I have myself suffered four attacks of typical migraine in the last nine years. The first attack in November 1963 occurred quite spontaneously, but subsequent attacks in November 1964, November 1965, and November 1968, all occurred while playing rugby football.

On each occasion the attacks were preceded by a blow to the face with hyperextension of the neck while making a tackle. Each attack started a few minutes after injury with a feeling of light-headedness, followed after about 15 minutes by homonymous hemianopia with fortification spectra, and tingling of the hand, side of the face, and tongue. Tiredness and nausea followed about two hours later lasting several hours.

After the second attack, clinical examination by a neurologist proved negative, and no other investigations have been performed. I have not heard of any similar cases arising from playing rugby although the unexpectedness of the trauma in rugby might make its occurrence more likely.—I am, etc.,

A. M. MORRIS

Canniesburn Hospital,
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Aetiology of Varicosity

SIR,—I was most interested to read Mr. D. P. Burkitt's paper (3 June, p. 556) on the relationship between varicose veins and low-residue diet. Some support for his hypothesis comes from J. H. S. Pettit[1] writing from Shiraz in Iran. Surveying the incidence of different dermatoses encountered in Iran he drew attention to the extraordinary absence of gravitational ulceration of the leg there. He did not observe a single case among 9,000 Iranian patients examined. Since post-partum infection and thrombosis are at least as common in Iranian women as in British he suggested that other causes of such ulceration should be sought. It is interesting to note that the basic food of the Iranian people consists of bread prepared from whole wheat or barley except in the Caspian provinces, where rice is constantly employed as a substitute.[2]

It would be difficult to imagine a dermatological clinic in Britain without its fair share of gravitational ulcers. Mr. Burkitt's suggestion gives a rational explanation for the difference.—I am, etc.,

W. A. D. GRIFFITHS

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1 Petit, J. H. S., *British Journal of Dermatology*, 1962, **74**, 149.
2 Simmons, J. S., *et al., Global Epidemiology*, Vol. III, p. 183, Philadelphia, Lippincott, 1954.

Going Abroad

SIR,—Your leading article (10 June, p. 604) and Dr. H. A. K. Rowland (p. 639) again drew attention to the increased prevalence of malaria in Britain, and rightly stress that doctors should cultivate a high degree of suspicion to improve the speed of diagnosis and treatment, thus, we hope, lowering the mortality (circa 10%).

But malaria is a preventable disease. If travellers take adequate prophylaxis correctly they are unlikely to contract the disease. A helpful regimen is mentioned in your pages. But in many doctors' surgeries and clinics hangs a notice stating "Do not ask your doctor to supply you with drugs for use while you are abroad. The N.H.S. does not cover you, etc., etc." So the travellers do not.

Are we or are we not tryng to practise preventive medicine?—I am, etc.,

HELEN B. HANNAH

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SIR,—Dr. H. A. K. Rowlands (10 June, p. 639) commends the preparation Enterovioform for the prevention and treatment of diarrhoea, saying that it is "very unlikely to do harm."

This statement is incompatible with the evidence of an association between Enterovioform and the rare disease subacute myelo optic neuropathy (see *B.M.J.*, 18 May 1971, p. 291). Diarrhoea being a disorder which in healthy individuals is self limiting it surely is inadvisable to use a drug which can have such disastrous effects. It can be argued that Enterovioform should be withdrawn. Certainly it should not be used prophylactically.—I am, etc.,

W. PATRICK ROE

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Benign Breast Swelling

SIR,—May I be allowed to offer a third opinion on the case discussed by Dr. Roger Meyrick and Mr. Ivo Smith (3 June, p. 585). This lady aged 29 was complaining of tenderness and pain in her breasts during the premenstrual week, associated with generalized lumpiness. This condition, to which Sir Hedley Atkins has given the name of fibroadenosis, is benign and therefore should not be operated on and indeed could be cured surgically only by means of complete bilateral mastectomy. It is thought to be an expression of abnormal oestrogen activity and is usually completely relieved by administration of one of the oral progestogens in 10 or 15 mg doses during the postovulatory phase of the cycle—say from the 15th to 25th day. Diuretics also help in some cases, presumably by lessening the degree of cyst formation which is the cause of the pain.—I am, etc.,

P. M. F. BISHOP

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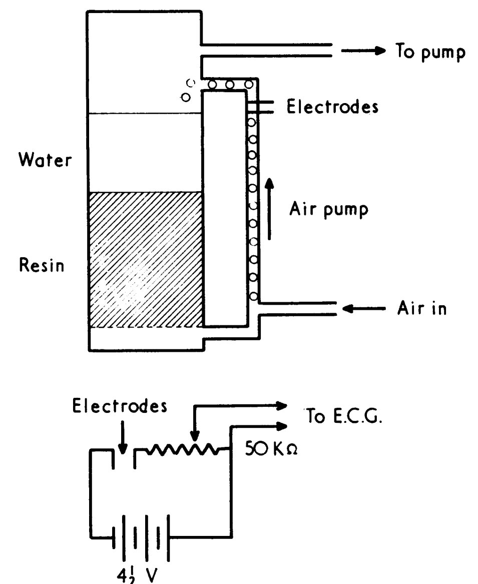
Monitoring of Carbon Dioxide in Anaesthesia

SIR,—In most instances the concentration of CO_2 in alveolar air is closely related to the P_{CO_2} and as such suggests a convenient method of monitoring the P_{CO_2} during anaesthesia or intensive care. This is a preliminary account of an instrument which might be useful in this application using the principle of conductimetric analysis of aerated deionized water.

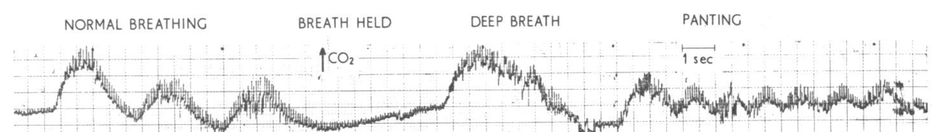
Deionized water is virtually a semiconductor and its resistance alters considerably on the addition of any molecule which will dissociate to give a soluble ion. The hydrogen ion being the most mobile is the most significant ion in this respect, and carbon dioxide at low concentrations in water dissociates almost completely so that conductimetric analysis is an effective means of analysis. Further advantages are that the vast majority of volatile or gaseous anaesthetics do not give a soluble ion and many of the toxic contaminants do, so that the instrument may respond to toxic gases in a helpful way. The principle of the instrument is shown in the illustration. Air enters at the lower end of the air pump and as the bubbles ascend they carry up water past the electrodes and promote a circulation around and down through the mixed bed deionizing resin (Fig.).



The electrodes consist of two fine stainless steel wires about 1 mm apart, and a Phillips electrocardiograph was used to record the resistance using the circuit shown. With an air flow of about 500 ml/min and an input tubing of narrow bone (0·3 mm) the time constant is sufficiently short to give a CO_2 profile of respiration, the peak of the curve being related to the alveolar CO_2 and hence presumably to the P_{CO_2}. As can be seen from the tracing there is considerable intereference from irregularities of bubble flow through the air pump. However, it is hoped that improvement in electrode construction will remedy this. In an improved form it is hoped that the instrument may have a useful application in anaesthesia and intensive care.—I am, etc.,

BRENNIG JAMES

Marlow, Bucks



Intramuscular Injection and Coagulation Defects

SIR,—The recent admission of two haemophiliacs for treatment following intramuscular injections prompts me to write about the need to avoid this type of therapy in patients with coagulation defects.

The men concerned had received multiple injections of analgesics and antihistamines with consequent haematoma formation in the gluteal and lateral thigh musculature.

With the exception of small volume injections during immunization, intramuscular therapy is usually unnecessary and always dangerous in patients with coagulation defects. The consequent haemorrhage not only causes pain and pressure on surrounding tissues, but may result in muscle fibrosis and permanent crippling.—I am, etc.,

PETER JONES

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Smallpox Vaccination

SIR,—The recent outbreak of smallpox in Yugoslavia with several secondary cases in that country and one in Germany has moved the case of routine vaccination of infants for a review. I feel that Professor George Dick (17 July 1971, p. 163) and Lane *et al.*[1] as well as Thomas M. Mack[2] should give us more detailed information about the age of those children where primary vaccination gave such disastrous complications.

Experience from Sweden shows that primary vaccination performed at two months carries a rate of complications that is minimal down to the point of being virtually non-existent. At this age the babies are still to some extent protected against generalized vaccinia by passive immunity transferred from their mothers and they have very seldom developed any type of eczema. As the protection obtained at this age can be assumed to be of shorter duration because of interference from the maternal antibodies just mentioned than the protection conveyed by a vaccination performed later in life, in our schedule of immunizations children are recommended to be revaccinated against smallpox at an age of about 11 years. Most males are revaccinated on entering military service when about 20, and our health authorities strongly recommend doctors to encourage travellers to be revaccinated before making international journeys even inside Europe, in order to keep up their level of immunity and the herd immunity. Risk groups—for example, staff at hospitals, police, and customs personnel, are revaccinated regularly every third year. At a meeting of the representatives of those responsible for the immunization policy in the Nordic states (Denmark, Finland, Norway, and Sweden; I am not sure whether Iceland was represented or not) recently it was concluded that nothing had occurred that might weaken the reasons for continued legislation on smallpox vaccination.

Of course complications from smallpox vaccination are seen, but they are not nearly as common or dangerous with these regularly repeated inoculations as the risk of an emergency vaccination of a contact with a history of 30 years or more without vaccination or revaccination. The sale of smallpox vaccine amounts to about one million doses yearly, and only about 10% of these are believed to be discarded. As the birth rate is 90 000-100,000 a year most doses are used for revaccination. A prerequisite is that contraindications wherever existing are discovered and accepted, but with proper use of vaccinia immunoglobulin even some of these cases may be protected, especially as many of these unfortunate patients are in greater need than others of journeys to sunny beaches.

The legislation on smallpox vaccination includes notification of complications. I do not feel that the recommendation for smallpox vaccination to be abandoned in U.K. and U.S.A. can be reversed, but I earnestly plead for continued vaccination so long as there is still no evidence of smallpox being eradicated from this earth nor from the freeze-boxes of virological laboratories.—I am, etc.,

LARS M. HAMBRAEUS

Medical Faculty,
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Umeå, Sweden

1 Lane, J. M., Millar, J. D., and Neff, J. M., *Annual Review of Medicine*, 1971, **22**, 251.
2 Mack, T. M., *Journal of Infectious Diseases*, 1972, **125**, 161.

Episodic Blindness

SIR,—To the very thorough leading article on episodic blindness (15 April, p. 122) I should like to add reference to a recently reported further series of 12 unusual cases.[1] While some of the cases suggest atypical late-life migrainous accompaniments without headache others may represent an obscure new syndrome that is probably benign.—I am, etc.,

C. MILLER FISHER

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Boston, Massachusetts, U.S.A.

1 Fisher, C. M., *Clinical Neurosurgery*, 1971, **18**, 267, 310.

Respiratory Stimulants

SIR,—While generally agreeing with the sentiments expressed by your expert contributors in relation to the uses of respiratory stimulants (27 May, p. 522) I was disappointed to see no mention of xanthine derivatives in this context.

The continuous intravenous infusion of aminophylline at a rate of about 500 mg every six hours will provide useful increases in minute ventilation. As well as "buying time" for other treatment to become effective, this will commonly correct the element of acute hypercapnia associated with acute or chronic respiratory failure and remove the necessity for mechanical ventilation.

The other actions of aminophylline—bronchodilator, diuretic, pulmonary, and coronary vasodilator—would seem to provide additional reasons for its more widespread use in the management of acute respiratory failure.—I am, etc.,

MICHAEL C. F. PAIN

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Victoria, Australia

Coronary Bypass Grafting

SIR,—"Excessive enthusiasm has so far been avoided in Britain"—from your leading article on coronary artery bypass grafting (10 June, p. 603). ". . . our results compare closely to those of others, showing that 89% of patients are improved by the operation"—from an article on the same subject (p. 644), which showed that only 84% of patients electively submitted to the operation actually survived it.

No, Sir, that's not enthusiasm, that's British phlegm—it was even quoted in *The Times* Science Report (Monday, 12 June).—I am, etc.,

ROGER HOLE

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Tax Relief for G.P.s

SIR,—Dr. J. F. Rickards (10 June, p. 658) implies that doctors generally have difficulty in understanding the intricacies of the N.H.S. superannuation scheme and the proposed new Inland Revenue changes with regard to private pension schemes. He does not think one general practitioner in a hundred could understand the recent B.M.A. article on the subject. I doubt whether this is so.

There is certainly nothing mysterious or difficult to understand about the N.H.S. superannuation scheme. It is only necessary to understand one fact about this scheme to realize how disadvantageous it is to doctors, and that is the absence of any money in the fund. The doctor does *not* contribute 6% of his gross salary or income. He receives 94% of his income instead of 100%, the difference of 6%, plus the employers' contribution of 8% (imaginary) is credited to a "notional" (imaginary) fund which, in the first seven years of the scheme, was credited with no interest whatsoever, and since then has only been credited with a ridiculously small amount of interest. In the case of private schemes, of course, the money is real and the contributions are invested, so it is not surprising to hear from Dr. Richards that the pension and the lump sum from a private scheme are so much better for a given amount of contributions. One is not surprised to meet doctors, including consultants, who having retired from various branches of the National Health Service, are still working after retirement. Even if the value of money remained static the scheme would still be a poor one, and it is even more so with the present inflation.

In the Ministry's explanatory leaflet on the N.H.S. superannuation scheme the first words state that the scheme is compulsory, and this is of course the snag. One cannot opt out and contribute to a private scheme instead. If the proposed alteration in the tax relief for general practitioners in respect of contributions to a private pension scheme is effected the situation will be even worse than it is at present. The only mysterious aspect of this whole business to me is the ready acceptance of this scheme in the first place by those who negotiated on our behalf, and the failure to modify it in anything but the most minor degree since the scheme was put into operation 24 years ago. Now it appears that the British Medical Association even has to negotiate to retain tax concessions which have been allowed for a number of years.—I am, etc.,

W. J. STANLEY

Marple, Ches.

Slimming and Efficiency

SIR,—Industry has recently undergone a slimming process with increased efficiency. Could not the same be tried with the hordes of nursing, lay, and other administrators in the Health Service?—I am, etc.,

J. ELWES DUFFIELD

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