to ban the oily injectable form for therapeutic use, on which a false reliance has been placed. —I am, etc.,

D. S. McLAREN.

Nutrition Research Laboratory,
School of Medicine,
American University of Beirut,
Lebanon.

REFERENCE

1 McLaren, D. S., in *Calorie Deficiencies and Protein Deficiencies*, 1968, ed. R. A. McCance and E. M. Widdowson, p. 191. Churchill, London.

Spontaneous Rupture of the Oesophagus

SIR,—I read with interest your leading article on spontaneous rupture of the oesophagus (8 February, p. 334). In the final paragraph you advocate the insertion of a gastrostomy tube. This may be effective in allowing gastric suction, as you suggest, though a Ryle tube may be used instead. However, should leakage occur through the sutured tear in the oesophagus any food fed through the gastrostomy tube will only leak out into the pleural cavity and through the chest drain if that is still *in situ*.

I have encountered a case in which this occurred, and would therefore recommend that a jejunostomy be performed instead for the purpose of feeding. My experience is in common with that of other surgeons.—I am, etc.,

R. YEO.

Royal East Sussex Hospital,
Hastings, Sussex.

Indomethacin Therapy

SIR,—I find no good evidence in the article by Dr. R. T. Taylor and others (21 December, p. 734) for the statement that manifestations of peptic ulceration may be caused by indomethacin suppositories. In the three patients in whom gastric ulceration was demonstrated while the patient was on suppositories, the symptoms which had brought the ulcer to light all antedated the use of suppositories. With a disease such as gastric ulceration the natural history of which is for remissions and relapses to occur, it is unreasonable to suggest that withdrawal of a particular drug in two patients (Cases 2 and 4) was necessarily responsible for healing; in Case 8 the ulcer became smaller in size while taking the suppositories.—I am, etc.,

J. H. SWALLOW.

Chelmsford and Essex Hospital,
Chelmsford, Essex.

Treatment of Major Pulmonary Embolism

SIR,—Dr. J. Hirsh and others (21 December, p. 729) have rendered us a great service by undertaking the complex treatment of pulmonary embolus with streptokinase, and by documenting their excellent results with clinical, radiographic, and haemodynamic criteria. May I comment on three aspects of their publication where I believe their work may be open to misinterpretation.

The lack of improvement following heparin therapy must be considered in relation to their own comments of adequacy of treatment in only four out of 11 patients. The value of heparin in acute pulmonary embolus is threefold—prevention of further deep vein thrombosis and repeated pulmonary embolus; prevention of secondary thrombosis in occluded pulmonary arteries; and the suggestion of rapid correction of the raised pulmonary artery pressure and increased airway obstruction by preventing the release of serotonin from disintegrating platelets.[1]

On the basis of pulmonary artery pressures and cardiac index measurements almost half of their patients can be said to show only moderately severe haemodynamic derangement. Statistically patients in this group have a very good chance of survival on standard anticoagulant and supportive treatment only. I believe this point requires emphasis, as thrombolytic therapy is not without risk, especially in the postoperative patient. There is some evidence, as also stated by the authors, that if the patient survives the acute attack the body's own thrombolytic system will resolve pulmonary emboli in time.[2-4]

I am distressed that in the entire paper no mention is made of inferior vena cava ligation or plication as part of the approach to this problem. Prevention of acute recurrences and protection during the subsequent recovery period and after discharge from hospital can probably be most safely achieved by inferior vena cava ligation or plication.[4 5] Dr. Hirsh and his colleagues considered "all patients in the series had major pulmonary embolus severe enough to be considered for pulmonary embolectomy." It seems to be generally agreed that this is a positive indication for inferior vena cava surgery, both after pulmonary embolectomy or even if this does not become necessary. The notable exception to this view in the recent literature by Pisko-Dubienski[6] is difficult to understand, as he gives neither adequate reasons nor follow-up results to support his contention that emergency ilio-femoral venous thrombectomy prevents recurrent pulmonary embolus. Venous thrombectomy in this region is a more prolonged operation than preventive inferior vena cava surgery; removal of thrombus with present techniques is probably rarely complete; and the incidence of at least partial rethrombosis in the treated veins is high despite heparin and the apparently good clinical results in terms of reduced oedema, etc.[5 7]

The plan of treatment proposed by Dr. Hirsh and his colleagues seems an excellent one, and I do not question the rapid resolution of pulmonary artery obstruction which they were able to demonstrate. The purpose of my comments is merely to stress that the standard mode of therapy with anticoagulants still retains a most important function in our therapeutic armamentarium, and that haemodynamic measurements appear also to be of definite prognostic value. I also believe that inferior vena cava plication or ligation has an equally significant place in the treatment of this disease as a small operation yielding the largest safety margin against recurrence. —I am, etc.,

ADOLF SINGER.

Mount Sinai School of Medicine,
Elmhurst, New York, U.S.A.

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1 Thomas, D. P., *New Engl. J. Med.*, 1965, **273**, 885.
2 Del Guercio, L. R. M., Cohn, J. D., Feins, N. R., Coomaraswamy, R. P., and Mantle, L., *J. Amer. med. Ass.*, 1966, **196**, 751.
3 Tow, D. E., and Wagner, H. N., jun., *New Engl. J. Med.*, 1967, **276**, 1053.
4 Crane, C., Hartsuck, J., Birtch, A., Couch, N. P., Zollinger, R., jun., Matloff, J., Dalen, J., and Dexter, L., *Surg. Gynec. Obstet.*, 1969, **128**, 27.
5 Singer, A., *Brit. med. J.*, 1968, **4**, 386.
6 Pisko-Dubienski, Z. A., *Brit. med. J.*, 1968, **1**, 249.
7 Mavor, G. E., and Galloway, J. M. D., *Surg. Gynec. Obstet.*, 1967, **125**, 561.

Medical Education in India

SIR,—We have read with great interest your leading article "Medical Education in India" (21 December, p. 722). We feel that the statement that there are 61 medical colleges in India needs rectification. In fact there are at present 92 medical colleges in India running the M.B., B.S. course with an annual intake of about 11,000 students.—I am, etc.,

E. KAPAL,
Regional Adviser in Medical Education,
Regional Office for South East Asia,
World Health Organization.
New Delhi, India.

Recognition of Carcinoma of the Colon

SIR,—I was interested in your first leading article (8 March, p. 589) on cancer of the large bowel. This described complicated investigations that might disclose early recognition of this common and often fatal disease which affects the young adult. No mention was made of the fact that multiple sebaceous cysts of the skin, sebocystomatosis, which is a familial disease, is associated in a significant proportion of cases with familial polyposis of the large bowel in which early carcinoma often arises.

I think that if surgeons made a habit of examining their patients' skins they would often discover evidences of internal pathology without complicated investigations. I hope they will read Lord Platt's sensible article in the same issue (Personal View, p. 636).—I am, etc.,

JOHN T. INGRAM.

Leighton Buzzard,
Beds.

Drug Defaulting in General Practice

SIR,—Dr. A. M. W. Porter's article on drug defaulting in general practice (25 January, p. 218) raises a number of issues. Apart from the patient not taking the prescribed therapy there is the problem of wasted drugs, especially when two or more drugs are being taken in different divided dosages.

I myself have attempted to overcome this problem by prescribing tablets in multiples of seven, and noting the total at the time the prescription is issued. The patient is then told to return on the same day in a specified number of weeks, and in this way, by direct questioning, one has some idea as to whether the drugs have been taken in the correct dosage. Experience has indicated that this method of prescribing results in less wastage of drugs than the customary method of prescribing in multiples of ten.—I am, etc.,

T. C. MAYER.

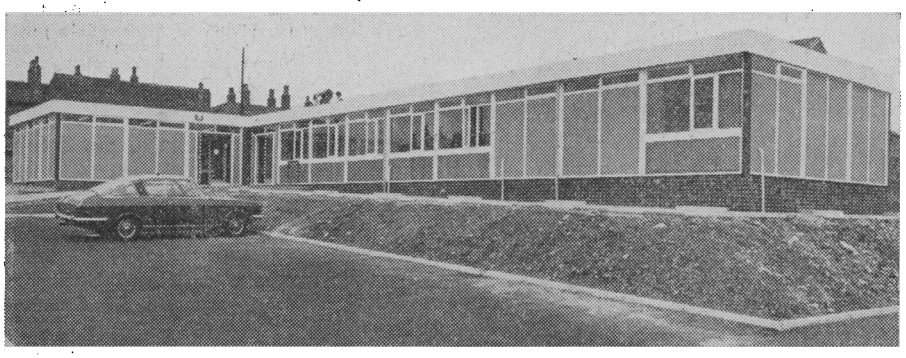
Ilford, Essex.

Custom-built Practice Premises

SIR,—Six general practitioners in partnership in Ashton have recently built a group centre which was notable for its economical cost and speed of erection. Originally a brick-built building was considered, but the cost at over £22,000 was too great. Further inquiries about industrial-type buildings were made, and an estimate of £18,000 for a basic building was obtained. The local council had had a building erected by a company which had never previously erected a surgery

premises, but had undertaken several modern hospital, university, and school contracts.

The building consists of panelboard on a concrete base covered by tiles with pebble-dash, which enhances the appearance, and is treated against damp and fungus. The roof is to B.S.I. specification and has metal joints and a gradient to ensure correct draining, the sections being overcovered by felt, which diminishes the noise of rain. Internally the



panelling is of thick fascias of hardboard facing with a polystyrene core, which also contains the wiring, which is thus concealed. The surface is of Vinyl, which ensures low maintenance cost and easy cleaning. The plumbing was installed along with the foundations and is identified by special flooring tiles. The heating is by electric convectors which can be turned off at will.

The adjacent pharmacy was a separate construction by a consortium of the local chemists.

The cost of the building, including electrical work and plumbing, was £7,085. The foundations, drainage, paving, and two car parks cost £3,583, making a total cost of £10,668. The premises were finished in fifty days from plans to completion, aided by co-operation of the local authority and the contractors. The internal lay-out can be varied at will by changing the position of the partitioning to suit any requirements.

Compared with a general-purpose practice of the older kind the running cost would seem to be about the same, or even less. The great advantage is the removal of the stress of working in noisy congested surroundings. No doctor in the practice would return to the recently vacated premises. As yet no disadvantages have been encountered, but winter should bring these to the fore.

The real success of this venture depended on the co-operation of the local authority and contractors, and the enthusiasm of the doctors to see the completion of their plans.—I am, etc.,

Ashton-under-Lyne, Lancs. I. W. F. KERR.

Metric Units

SIR,—Dr. Philip Jacobs (1 March, p. 570) forecasts the replacement of the calorie by "a new unit known as the joule." This latter may be new to medicine, but it has long been used in the physical sciences. In my view such a change would be highly irrational, and would simply serve to further satisfy those obsessionals in the Civil Service who now govern us, and who feel compelled to reorganize and rearrange everything within reach.

Energy can be measured in terms of mechanical work, heat, electrical work, and so on. Mechanical work is expressed as the product of force and distance, and the basic metric unit of force is the dyne, which is defined as producing an acceleration of 1 cm. per sec. per sec. when applied to a mass of 1 gram. One dyne of force applied through a distance of 1 cm. is said to produce a work unit of 1 erg (a contraction of the word "energy"), and 10^7 ergs constitute 1 joule.

One calorie is the heat necessary to raise the temperature of 1 gram of water through 1° C., and the biochemical or medical Calorie (correctly spelled with a capital first letter) is, in fact, a kilocalorie or 1,000 calories. One calorie is equivalent to 4·186 joules. Electrical work is expressed in units which are kilowatt-hours, each of which is equivalent to $10^3 \times 3{,}600$ joules.

Why express all energy units in erms of mechanical work? Electrical work is calculated metrically in any specific instance from volts, ampères, and seconds/minutes/hours; and heat is calculated from degrees (Centigrade or Kelvin), grams, and specific heats of materials. In these instances the values in joules are only notional and cannot be directly measured. This is, I submit, the crux of the matter: direct ease of measurement and calculation should not take second place to ruthless standardization.—I am, etc.,

Paisley, Renfrewshire. J. H. MITCHELL.

Medicine as a Social Science

SIR,—Lord Platt, as reported in the *B.M.J.* (8 February, p. 390), has said in the House of Lords, presumably in support of his view that medical officers of health should not normally administer the proposed new social services departments (Seebohm),[1] that doctors could not go on ignoring the social services and behavioural sciences and then expect to direct how those services should be used.

He admitted shortcomings in medical education in regard to broad social questions. I am quite prepared to believe that he and his consultant colleagues have not in the past appreciated the significance of social circumstances, but medical officers of health undoubtedly have. Their experience and effort since the days of Chadwick have been mainly in the environmental and social aspects of disease and health care, and the organization of services to help ameliorate unfavourable conditions. It was in 1847 that Solomon Neumann said, "Medical science is intrinsically and essentially a social science." It has taken a long time for the underlying idea to reach the leaders of the profession.—I am, etc.,

E. D. IRVINE.

Health Department, City of Exeter, Devon.

REFERENCE

1 *Report of the Committee on the Local Authority and Allied Personal Social Services*, 1968, Cmnd. 3703. London, H.M.S.O.

Decimal Point

SIR,—Americans in general and typewriters in England use the full stop as a substitute for the decimal point. The adoption of the metric system in medicine may lead to more posological mistakes due to confusion of the dots.

The replacement of the decimal point in prescriptions by a mark which is otherwise somewhat out of favour, the colon, could well help to reduce error of this nature.—I am, etc.,

T. W. FROGGATT.

Purley, Surrey.

Is it a Record?

SIR,—Dr. K. R. Brown (8 March, p. 645) asks if the period of 44 years since Sir David Wilkie performed a gastroenteroscopy on him constitutes a record. At the risk of disappointing I must inform him that the answer is negative. Sir David performed the operation on me in the summer of 1923. I am sure Dr. Brown will agree with me that we were indeed fortunate to be in the hands of one who was at once a great surgeon and a truly beloved physician.—I am, etc.,

E. R. C. WALKER.

Gorebridge, Midlothian.

General-practitioner Hospital Beds

SIR,—In reply to Dr. K. E. Lane's letter (1 March, p. 571) I have the temerity to suggest that the case for general-practitioner hospital beds is far from overwhelming. From my statistics of hospital referrals I find 26 cases last year which could conceivably have been looked after in such beds, of which only 10 were really suitable. I suspect the hospital doctors coped rather better, and at least they were near at hand to deal with problems as they arose.

I can assure Dr. Lane I feel no need to flee the country for the lack of my ration of three hospital beds, much as I would enjoy being in charge of them. I feel it is important to re-emphasize the fact that general practitioners and hospital doctors have different functions in society and are expert at different aspects of medicine. Our points of contact are most interesting, but they remain marginal to the main content of our work. The idea that G.P.s are being kept out of the "real medicine"—that is, hospital work—seems only too prevalent not only