the capital.

There exists a National Medical Association open to all black physicians, but the multi-racial Association of Private Physicians, which I represented for years in Oriental Province, has been disbanded. At medical meetings white doctors are invited only as observers and may not take part in discussions. The official medical bulletin publishes only papers by black contributors and by the W.H.O. (though I am glad to acknowledge that an exception was made for me). In public hospitals the director must be black, and Zairian graduates and male nurses take precedence over the foreign doctors, even when these are paid by foreign governments, the W.H.O., or religious organizations.

The sense of insecurity was enhanced by last year's campaign against passport-holders of 18 other African independent countries, who were declared guilty of smuggling and economic sabotage and interned for several months in a military camp near my town. The same thing could happen to other foreign communities.—I am, etc.,

A. BARLOVATZ

Brussels, Belgium

Vasectomy in the Surgery

SIR,—I note the comments of Dr. E. R. Seiler (28 October, p. 232) regarding vasectomy in the surgery. I have performed this operation regularly in my surgery for six years and do not agree with any of his objections to performing the operation under local anaesthesia.

The only discomfort the patient experiences is on introduction of the local anaesthetic; this is only minimal and little

more than the discomfort associated with the induction of general anaesthesia. I would point out that it is important that the cord itself be infiltrated adequately, as otherwise the patient may feel abdominal discomfort when the vas is being isolated. If the cord is first isolated by blunt dissection with curved scissors and an aneurysm needle passed behind it, the vas is easily felt by palpation against the aneurysm needle, and can usually be readily separated by blunt dissection. Occasionally one has to be fairly painstaking over this as the tunica vaginalis may be adherent, but the procedure is no more difficult under local anaesthesia than under general anaesthesia. If two ligatures are tied on the vas more than one inch (2.5 cm) apart before removing the length between for histological examination, there should be no question of the cut ends disappearing from view untied.

Except in one or two isolated cases the patients express surprise that the operation has been so painless, and immediately afterwards are able to walk or drive home unaccompanied. In addition, they have been spared the discomfort and the small but real dangers which accompany any general anaesthetic. I would go further and state that in my opinion it should rarely be necessary for the operation of vasectomy to be performed under general anaesthesia.—I am, etc.,

J. G. DELLER

Matchborough,
Worcestershire

SIR,—The recent letters from Dr. E. R. Seiler (28 October, p. 232) and Dr. J. J. Hobbs (18 November, p. 426) call for further comment on the points they have raised.

When I first considered doing vasectomy under local anaesthesia in my surgery I decided that I must first get expert tuition from doctors used to doing this operation in this way. Obtaining this tuition proved virtually impossible, as no set courses were in existence at that time for general practitioners.

The demand from general practitioners for tuition in the theories and techniques of vasectomy in general practice prompted the formation earlier this year, of the Vasectomy Advancement Society of Great Britain, which now undertakes to train them.

It is, of course, essential to use suitable instruments (Soonawalla forceps) to hold the vas once it is revealed through the incision, and when gripped by small curved mosquito artery forceps, which crush it before section, the ends cannot slip back and disappear. It is not necessary to ligate the cut ends, which can be sealed adequately by unipolar diathermy with a Birtcher Hyfre-cator. Routine premedication of the patient with an oral dose of 5 mg of diazepam 20 minutes before the operation allows the volume of local anaesthetic to be limited to a maximum of 2 ml.

With regard to the potential demand for the operation in Britain, there is demographic evidence (personal communication from the London Office of Health Economics) to show that couples wish to complete their family within the first eight years of marriage. The present average age at which men get married is 25, so a great number of the six million married men over the age of

33 could benefit by vasectomy. With hospitals already overburdened with emergencies and routine work and with over half a million patients waiting for surgery at any one time, who on earth is to do these operations except trained general practitioners?—I am, etc.,

MICHAEL ALTMAN

London N.20

Sucrose in Duodenal Ulcer and Cardiovascular Disease

SIR,—Dr. C. S. Humphrey and others (18 November, p. 393) report on the impaired glucose tolerance and high concentration of plasma insulin in patients with duodenal ulceration, and point to the relationship between this condition and cardiovascular disease. They suggest that abnormal carbohydrate metabolism may be common to both.

This conclusion is supported by the evidence that dietary sucrose might be a common aetiological factor in these two conditions.¹ First, we have shown that patients with chronic dyspepsia, including those with manifest duodenal ulceration, responded very well when given a diet in which sucrose was considerably reduced.² Secondly, the substitution of sucrose for part of the starch in the diets of young men led to a rise in gastric acidity and especially in pepsin secretion.¹ Thirdly, this dietary change produced a diminished glucose tolerance³ and, in about 30% of young men, an increase in the plasma concentration of insulin⁴ and of corticosteroids.⁵ There is in addition an appreciable body of other evidence that links dietary sucrose with cardiovascular disease.⁶

It does appear then that there is a common pattern of disturbed carbohydrate metabolism in individuals with duodenal ulcer and those with cardiovascular disease, and that this is likely to be due to a common aetiological factor, dietary sucrose. Nevertheless, as I have explained elsewhere,¹ I do not believe that sucrose necessarily acts in the same way to produce these two diseases. Sucrose has several unique properties and these can have different adverse effects in man.—I am, etc.,

JOHN YUDKIN

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¹ Yudkin, J., *Nature*, 1972, 239, 197.

² Yudkin, J., Evans, E., and Smith, M. G. M., *Proceedings of the Nutrition Society*, 1972, 31, 12A.

³ Cohen, A. M., Teitelbaum, A., Balogh, M., and Groen, J. J., *American Journal of Clinical Nutrition*, 1966, 19, 59.

⁴ Szanto, S. S., and Yudkin, J., *Postgraduate Medical Journal*, 1969, 45, 602.

⁵ Yudkin, J., and Szanto, S. S., *British Medical Journal*, 1971, 1, 349.

⁶ Yudkin, J., *British Journal of Hospital Medicine*, 1971, 5, 665.

Bone Disease in Chronic Renal Failure

SIR,—In reply to the comments from Mr. R. P. N. Carroll (11 November, p. 366) we, and our colleagues, emphasize that the aim of our study (16 September, p. 664) was to demonstrate the effect of haemodialysis on bone and not, except in the broadest sense, to diagnose bone disease in individuals. We did not include a group control since our method for obtaining and preparing cancellous bone is well established and normal data are available for the relevant age groups.¹ To avoid the "transitional zone" we used the

deepest section of the paraffin-embedded block (> 4 mm from the cortex).

Although our definition of excess fibrosis is "imprecise in a histoquantitative setting" we have at least attempted to differentiate osteitis fibrosa from other forms of bone resorption which may not be related to high circulating parathyroid hormone levels. The failure of the bone resorption "rate" to fall after parathyroidectomy in dialysed patients described by Mr. Carroll and his colleagues² could indicate that such patients had another form of resorptive bone disease³ such as acute osteoporosis.

However sophisticated the scanning techniques, the sole use of surface criteria may be unreliable, particularly when osteoid is considered. Measurement of the surface coverage by osteoid is related to the volume of bone, the magnification, and the number of trabeculae in the field, which will be limited in the 3 mm diameter specimens used in Williams's method. It is hazardous to define normality on the basis of a single criterion. We would agree wholeheartedly that techniques should be standardized in such a confused field, but it is important that valid criteria should be chosen, particularly as bone biopsy is the only effective tool for diagnosing osteomalacia.

With regard to Mr. Carroll's comments on the effect of nephrectomy, we were fully aware that production of the key vitamin D metabolite 1,25-dihydroxycholecalciferol is likely to be decreased whether both kidneys have been removed or remain virtually functionless *in situ*. However, we doubt that there is the simple clinical relationship between renal glomerular function, vitamin D metabolism, and bone disease which Mr. Carroll infers from his study of transplant patients. Our sequential studies show that osteomalacia can heal spontaneously without change in renal function. In one nephrectomized patient, and in several others with intact but poorly functioning kidneys, this improvement was associated with deteriorating hyperparathyroid bone disease. Furthermore, others have described nephrectomized patients maintained on haemodialysis without vitamin D supplements for several years with no sign of osteomalacia in their bone histology⁴.—We are, etc.,

M. C. BISHOP
J. G. LEDINGHAM

United Oxford Hospitals

¹ Garner, A., and Ball, J., *Journal of Pathology and Bacteriology*, 1966, **91**, 545.

² Carroll, R. N. P., Tha Aung, Williams, E. D., and Shackman, R., *Proceedings of the European Dialysis and Transplant Association*, 1969, **6**, 276.

³ Woods, C. G., Bishop, M. C., and Nicholson, G. D., *Journal of Pathology*, 1972, **107**, 137.

⁴ Bordier, P. J., and Tun Chot, S., *Clinics in Endocrinology and Metabolism*, 1972, **1**, 197.

How Infectious is Gonorrhoea?

SIR,—Dr. W. K. E. Bernfeld, (21 October, p. 173) is right to ask "How infectious is gonorrhoea?" and Dr. W. F. Felton (18 November, p. 431) is right to stress the need to elucidate this question. On a priori grounds one would expect, in the event of coitus being unguarded by mechanical means, that the infected male would be more infectious to the uninfected female than vice versa. His gonococci may be considered to be thrust upon the appropriate culture medium (cervical epithelium), whereas her gonococci would only reach his

urethral epithelium by seepage in the reverse direction. In many instances urination or washing by the male soon after coitus would dispose of the invading organisms. Some figures for 1970 from Newcastle upon Tyne are relevant to the correspondence concerning the infectivity of gonorrhoea.¹ Of 97 female "subsequent" contacts—i.e., women at risk from known male cases—72 (74%) were found to be infected. This figure would be greater were it not for our practice of treating such "at risk" patients epidemiologically when their initial tests are negative. Untreated male "source" contacts of known female cases are harder to come by owing to the overt nature of male gonorrhoea, which results in the majority of such contacts having already been treated. "Subsequent" male contacts are even fewer in numbers owing to the propensity of promiscuous female patients to "cross-name" those who have named them as the source of their infections. Of 28 male "source" contacts, 16 (67.8%) were found to have gonorrhoea. Of 11 "subsequent" male contacts, 6 (54.5%) had gonorrhoea. The figures are small but suggest the validity of the thesis enunciated above.

If the infectivity of females for males were low the high venereal disease rate and climbing graphs would suggest a vast source of untapped female gonorrhoea to be sought out by contact tracing and screening techniques. With 87.7% of available female "source" contacts and 97.1% of available "subsequent" contacts being traced in Newcastle; with an overall 80.4% venereal disease involvement being found in these contacts; and with a 1.6:1 male:female gonorrhoea ratio amongst all our cases, one would expect Newcastle's venereal disease problem to be all but solved. However, contact tracing merely keeps the rising graph at a lower level than would otherwise be the case (80% of the national average). Moreover, routine screening of obstetric and gynaecological cases is productive of an infinitesimal amount of gonorrhoea, as figures yet to be published will show. This may be related to the successful contact tracing efforts in the region. What emerges from these findings is that the reservoir of untapped gonorrhoea is not so large as has hitherto been surmised and that the presumption therefore that gonorrhoea is highly infectious seems fully justified.—I am, etc.,

A. S. WIGFIELD

Newcastle upon Tyne

¹ Wigfield, A. S., *British Journal of Venereal Diseases*, 1972, **48**, 37.

Referring Patients for Electrolysis

SIR,—In his letter (2 December, p. 551) Dr. I. W. Caldwell, Chairman of the Dermatologists Group Committee, draws attention to the decision of the Central Ethical Committee that it is now proper for doctors to refer patients requiring electrolysis to members of the two main professional groups which ensure adequate standards of training in this form of treatment.

He criticizes the harsh advice sometimes given to such patients and ends darkly with the remark that he and his committee regret and dissociate themselves from the relevant paragraphs in the B.M.A. Family Doctor booklet *So Now You Know about Your Skin*. As its author, I should be glad to learn which paragraphs are offensive. On

pp. 18-19 I state that most women with superfluous hair do not have glandular abnormality. This is meant to reassure such women that they are not unfeminine. On p. 20 I state that electrolysis is not undertaken by many hospitals and has to be carried out in commercial clinics. I warn against the use of "home kits" for self-treatment and say that chemical depilatories are likely to irritate facial skin. I mention that "if not too bad," superfluous hair may be removed by plucking or the use of wax; or in the worst cases by shaving. It is presumably the mention of the razor to which Dr. Caldwell objects. Surely he and his committee are aware that there are women who shave their legs or armpits, not with pleasure but without disgust? I do not state or imply that shaving is the simple answer to facial hirsuties in women. I affirm that there are cases when the growth of hair is so heavy that electrolysis is impracticable and "shaving provides the best available, though admittedly inadequate, solution."—I am, etc.,

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¹ Textbook of Dermatology, ed. A. Rook, D. S. Wilkinson, and F. J. G. Ebling, p. 1373, Oxford and Edinburgh, Blackwell, 1968.

Tragic Dilemma

SIR,—I think that all who read the reports in the press concerning the child in Hull suffering from spina bifida will welcome your thoughtful leader "Tragic Dilemma" (9 December, p. 567). The treatment of cases of spina bifida poses moral problems that are even more difficult than the medical ones. All concerned with the treatment and care of these patients will therefore welcome the ray of hope for the prevention of this condition that is raised by the preliminary report incriminating "blighted potatoes" as a possible cause of this malformation.¹—I am, etc.,

REX BINNING

Hove, Sussex

¹ Poswillo, D. E., Sopher, D., and Mitchell, S., *Nature*, 1972, **239**, 462.

Idiopathic Scrotal Gangrene

SIR,—I was most interested to read the report by Messrs. B. M. Frier and A. D. Howie (7 October, p. 26) of a case of scrotal gangrene in asymptomatic myeloma as I have recently published a study of eight cases of Fournier's (scrotal) gangrene.¹ In the case described left orchidectomy was performed to achieve a primary closure of the remaining skin. In my experience the testes come to no harm from exposure after removal of sloughs and, once granulations have formed, regeneration of the scrotum allows closure of the scrotal defect by secondary suture without orchidectomy. Many years ago castration was advocated as a part of the surgical management of Fournier's gangrene.² This was abandoned when the rapidity of granulation and scrotal regeneration was recognized, and Randall,³ with his experience of 16 cases, reported that a new scrotum is formed with normal elasticity and mobility on the underlying testes after treatment with dressings alone.

Gangrene of the scrotum has constantly defied attempts to find a unified and