carried out. This has demonstrated a group of rheumatoids with fairly severe personality disturbances of long standing.

The advantage of administering the E.P.I. test and then carrying out studies in depth has been that it has demonstrated, quite remarkably in some cases, the basic personality problems which have been present from a very early age and therefore cannot be attributable to the rheumatoid processes. The E.P.I. results, on retesting after a considerable period of time, show a remarkable consistency and it is therefore a very useful tool to be used in the initial assessment of patients.

There has been some evidence that in those patients showing personality disturbance, evidence of depressive illness, etc., the frequency of episodes of disabling deterioration has been markedly decreased by treating their emotional condition. This study will be the subject of a fuller report to be published later.—I am, etc.,

ALAN J. ROWE.

Department of Physical
Medicine,
Addenbrooke's Hospital,
Cambridge.

Spotting Typhoid

SIR,—Though your leading article "Spotting Typhoid" has long since passed (13 September, p. 607) perhaps I can add some helpful comments.

I have worked in this hospital in western Uganda for eight months. Typhoid is endemic in the area, accounting for 360 admissions last year. The majority present in the classical manner with severe headache, fever, prostration, abdominal pain, and constipation. But I have also seen cases frequently presenting with the single symptom of tinnitus, dizziness, epistaxis, or diarrhoea. Deafness, epididymo-orchitis, and hoarse voice have been among the more unusual presenting symptoms.

We treat them with chloramphenicol for 14 days and the fever of 101°–103° F. (38.5°–39.5° C.) usually returns to normal within four days. Lack of space often dictates discharge after only seven days in hospital. In perhaps 200 cases treated I have seen only one case of sore throat and a leucopenia which could possibly have been due to bone marrow depression.—I am, etc.,

S. J. PARKER.

Kabale Hospital,
Uganda.

Heat and the I.U.C.D.

SIR,—Short-wave diathermy is now being frequently prescribed for the pelvis or sacroiliac joints, and in many physiotherapy departments the older techniques of anterior and posterior electrodes is still being used.

Many women patients are now fitted with an intrauterine device which is made of plastic, and a nursing sister has raised the question whether it would be safe to have such therapy in view of the risk that the plastic spiral might lose its shape from the heat. I did a number of experiments using an I.U.C.D. in the vagina which so far shows that the device does not become deformed. However, the question of whether the device

is affected at given temperatures now requires closer investigation, with the intra-uterine temperature being recorded at the same time.

I wish to draw attention to this possible hazard in the hope that those in charge of physiotherapy departments might be able to continue more detailed experiments on the continued reliability of the device when patients are submitted to short-wave diathermy treatment.—I am, etc.,

B. SANDLER.

Manchester Victoria Memorial
Jewish Hospital,
Manchester 8.

Length of a Lippes Loop

SIR,—I wish to report an unusual complication associated with the insertion of a Lippes loop.

A presterilized Lippes loop size D in a 1-unit-sized pack was inserted into a multi-gravid patient according to the instructions—that is, the loop was pulled into the inserting tube only within a minute of insertion. Before insertion it had been noted that the loop within the packet appeared to conform to the normal dimensions of the loop size D—that is, 30 mm. long by 30 mm. wide. After half the loop had been inserted into the patient there was severe pain and a small amount of bleeding so that the loop and inserter were withdrawn. At no time had the insertion of the loop been associated with a sense of giving way, as would possibly occur if the myometrium was penetrated. The patient was hospitalized for 24 hours and given one injection of pentazocine 30 mg. intravenously. At the end of 24 hours there was no bleeding and no pain.

Closer investigation of the loop within 5 minutes of withdrawal of the loop from the patient disclosed that it had changed its dimensions. It still conformed to the 30 mm. width but the various angles had opened out and the new length had become 50 mm. Two days later this length had remained at 50 mm.

I would like to suggest that it might well be in future a wise precaution for the loop to be not only drawn into the tube as suggested before insertion but withdrawn into the tube and expelled at least once to see if it takes up its pre-tube length rapidly before use on the patient.—I am, etc.,

D. HOWARD BAILEY.

Cairns,
New Queensland, Australia.

Exacerbations in Chronic Bronchitis

SIR,—It is disappointing that the careful investigations by Dr. Mary Fisher and her colleagues (25 October, p. 187) throw little fresh light on the causes of exacerbations in chronic bronchitis.

During the past two years a study of acute bronchitis in children has been carried out jointly by one of us (I. G.) in his general practice at Roehampton, London, and by the department of virology of the Brompton Hospital, using methods of bacteriological and virological investigation broadly similar to those described by Dr. Fisher and her colleagues. In addition to the children, a small number of adult chronic bronchitics

were studied during acute exacerbations in a pilot trial for a larger study which has now begun this autumn.

The criteria which were used to define an acute exacerbation were similar to those of Dr. Fisher and her colleagues. Isolation of viruses was achieved in 12 of 28 episodes as follows: rhinoviruses (H and M types), three times; influenza A, twice; parainfluenza type III, twice; *M. pneumoniae*, once; respiratory syncytial virus, once; herpes simplex, three times. Serological investigations alone were performed in 12 other acute episodes, and a rise in complement-fixing titre was found in three of these episodes (influenza A, once; respiratory syncytial virus, once; respiratory syncytial virus and influenza A together, once). Thus, if the significance of herpes simplex is disregarded, we found evidence of an association with viral or mycoplasma infection in 12 (30%) of the 40 episodes which were investigated.

One reason for the discrepancy between our findings and those of Dr. Fisher and her colleagues may lie in the time interval between the onset of the acute episode and the inoculation of tissue cultures. In our study throat and nasal swabs were taken within 48 hours of the onset of the first symptoms. Sometimes this was difficult to determine, and in several of the episodes which were investigated with negative results it is possible that the true time interval was longer than this. Tissue cultures were inoculated within three hours of swabbing. In the investigations of Dr. Fisher and her colleagues it would appear that a considerably longer delay occurred in most cases between the first onset of symptoms and both the taking of specimens and the inoculation of tissue cultures.—We are, etc.,

IAN GREGG.
J. M. INGLIS.

Department of Virology,
Brompton Hospital,
London S.W.7.

Epilepsy and Folate Deficiency

SIR,—Dr. John Wilson in his review of the drug treatment of epilepsy in childhood (22 November, p. 475) comments that "it is reasonable to remedy folate depletion as necessary." In the present state of knowledge concerning the effects of drug-induced folate deficiency this is hard to dispute, and we are prompted by his statement to mention a technique which we have been using for folate restoration in these children.

While we would agree with Dr. Wilson that documentary evidence concerning the exacerbation of seizures by folate therapy is equivocal, our own experience using standard dosage of folic acid (5 mg. tablets) has been alarming. This has led us to adopt the practice of low-dosage folate replacement. As our results have been encouraging we suggest that this approach might be more widely used. This would obviate the need to argue the pros and cons of standard-dose folate therapy in epileptic children.

Every epileptic child in our care who is folate deficient is given 100 µg. of folic acid daily. Using this dose we have obtained satisfactory folate restoration within about three months in the cases we have treated so far. There have been no untoward sequelae.

For prescribing on an inpatient basis, capsules containing 100 µg. of folic acid are prepared for us by our chief pharmacist. One

national pharmaceutical house is now making similar capsules at our request, and these are available, to special order only, on a nationwide basis.—We are, etc.,

JENNIFER DENNIS.
DAVID C. TAYLOR.

Human Development Research Unit,
Park Hospital for Children,
Oxford.

Survival after 195 Defibrillations

SIR,—While the letter by Drs. M. M. Kubik and P. K. Das Gupta (15 November, p. 432) was an excellent testimony to the efficacy of D.C. defibrillation in terminating ventricular fibrillation, it raises an important point.

The values for arterial PCO_2 quoted show that the patient was adequately "titrated" with, presumably, bicarbonate solutions, but the values quoted for arterial PCO_2 are: 107 mm. Hg, 97 mm. Hg, and 107 mm. Hg, respectively. A high PCO_2 is known to alter the automaticity of pacemaker cells, and above a value of about 70 mm. Hg may be associated with the production of ectopic beats,¹ especially in an already abnormal myocardium. A high PCO_2 will also cause the release of endogenous catecholamines,² which have a similar electrophysiological effect as well as changing the refractory periods and increasing the rate of discharge of pacemaker cells.³

Could it be possible that, in the presence of the myocardial infarction, the episodes of ventricular fibrillation were related to the respiratory failure? Were this the case then surely the appropriate therapy lies in the avoidance of high oxygen-enriched mixtures for the patient to breathe, and, should the hypercapnia persist at unacceptable levels, the institution of mechanical ventilation.—I am, etc.,

MAURICE CROSS.

Newtonhill,
Kincardineshire.

REFERENCES

- ¹ Hoffman, B. F., and Crane, P. F., *The Electrophysiology of the Heart*, 1960, p. 197. New York, McGraw-Hill.
- ² Katz, R. L., and Epstein, R. A., *Anesthesiology*, 1968, 29, 769.
- ³ Hoffman, B. F., and Crane, P. F., *The Electrophysiology of the Heart*, 1960, p. 183. New York, McGraw-Hill.

Immunological Treatment of Cancer

SIR,—I read with interest Professor G. Mathé's (4 October, p. 7) discussion of the immunological treatment of cancer in man. The phenomenon of remission induction in acute leukaemia by normal lymphocyte donation is mentioned, as well as the efficacy of B.C.G. in maintenance therapy. It is implied that the latter is lymphocyte mediated, which would be compatible with Skeel, Henderson, and Bennett's observation on the significance of bone marrow lymphocytosis of acute leukaemia in remission.¹

I wonder if the B.C.G.-responsive patients did indeed have peripheral and/or marrow lymphocytosis.—I am, etc.,

LEWIS SLATER.

New York, N.Y., U.S.A.

REFERENCE

- ¹ Skeel, R. T., Henderson, E. S., and Bennett, J. M., *Blood*, 1968, 32, 767.

The Experience of Time

SIR,—Surely the *B.M.J.* (6 December, p. 575) with its long record of almost pedantic exactitude in the use of words, which has preferred "questionary" to "questionnaire," should prefer "psychedelic" to the barbarism "psychedelic"?—I am, etc.,

ELIOT SLATER.

British Journal of Psychiatry,
London W.1.

Long-term Care

SIR,—Dr. Marcia Wilkinson's article, "Long-term Care of Patients with Neurological Disorders" (8 November, p. 345), gives a fair summary of the problems associated with such patients. However, there are some points on which we would like to comment.

We have 65 patients under our care with disseminated sclerosis (D.S.). They can certainly enjoy family life, but there is almost always dementia in the later stages of the disease. This dementia prevents full appreciation of their incapacity and limited ability. Because of this, their urinary incontinence does not penetrate their consciousness. All D.S. patients progress eventually to incontinence preceded by episodes of retention. We consider that the periods of retention should be treated very conservatively before passage of a catheter to relieve the temporary retention. Such measures, we find, will lead to the passing of urine normally. We dislike the use of self-retaining catheters for the treatment of incontinence. Self-retaining catheters, however expert the management and chemotherapy, will eventually lead to recurrent infections. Any infection (or accident or operation) tends to accelerate the progress of the disease and should be avoided if possible. We consider that a ureteric ileal conduit operation is unnecessary and valueless. We have found that despite being continually wet the skin remains intact unless some superimposed infection or D.S. crisis occurs.

Management of male incontinence is easy. In our experience the Down Bros. portable rubber urinal, suprapubic pressure type, is satisfactory in almost all cases. The few who are unable to wear this appliance are fitted with a Stoke Mandeville urinal. In females, urinals are not satisfactory. 75 per cent. of our 167 female patients are incontinent. These are up in wheelchairs all day and are nursed in draw-sheets which are changed two-hourly. If they sit on a pad of artificial sheepskin inside the draw-sheet, the urine passes through and is absorbed into the padding. These sheepskins are washed daily and can be autoclaved and dried in three hours. This applies also to Marathon nappies. Persistent and recurrent pyrexia in D.S. is not only an indication of an intercurrent infection from bladder or bedsores. The most common cause we have found is the D.S. crisis, where demyelination of further nerves causes gliosis and fever. This fever may last 10 to 21 days for no apparent reason. Unless extremely weak prior to this, the skin will stay intact during the feverish episode, but by three to six weeks later it will have broken down, the initial area of redness giving no indication whatsoever of the ultimate depth and extent of the bed sore. This may reach to the bone within 36 hours.

With regard to spasticity, this occurs in nearly all neurological disorders and we find that drugs in adequate doses are helpful. We use

mephenesin and perphenazine, sometimes with diazepam as well, which appears to increase the effect. If the spasm is uncontrollable by drugs and the patient is already incontinent, intrathecal injections of phenol in glycerin in the fourth lumbar interspace are very effective provided there is no gross change in the joint due to prolonged fixed flexion. Again, if the (flexed) joint is still mobile and intrathecal injections have failed to relax spasm, tenotomy may be considered, but we try to avoid it as far as possible. This is because firstly, as mentioned before, any operation causes deterioration in the general condition, and secondly because, although the tendon initially involved in the spasm is cut, other muscles will take over and to obviate such a recurrence the operation must be extensive.

As regards cerebrovascular lesions, if active physiotherapy is commenced immediately and continued improvement will be maintained for at least three years. Similarly, if patients are admitted here with hemiplegias within three years of the catastrophe improvement can be obtained. This improvement is not just to the paralysed or weakened limb(s) but to the learning of trick movements or increased use of the other limb(s) so as to enable them to live a reasonable and maybe independent existence.

We fully concur with the use of speech therapists. We consider them to be of equal value to the physiotherapist or occupational therapist, and they should certainly be utilized and recognized as useful members of the team—more so than they are now. Anyone who has temporarily lost the use of speech knows the frustration of being unable to communicate with his fellows.—We are, etc.,

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V. KENDALL.

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for Incurables,
London S.W.15.

Control of Anticoagulants

SIR,—As Dr. J. A. Gobert-Jones suggests in his letter (6 December, p. 622), there is a useful place in some circumstances for capillary prothrombin times on fingerprick samples in the laboratory control of all anticoagulants. Where I think he has misunderstood your leading article of 18 October is in equating the one-stage prothrombin time with the Quick test. Thrombotest also is a one-stage technique and as such should be calibrated in terms of the British Comparative Thromboplastin (B.C.T.), using the recommended standardization procedure to obtain the corresponding British Corrected Ratio.

The use of the national system for anticoagulant control based on the B.C.T. allows hospitals who wish to continue using Thrombotest and other commercial or home-made reagents to do so but still share the system of reporting and dosage.—I am, etc.,

L. POLLER.

Withington Hospital,
Manchester.

Medical Research in Antarctica

SIR,—For a number of years various projects have been carried out in the Antarctic by medical officers of the British Antarctic Survey. These projects have included physiological and biochemical studies, and more recently work has been