observed, but polyphasic motor units were seen in increased numbers as part of a reduced interference pattern on volition, or in restricted areas as highly complex polyphasic units either isolated or grouped in pairs. A similar picture has been found in cases from Los Angeles, U.S.A.⁵

The electromyographic picture would fit in well with changes noted when an agent was transferred to Rhesus monkeys from patients involved in the Adelaide epidemic (1949-51).⁶ The association of benign myalgia encephalomyelitis with polymyelitis epidemics may not therefore be the result of mass hysteria but to an agent related to poliomyelitis virus. This view is supported by the excellent antibody response after Salk vaccination in children without previous antibody to poliomyelitis in areas affected by the Iceland epidemic in 1955. A poor response was obtained in neighbouring areas unaffected by the epidemic.⁷

The prevention of sequelae and protracted convalescence depends on a sound understanding of the nature of this peculiar disease. Recurrences may be due to exacerbation of the basic illness with fever and lymphadenopathy² or extension of the neurological complications with new features, which may be confirmed on electromyography. On the other hand deterioration in the patient's condition may be due to reactive depression or hysteria as found in case notes of some of the patients in the Royal Free Hospital epidemic?—I am, etc.,

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REFERENCES

- Wallis, A. L., 1955, *Lancet*, 2, 1091.
- Wallis, A. L., 1957, M.D. Thesis, University of Edinburgh.
- Sigurdsson, B., Sigurjonsson, J., Sigurdsson, J. H. J., Thockelsson, J., and Gudmundsson, K. R., 1950, *American Journal of Hygiene*, 52, 222.
- White, D. N., and Burtch, R. B., 1954, *Neurology (Minneapolis)*, 4, 506.
- Marinacci, A. A., and Von Hagen, K. O., 1965, *Electromyography*, 5, 241.
- Pellew, R. A. A., and Miles, J. A. R., 1955, *Medical Journal of Australia*, 2, 480.
- Sigurdsson, B., Gudnadottir, M., Petursson, G., 1958, *Lancet*, 1, 370.

Health Services for Young People in Industry

SIR,—Adolescents are in danger of having been lost to the school health and paediatric services without coming into an alternative service providing good comprehensive medical services for all of them. The bill¹ on the new Employment Medical Advisory Service abolishes the appointed factory doctor scheme, which was good in places, and substitutes supervision and help only for those young people who would have been on the old disabled register anyway.

Yet the essence of a good service for health education and prevention is that it shall include all the population concerned. Special health services are rightly provided for young people at universities, and Seeborn² recommended that industrial health services for young people in industry should be as good as student health services.

Furthermore, it is not merely a question of what is fair. Since 300 million days are

lost each year from work through sickness and one-third of this absence is due to functional illness there is good reason for paying attention to preventive measures for promoting better physical, intellectual, and psychosocial health during the years in which these young people are leaving school and going into industry.

Would it not be wise for reconsideration to be given even now to meeting the needs of these young people?—I am, etc.,

RONALD MAC KEITH.

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London S.E.1.

REFERENCES

- Employed Persons (Health and Safety) Bill* (Bill 104), London, H.M.S.O., 1970.
- Local Authority and Allied Personal Social Services, *Report*, Cmnd. 3703. London, H.M.S.O., 1968.

Mass Radiography

SIR,—Drs. D. R. Wallace-Jones and M. Goldman (9 May, p. 367) seem to imply that a miniature chest x-ray taken by the M.M.R. service will necessarily expose the examinee to a radiation dose which they claim is 15 times the dose involved in taking a full-size chest film. The final Adrian report on radiological hazards to patients,¹ however, gives comparative figures for both techniques based on surveys carried out in 1957-8. These figures indicate that the mean marrow radiation dose involved in taking a miniature film is only 6.5 times the large-film dose, and it should be remembered that implementation of the recommendations of the Adrian committee since then will have reduced the radiation dose proportionately in both techniques.

Against the higher radiation dose involved (which is still very small in comparison to the dose involved in almost all other routine radiodiagnostic procedures other than a straight chest film) one must consider the advantages of the miniature film examination—viz:

(1) Greater penetration of the denser tissues facilitates the detection of lesions in areas which are usually "blind" on the corresponding full-size film. This is a common observation among those who are familiar with miniature-film interpretation.

(2) When large numbers of films are being read the smaller field for visual scanning greatly reduces observer fatigue. The closer juxtaposition of the right and left lung fields also accentuates any difference in density between corresponding zones.

(3) Ease and economy of storage making for ready availability of previous films for comparison.

If Drs. Wallace-Jones and Goldman really believe that "everyone who is entitled to a chest x-ray should have one with the minimum (radiation) dose" can their department, and hospital radiodiagnostic departments generally, absorb the full demand upon them which would result from the premature withdrawal of M.M.R. facilities? Figures for a single day's attendance at the Bradford M.M.R. Unit during the past winter have frequently exceeded 300 referrals from general practitioners alone, in addition to other categories of

examinees. I cannot see that hospital x-ray departments are likely to be ready to cope with attendances in such numbers.—I am, etc.,

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Mass Radiography Service.

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REFERENCE

- Ministry of Health, Scottish Home and Health Department, *Radiology Hazards to Patients*, London, H.M.S.O., 1966.

Teething Troubles

SIR,—Whereas I would be one of the first to admit that far too much emphasis has been placed on teething as a cause of discomfort in the young, I cannot agree with Dr. C. Josephs (30 May, p. 543) when he states that "teething is a normal physiological process and therefore is unlikely to produce symptoms." Surely no one would doubt that parturition and breaking of the hymen are physiological processes despite the discomfort involved. The argument that they are no longer truly physiological because of our sophisticated society could equally apply to teething.

Some children certainly do suffer discomfort as their teeth erupt. Those who are old enough will even tell us so.—I am, etc.,

R. I. BROOKE.

Dental School and Hospital,
University of Leeds.

Bowel Transit Times in Bantu Populations

SIR,—Using carmine as marker, previously we noted much faster transit times in Bantu than in Caucasians.¹ This method has limitations; we now use the new more quantitative procedure of Hinton *et al.*² Under supervision 20 radio-opaque pellets (3 mm. cubes) are ingested before breakfast, and consecutive stools are collected in numbered cartons for two to three days, times of voiding being recorded. Subsequent observations by x-rays, whether in subjects or in stools, are inexpedient and prohibitively expensive when many persons are to be studied. Instead, sieving faeces through a stiff copper gauze (40 cm. square) resting on a bucket and using a wooden spoon and water supply is highly satisfactory, if done in the open. This method has proved suitable for extensive studies in the field with Bantu assistance.

About 2,500 stools from 485 country Bantu scholars and students have now been examined, together with collections from 25 Caucasian students. In the different Bantu groups 53-75% passed one or more pellets within 12 hours. The proportion in the English group of Hinton *et al.*² was 3 of 25 subjects (12%), and in our Caucasians, 4 of 25 (16%). In the Bantu groups, 38-62% passed all pellets by the end of the second day. The figure for our Caucasian students was 24%; for the English group, it was 16%.² The rapid time of transversal of digesta in these people is thus confirmed. In passing, we find that times are markedly affected seasonally by the fruit and vegetables available. In Bantu (and to a lesser extent Caucasians) enormous residues from guavas, mangoes, and tomatoes were very common.

High consumers had faster and less formed although seldom liquid stools. Accordingly, in inter-racial studies of transit time cognizance must be taken of this seasonal dietary aspect as well of course as the type, amount, and coarseness of the staple cereals.

In addition to faster transit time, emphasis again must be laid on the phenomenal capacity of young Bantu to defaecate on request. In some studies 98% responded. Stools thus yielded are not necessarily small; 20-120 g. wet faeces are usual. This propensity permits estimation of pellets voided up to any cut-off interval after ingestion, and thus facilitates learning of the effects of differences or of changes in diet, also of differences in physical activity (for example, in Bantu who walk 5-10 miles to school compared with local dwellers).

We cannot help thinking, like Burkitt,³ that the aspects of bowel motility mentioned and the associated patterns of bacterial flora (now being studied at this Institute) have a powerful bearing on the rarity of intestinal polyps⁴ and of colonic cancer⁵ in Bantu and similarly-placed populations.

These studies are supported by a grant from the National Cancer Association of South Africa.

We are, etc.,

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REFERENCES

- 1 Walker, A. R. P., and Walker, B. F., *British Medical Journal*, 1969, 3, 238.
- 2 Hinton, J. M., Lennard-Jones, J. E., and Young, A. C., *Gut*, 1969, 10, 842.
- 3 Burkitt, D. P., *Lancet*, 1969, 2, 1229.
- 4 Ackerman, L. V., Personal communication.
- 5 Oettlé, A. G., *Journal of the National Cancer Institute*, 1964, 33, 383.

Doctors and Adultery

SIR,—In your leading article "Doctors and Adultery" (13 June, p. 620) you wrote "last week, however, for the first time the Committee decided not to erase from the Register a doctor who had had an adulterous relationship with a former patient."

In fact the decision of the Committee in the case to which you refer does not constitute a precedent. During the last 20 years the Committee has, in like circumstances, found a practitioner guilty of infamous conduct in a professional respect, but has not proceeded to erasure from the Register on three occasions (in 1951, 1954, and 1963).—I am, etc.,

M. R. DRAPER.
Registrar, General Medical Council.

London W.1.

Training for the Specialties

SIR,—May I say how much I regret the suggested proposal to reduce the number of junior staff in training in the regional hospitals. Half of these posts, I understand, are utilized by doctors from abroad who go to Britain for the practical training they receive and for the attainment of one of the worthwhile specialists' degrees.

I write as one who enjoyed and appreciated seven instructive and valuable years in

the regional hospitals training as a surgeon. It would be a major loss if such facilities were reduced.

British traditions of scholarship and teaching have for a long time attracted doctors from abroad, but if they are denied the final posts of registrar and senior registrar I am sure they will not arrive in any numbers of consequence. I am sure you will also agree that the Commonwealth registrars have been a numerically important, and one would like to think valued, element in the hospital staffing at this level for a long time. One hopes that the Department of Health will see fit to allow these excellent facilities provided for such training in the regional hospitals to continue.—I am, etc.,

ALLAN E. J. MULLINS.

Penrith, N.S.W.,
Australia.

Primary Medical Care

SIR,—It was refreshing to read the excellent letter of Dr. L. H. Cane (6 June, p. 598). I would like to add some words in support.

I take the duty of a general practitioner to be the diagnosis, treatment, and prevention of significant organic and mental disease. This is what we are trained to do. What is the evidence of our diagnostic and therapeutic failure rate? Is four or five years further postgraduate work going markedly to lower that failure rate?

Surely the present problem is not the medical complexities of our work—for these we have the help of our specialist colleagues—but the multiplicity of medical trivialities on the one hand and the morass of economic, social, family, and matrimonial problems on the other in which the medical content is variable, often negligible, and usually secondary. In using the word "triviality" I refuse to be trapped by the favourite journalistic question "but how does the patient know that his complaint is trivial?" "Trivialities" are of two easily distinguishable kinds. First, there is the patient who comes complaining of a symptom about which he is anxious. We listen, we examine, we find nothing wrong, and we reassure. This is not trivial to the patient and his visit to the doctor is justified. Second, there is the patient with the minor cut, scratch, bruise, abrasion, cold in the head, or digestive upset. This patient is well aware of the nature of his complaint and of the outcome. This is trivial and he should not have come to the doctor. Under the present open access system these patients come to the doctor, and it takes appreciable time to divert them with reasonable sympathy and civility to the care of the appropriate ancillary.

While all but the absurdly rich fear the cost of a long illness or major surgery, it is quite wrong to assume that the generality of people at work would object to payment of a small fee for themselves or their family a few times each year, and in any case could cover themselves by private insurance. Those who could not afford a fee are already identified by possession of pension or supplementary grant books.

And so I take the unfashionable view that general practitioners are probably over-trained rather than under-trained for the

work that they are actually being called upon to do. This in turn leads to frustration. Frustration is a word which has frequently been used in recent years and many are the suggested causes. But the paramount cause is the feeling that one is not being stretched to the limit of one's training and capacity. This being so the "new" general practitioner with long postgraduate training will, *a fortiori*, be even more frustrated.

As Dr. Cane writes, if we could be set free from the trivialities and the non-medical problems we could do more of the work for which we were trained and the burden on the hospitals would be made lighter.—I am, etc.,

W. G. R. M. LAURIE.

Oxford.

The Eternal Triangle

SIR,—I whole-heartedly support Miss Mary Jones (16 May, p. 416). I must, however, disagree with her on one point. I cannot accept her statement that professional nursing has been diluted by the introduction of the Enrolled Nurse.

Dilution means the replacement of skilled men or women by unskilled persons, (O.E.D.) and to include the Enrolled Nurse in this category is outrageous. When, oh when, are my colleagues and others going to realize that the enrolled nurse is a trained nurse?

Here we have a nurse who has undergone a recognized statutory training and who is quite competent to take her place beside her Registered colleague. Unless everyone in the National Health Service recognizes and uses to the full this excellent trained nurse, it will become impossible to nurse our patients.

It is a sad reflection on all of us that after 23 years the Enrolled Nurse is still having to fight for recognition, and the sooner we put this right the better.—I am, etc.,

M. G. TUCKER,
Matron.

St. Helen's Hospital,
Ipswich.

Sensitivity of Liver Function Test

SIR,—Bromsulphthalein (B.S.P.) is considered to be the most sensitive test of liver function routinely available today.¹ A standard dose of dye is calculated upon the basis of 5 mg./kg. of body weight. A standard time interval for removing blood after dye injection is 30 or 45 minutes. Castenfors and Hulman² showed that the sensitivity of the test was increased by using a high single dose (20 mg./kg. body weight).

We have now observed in rabbits that the sensitivity of this test can be further increased by shortening the time interval to 15 minutes. Earlier we had shown^{3,4} that a single dose of intramuscular prednisolone acetate (6.25 mg.) in adult New Zealand white rabbits produced ballooning of hepatocytes and hepatomegaly which reached a peak in 72 hours. Significant regression occurred by the seventh day and complete recovery by the fifteenth.