(25 laxative non-takers and 15 occasional laxative takers) and found values of 0.74 and 0.97 mg/100 ml [65.4 and 85.7 μ mol/l], respectively. It is a priori unlikely that the occasional intake of laxatives should cause renal impairment of a degree which elevates plasma creatinine. In view of the small difference the authors should have shown that both populations had a similar composition at least with regard to sex but also with regard to duration and treatment of the rheumatoid arthritis. They explain the lack of analgesic nephropathy by the absence of regular laxative takers in their rheumatoid patients. A more likely explanation seems to be that aspirin alone rarely if ever causes analgesic nephropathy and that true phenacetin abuse seldom occurs in rheumatoid arthritis. Only one of our 171 patients with phenacetin abuse suffered from this disease.

In summary, we think that the 10 patients of Drs. Wainscoat and Finn were a mixture of aspirin, phenacetin, and laxative users and abusers but not a representative sample of patients with analgesic nephropathy. The latter assumption, however, is the basis of their argument. Hypokalemia induced by laxatives may occasionally contribute to the renal damage caused by phenacetin, but our data do not suggest that this occurs frequently.—We are, etc.,

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1 Macklon, A. F., et al., *British Medical Journal*, 1974, 1, 597.

SIR,—With reference to the preliminary communication by Drs. J. S. Wainscoat and R. Finn (21 December, p. 697) we would like to make the point that five out of their eight patients with analgesic nephropathy and taking laxatives were also abusing codeine-containing preparations. Constipation and the need for laxatives would not be surprising. While it is possible that dehydration consequent to catharsis might have exacerbated analgesic damage to the kidney, the range of laxative preparations taken, including liquid paraffin, makes it difficult to postulate an interaction at the pharmacological level.

In Australia the most commonly abused analgesic preparations are mixtures of aspirin and caffeine with either phenacetin (A.P.C.) or salicylamide, but without codeine. We have recently completed a retrospective survey on the relationship of drug intake to renal disease. It was found that 16 out of 18 analgesic abusers with renal papillary necrosis (R.P.N.) at necropsy had taken A.P.C. preparations. Only one patient took laxatives regularly. No evidence of excessive analgesic consumption could be obtained for a further 13 patients found to have R.P.N., however, and 15 out of 118 patients without evidence of R.P.N. took analgesics habitually—findings which are consistent with the results of most other studies. It may be, as Drs. Wainscoat and Finn have suggested, that drug-interactive effects represent aetiological factors in the pathogenesis of analgesic-associated renal damage, but we consider that the scope of

their investigation should be widened to include the concomitant use of other drugs, whether prescribed or abused. Drugs such as barbiturates, alcohol, and psychotropic drugs have also been taken by patients exhibiting renal damage which has been attributed primarily to analgesic abuse.^{1,2} Brief reference was made by Drs. Wainscoat and Finn to the existence of depression in two of their cases, and presumably these conditions received drug treatment.

Our survey has revealed a positive correlation between the consumption of analgesics together with a variety of other drugs, such as antihypertensives, diuretics, and antacids, and R.P.N. While it is clear that some of these drugs may be prescribed to correct the sequelae of the renal lesion, an interactive component in its pathogenesis cannot be ruled out.—We are, etc.,

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1 Murray, R. M., *British Journal of Psychiatry*, 1973, 123, 99.

2 Koch, B., et al., *Canadian Medical Association Journal*, 1968, 98, 8.

Tube Transplants

SIR,—In your leading article on this subject (1 February, p. 230) two controversial aspects were documented which I feel require further elucidation.

Firstly, while agreeing that an "adequate blood supply must be maintained" if a Fallopian tube transplant is to succeed, I was surprised to read the quotation regarding the patency rates observed when side-to-side uterine arterial anastomoses were used to vascularize the grafts performed in our laboratory. Using a continuous suture technique the patency rate for an end-to-end uterine arterial anastomosis in the pig was only 24%. However, when the uterine arteries were anastomosed in a side-to-side manner patency rates of 50% in pigs and more than 75% in ewes were reported.¹ In view of the fact that use of a uterine arterial side-to-side anastomosis in the ewe was not "attended by a high incidence of thrombosis in the vessels of the graft" I do feel that this statement regarding side-to-side vascular anastomoses confined to pigs may have been misinterpreted by our colleagues.

Though higher patency rates of uterine arterial anastomoses may yet be recorded when the operative microscope is used in large experimental animals, I would suggest that the long-term aim of researchers in this field is to facilitate vascularized transplantation of the Fallopian tube by developing a relatively simple and fairly easily reproducible technique. The diameters of the uterine arteries observed in mature ewes and pigs compare favourably with those seen in human females. From the technical point of view the above-mentioned arterial patency rate observed in ewes indicates that use of the operative microscope may not be an absolute requirement for completing a vascularized oviduct transplant. The implication in centres where surgeons may not have access to the operative microscope for many years is obvious. In such centres there may

be many patients requiring Fallopian tube transplants if they were proved to be efficacious in treating infertility caused by extensively damaged oviducts. It would be unrealistic to expect the thousands of potential candidates for this operation to be referred to one or two centres, where the waiting list alone would preclude them from undergoing the procedure before their menopause.

Regarding the animal pregnancies which were "achieved after tubal autotransplantation, using a microsurgical technique and end-to-end vascular anastomosis," while I am fully cognizant of the brilliant microsurgical technical achievement reported by Winston and McClure Browne,² these authors transplanted the rabbit oviduct together with its ipsilateral ovary. This type of operation involving transplantation of germinal epithelium and donor genes would be questionable on ethical grounds in many quarters were it to be employed in human females.

To the best of my knowledge no pregnancy has been reported following transplantation of the Fallopian tube alone. Until gestation is observed to follow such an operation (that is, transplantation of a Fallopian tube to an ovary other than its own) the functional result of a Fallopian tube transplant operation must remain suspect.—I am, etc.,

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1 Cohen, B. M., in Proceedings of VIII World Congress of Fertility and Sterility, 1974, Buenos Aires. In press.

2 Winston, R. M. L., and Browne, J. C. M., *Lancet*, 1974, 2, 494.

Prolactin Studies, Pituitary Tumour, and Reproductive Function

SIR,—We were most interested in the report by Dr. D. F. Child and others (15 March, p. 604) of a linear relationship between the logarithm of the basal serum prolactin concentration and the lateral area of the pituitary fossa in patients with hyperprolactinaemia and pituitary tumour. Last year we first drew attention to the aetiological significance of hyperprolactinaemia in patients with amenorrhoea but without galactorrhoea.¹ More recently,^{2,3} when we reviewed our findings in a series of over 100 women who presented with amenorrhoea and whose prolactin status was assessed, we found that all but one of those with pituitary tumours had hyperprolactinaemia, regardless of whether they had galactorrhoea and of whether they were studied before or after pituitary ablative treatment. Treatment of these non-galactorrhoeic patients with bromocriptine (kindly supplied by Dr. E. R. Evans of Sandoz Ltd.) restored ovulation so long as gonadotrophin production was demonstrable. In this group we defer ovulation induction with bromocriptine until the pituitary tumour has been dealt with.

We also found that about 20% of patients with functional secondary amenorrhoea (in whom lateral and posteroanterior tomography of the fossa was normal) had hyperprolactinaemia. Treatment of these patients too with bromocriptine induces

ovulation. Since the mean prolactin concentration in this group (44 $\mu\text{g/l}$) was several times lower than that in the pituitary tumour group and no other cause of hypoprolactinaemia could be found we speculated³ that these patients had microtumours of the pituitary.⁴ This hypothesis is clearly consistent with the relationship of prolactin to fossa size published by Dr. Child and his colleagues since a prolactin level of 44 $\mu\text{g/l}$ would be associated with a fossa size of below 50 mm², which is apparently normal.

Finally, in a study of prolactin concentrations in acromegaly⁵ we found that hyperprolactinaemia, which occurred in 17% of 40 patients, was usually associated with hypogonadism. Furthermore, reduction of prolactin levels by effective surgical treatment⁶ led in one patient to an improvement of libido and potency such that after hypophysectomy treatment with androgens could be withdrawn.

We found no correlation of prolactin and growth hormone concentrations in patients with acromegaly, but since five of the seven hyperprolactinaemic patients had upward extension of their tumours we consider an elevated basal serum prolactin concentration to be an indication for air encephalography even in patients in whom the acromegaly itself is not sufficiently severe to warrant hypophysectomy.—We are, etc.,

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- 1 Franks, S., et al., in *Journal of Endocrinology*. In press.
- 2 Jacobs, H. S., *Proceedings of the Royal Society of Medicine*. In press.
- 3 Franks, S., et al., *Clinical Endocrinology*. In press.
- 4 Hardy, J., in *Diagnosis and Treatment of Pituitary Tumours*, ed. P. O. Kohler and G. T. Ross, p. 179. Amsterdam, Excerpta Medica, 1973.
- 5 Franks, S., Jacobs, H. S., and Nabarro, J. D. N., *Journal of Endocrinology*. In press.
- 6 Williams, R. A., et al., *Quarterly Journal of Medicine*, 1975, 44, 79.

Imported Sterile Water

SIR,—Recently I sat on a committee commissioning a new district hospital in the South-west. We argued with the regional administration to provide money to allow water to be sterilized and bottled locally for use in the operating theatres and wards of our hospital. The Department of Health and the regional authorities refused this, with the result that all sterile water used in the hospital is now manufactured and bottled in Illinois, U.S.A., and then transported across the Atlantic to be used in Britain.

It surely cannot be beyond the ability of the natives of this country to sterilize and bottle water. It would be interesting to know how much the taxpayer is paying to have this water imported from America. I would not be surprised if for sheer idiocy it deserved a place in the *Guinness Book of Records*. Cannot the Department of Health, with their large administrative organization, do something about this, set up local facilities for sterilizing water, and thereby save many hundreds of thousands of pounds.—I am, etc.,

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Gastrin Heterogeneity: Simple or Complex?

SIR,—Your leading article about gastrin heterogeneity (18 January, p. 112) draws attention to this rapidly expanding field of study and interest. However, a rather troublesome point about the terminology of tissue and serum immunoreactive gastrin molecules was not mentioned.

Gastrin components have been purified and characterized chemically from antral and Zollinger-Ellison tumour tissue^{1,2}; these characterized tissue components can be classified by their number of amino-acids.³ Extracts of human antral and duodenal tissue contain mainly "little" gastrin,^{4,5} while human serum contains mainly "big" gastrin.⁶ This inconsistency cannot be explained satisfactorily by differences in clearance rates in dogs³ and accentuates the following troublesome point. The fact that serum or plasma contains immunoreactive components which elute in comparable positions to those of the characterized tissue components does not justify their classification by the amino-acid nomenclature. One reason for this is that the tissue and serum component distributions suggest that "little" gastrin once secreted may be modified in the blood or by passage through some organ and then circulate as seemingly larger gastrin molecules.

Extreme caution must be exercised in the interpretation of the relationship between tissue and serum immunoreactive gastrin components until further information is available about the precise character of the serum components.—We are, etc.,

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- 1 Gregory, R. A., and Tracy, H. J., *Gut*, 1974, 2, 797.
- 2 Gregory, R. A., and Tracy, H. J., *Gut*, 1974, 15, 683.
- 3 Walsh, J. H., Debas, H. T., and Grossman, M. I., *Journal of Clinical Investigation*, 1974, 54, 477.
- 4 Rehfeld, J. F., et al., *Gastrointestinal Hormones*, ed. J. C. Thompson. In press.
- 5 Track, N. S., et al., *Verhandlungen der Deutschen Gesellschaft für innere Medizin*, 1974, 80, 361.
- 6 Rehfeld, J. F., *Biochimica Biophysica Acta*, 1972, 285, 364.

Falling Standards and Sagging Morale

SIR,—It was almost a relief to read the article on "Falling Standards and Sagging Morale" (22 March, p. 675) and Dr. C. H. C. Thomas's Personal View on geriatric admissions (p. 678).

The fact that hospital care today is often poor and ill-supervised and hospitals dirty has been known to us for a long time, and it says little for us as a profession that we have not said so boldly long ago, possibly out of deference to a nursing service that we used to know and to porters and cleaners who were known to and respected by all of us in our time.

It is also a disgrace to us that we have condoned, and some senior hospital staff have helped to forge, a system which refuses urgent and necessary care to the sick on grounds of age alone. Had we always insisted that all patients needing nursing should be admitted on request earlier Governments would have had to provide adequate acute and chronic beds and decent

old people's homes and housing. Apart from considerations of humanity it is dishonest to expect a citizen to pay health insurance to the age of 65 and then to say that he is too old to reap full benefits.

I personally would like to hear a good deal less of "returning people to the community," to squalid conditions, one meal on wheels a day, and an occasional bath when nurse has time.—I am, etc.,

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The Trainee Year

SIR,—The paper by Dr. J. B. Donald (22 March, p. 672) is a welcome addition to the limited material available on the subject of postgraduate training in general practice. It contains a number of comments which are of concern to all who organize or teach in training courses.

The Committee for Postgraduate Training in General Practice, which has as its main responsibility the quality of training schemes, has already been helped by the critical comments of trainees. It gives considerable weight to the confidential discussions which have already been held with groups of trainees during the visits so far carried out in five regions.

Dr. Donald is not correct in saying that there are only 178 places available on vocational training schemes. His error is understandable since the reference he gives is five years old. In fact, on 1 October 1974 there were not less than 460 places available in recognized three-year "package" schemes. There were also 100 trainees in post in three-year programmes which they had constructed themselves with the approval of the postgraduate dean and which made them eligible for the vocational training allowance and the M.R.C.G.P. examination.

Dr. Donald has also not quite correctly stated the attitude of the Royal College of General Practitioners about who is eligible to take the membership examination. He rightly quotes the regulations—"either four years as a fully registered medical practitioner, or three years if the candidate has completed a special course of vocational training recognized by the college." The college does allow self-constructed rotations lasting three years as "special courses" provided they have been approved by a postgraduate dean.—I am, etc.,

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SIR,—As one who has been recently approved as a trainer and who has his first trainee in post I read Dr. J. B. Donald's paper (22 March, p. 672) with interest. He is to be congratulated on it. He states that 70% of trainees "thought they should be reimbursed for full locum duties, night visits, insurance examinations, and pill prescriptions." I feel sure that many insurance companies would feel that the trainer rather than the trainee should be doing their medical examinations because, generally, these companies are most discriminating in their appointment of medical examiners, who are usually expected to have had at least 10 years' experience.