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.,

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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.,

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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.,

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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