winding or writing) and indistinguishable from Osler's digital nodes. A similar complaint is seen in rheumatoid arthritis and in epidemic polyarthritis.⁸ Chronic rheumatic carditis may present a transient bacteraemia, splenomegaly, purpura (petechia, subungual splinter, and subconjunctival)⁹ and be confused with septic endocarditis, in 10% of which the blood culture is persistently negative.¹⁵ Both may coexist.^{10, 15} The absolute diagnostic criteria of the latter are organic heart disease plus a persistently positive blood culture (non-specific) or infective emboli. Penicillin therapy would be diagnostic if curative.

Chronic persistent rheumatic carditis in an adult has hitherto not been reported, but I have witnessed such a case resulting from the too early mobilization of an acute myocarditis prior to the disappearance of the abnormalities of the E.C.G. For the chronic as for the acute carditis complete bed rest is essential.¹⁰ Comparison of the recent cardiac research in idiopathic rheumatoid arthritis with the usual sad course and prognosis of chronic rheumatic carditis demonstrates its validity. Of the 60-70% of the bedridden or inactive patients presenting inflammatory heart disease post mortem less than 25% was detected clinically during their illness.^{11, 12} The management of rheumatic fever is still a test of the skill of a physician.—I am, etc.,

Dublin.

A. D. McDWYER.

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Nocturnal Drip Feeding

SIR,—In pulmonary tuberculosis the patient who needs food most on account of loss of weight, fever, and malnutrition is usually he who can eat least owing to loss of appetite. Rest and other measures to decrease "toxaemia" usually check the patient's downward course by restoring appetite sufficiently to maintain a credit on the nitrogenous and calorific balance sheets, but this is not always the case. Bullying or very strong persuasion to "stuff" results in dyspepsia and disgust for food.

Although calories are being spent night and day it is usual and convenient to take in a 24-hour supply of food during the daytime, and this is of course possible except when the appetite is poor. It would seem rational therefore to use the night as well as the day for feeding, and this would be most easily done by a nocturnal drip feed (N.D.F.) of hydrolysed protein and glucose. N.D.F. offers the following advantages: (1) Almost empty stomach all night and so unlikely to encourage nausea and feeling of fullness; (2) would not mean waking for meals in night; (3) would give "round the clock" nutrition, so that patient would absorb almost two days' food in one day; (4) would conquer the difficulty that anorexia puts in the way of high-calorie and high-protein diet; (5) would not interfere with appetite for next day's food.

Patients will co-operate if it is explained that they are getting the equivalent of two beef-steaks while they sleep. Hydrolysed protein is easy to obtain. A metal reservoir, a Ryle's tube, and glass drip connexion are the simple requirements. No experimental proof of effect is here offered. Those who care to try the suggested method will find that the "proof of the pudding is in the eating."—I am, etc.,

London, N.21.

F. A. NASH.

Physics in Medicine

SIR,—I have read the article on the implication of physics in medicine by my learned teacher Prof. F. L. Hopwood and his distinguished colleagues (Feb. 15, p. 261) with considerable interest. As a first-year student I often had heart-burnings as to how much of the physics I was being taught had any direct bearing on my future status as a medical practitioner. I came to the conclusion that apart from its being a useful exercise

in mathematical deduction and scientific observation it could be usefully pruned of many of its components. I feel that the mechanics section and a good deal of that devoted to heat could be considerably reduced in amount. To compensate for these reductions the time saved could be given up to a study of the elements of atomic physics and of the groundwork of physics as it is reflected in subsequent radiodiagnosis and radio-therapeutics. In this connexion instruction for the student in the handling of the x-ray apparatus could be of some service. A practitioner with a knowledge of the operation of, e.g., a portable unit could be a useful member of any medical fraternity.

It would be useful too if special sessions were arranged in the clinical years for study of film interpretation. How few of us, I feel sure, are competent to read normal, let alone abnormal, radiographs in a correct manner! How often do the reports of fellow radiodiagnosticians conflict the one with the other, especially in the elucidation of thoracic and cranial lesions with their frequent intriguing shadows!—I am, etc.,

Devonport.

J. B. GURNEY SMITH.

Endocrines in Gynaecology

SIR,—May I add, somewhat belatedly, to the comments you have already published on Mr. Aleck Bourne's paper (Jan. 18, p. 79)? As Dr. G. I. M. Swyer (Feb. 1, p. 198) and Dr. S. L. Simpson (Feb. 15, p. 270) have already said, there is nothing new in the concept of varying tissue sensitivity to hormones, but there was good reason for Mr. Bourne to stress it, for it is often neglected in practice. One may add to the examples already given and point out that sensitivity may vary from individual to individual, which makes the expression of exact dosage difficult, from one side of an individual to another (as in unilateral gynecomastia, fibroadenosis, and acromegaly), from one part of an organ to another (as in nodular goitre and again in fibroadenosis of the breast), as well as from one whole organ to another, as in the example quoted by Mr. Bourne and in a patient once under my care who suffered from both atrophic rhinitis and fibroadenosis of the breasts. In this unfortunate patient I found that the fibroadenosis responded well to androgens, and that the atrophic rhinitis was rapidly relieved by oestrogens, which, however, made the fibroadenosis worse. The problem was solved by local administration of testosterone ointment to the breasts and of oestradiol in oil to the nose.

There are, however, two statements in Mr. Bourne's paper with which I cannot agree. He states that "primary amenorrhoea can never be cured." It is true that cures are rare, but I have seen two recoveries among many failures. The more recent was a young Jewess of 17 with an infantile figure, no visible or palpable breast tissue, a minute uterus, and only a trace of pubic hair. Treatment for some months with a high dosage of oestrogen caused her breasts to develop, pubic hair to grow, and her uterus to increase in size. Soon after, uterine bleeding occurred. Treatment was changed from continuous to cyclical, and after six regular periods oestrogen (withdrawal bleedings had occurred) was stopped. The periods remained almost regular. Two years later (three years from the beginning of treatment) she married and within four months was pregnant. Her baby is due next April. It is possible that I am committing the *post hoc propter hoc* fallacy, but I don't think so.

Mr. Bourne is also too dogmatic in his remarks about the use of androgens in metropathia. Though it is certainly true that a high proportion of patients must ultimately come to x rays or hysterectomy, many severe cases can be kept in good health by an occasional course of methyl testosterone, which is comparatively cheap and which does not produce virilism in the dosage required. A few milder cases make a complete and apparently permanent recovery. Hysterectomy is far too often performed in cases of menorrhagia. No harm is done and much unhappiness is avoided by a preliminary trial of medical treatment. I feel sure that Mr. Bourne, whose work with Lord Moran on the use of thyroid extract in the menorrhagia of puberty must have saved many young girls from hysterectomy, would be well advised to give a further and perhaps more energetic trial to the use of methyl testosterone in the menorrhagia of riper years.—I am, etc.,

London, W.1.

RAYMOND GREENE.