as a cause, a correlate, or a consequence of mental illness. The difficulties inherent in this situation, the therapeutic nihilism which can be induced by it, and the futility of therapeutic effort directed towards intelligence rather than pathology have led to an almost total devaluation of the therapeutic processes. This has led to replacement of treatment by institutionalization and custodial care. Because these are social rather than medical or psychiatric techniques they have failed in the hands of doctors and nurses whose roles in subnormality have become undervalued by their own professions and by others. As a result, both physical and psychiatric illness has gone unidentified, therefore untreated, and the symptomatology attributed directly to the intellectual deficit.

Thus as a profession we must hasten to clarify our role in subnormality—that is, the identification and treatment of the physical and psychiatric illnesses and disturbances commonly accompanying intellectual deficit. Intelligence must be removed rapidly from its predominant position relative to treatment and seen for what it is—merely one of many factors influencing variably the response to and the choice of a spectrum of therapeutic techniques now available. We must also learn to identify pathology expressed and communicated atypically and at apparently inappropriate developmental levels in order to treat it vigorously and individually, so casting off the mantles of institutionalization and custodial care, for they have restricted our therapeutic sensibilities and smothered our skills. This task completed the profession will be able to evaluate its own effort in subnormality directed towards treatment modified by the requirements of the individual, whatever his handicap. As a result it will recognize that the effort on behalf of the intellectually handicapped individual, as distinct from “the subnormal,” is as worthwhile to those individuals as it is to their intellectually normal fellows. Gratitude and pleasure (in Suttie's sense) do not cease suddenly at an I.Q. of 70.—I am, etc.,

I. A. FRASER

Prudhoe Hospital,
Northumberland

Tests of Hearing in School

SIR,—Dr. L. Fisch (10 August, p. 409) has perhaps missed the point of my original article.¹ I agree with him that the sweep test could have been set at 20 decibels but, as he states, there is wide variation throughout the country in the methods employed. The suggestion that impedance audiometry might replace sweep testing is based on the assumption that there were more adequate preschool screening services at all ages from birth up to school entry. I realize that this assumption may not be correct for certain parts of the country, and difficulties may be experienced in implementing full-scale audiometric services until there is a reasonably captive population at the age of five. It is assumed that the sensorineural defects would be detected before school entrance. Unfortunately there is still a dichotomy in thinking between the preschool service and the school service, which it is hoped will disappear.

However, assuming that the preschool service is of high quality, I think that there is a case for examining whether impedance audiometry ought to be given more prominence at school entry. I can-

not agree that the time needed for 40-60 pupils using impedance audiometry would be so long as 10 hours. This has certainly not been our finding, and Denzil Brooks² is of the opinion that less skill is needed for the impedance audiometry test than for sweep testing, provided there is an adequate means of reporting.—I am, etc.,

H. P. FERRER

Worcester

- ¹ Ferrer, H. P., *Public Health*, 1974, **88**, 153.
- ² Brooks, D. N., *Hearing*, 1971, **26**, 250.

Nephrotic Syndrome with Oat-cell Carcinoma

SIR,—I read with interest the paper by Dr. M. R. Higgins and others (17 August, p. 450) describing a case of nephrotic syndrome with oat-cell carcinoma. Their findings of large quantities of extracellular DNA in necrotic tumour tissue and Feulgen-positive deposits within glomerular basement membrane are not surprising. Haematoxyphil change around blood vessels (fig. 1) in oat-cell carcinoma has been shown to be due to the deposition of Feulgen-positive material.¹ Similar vascular change has been described in retinoblastomas and a possible immune response suggested.²

FIG. 1—Haematoxyphil sheath around a vessel and tumour necrosis. (× 209)

FIG. 2—Electron-dense fragments in the subendothelial region. (× 3,190)

I have recently described the ultrastructural appearances of such vessels in an oat-cell carcinoma.³ The deposits consisted of fragments of nuclear material trapped in the subendothelial region (fig. 2). Similar nuclear fragments were present in necrotic areas of the tumour. An interesting finding was the presence of fine fibrillar material resembling antigen-antibody complexes surrounding some of the nuclear fragments. This feature leads me to suggest the possibility of an immune process existing in some patients with oat-cell carcinoma. A case of nephrotic syndrome with oat-cell carcinoma appears to support this suggestion. The estimation of

anti-DNA antibodies in oat-cell carcinoma patients should be of interest.—I am, etc.,

A. AHMED

Department of Pathology,
University of Manchester

- ¹ Azzopardi, J. G., *Journal of Pathology and Bacteriology*, 1959, **78**, 513.
- ² Mullaney, J., *Lancet*, 1968, **2**, 918.
- ³ Ahmed, A., *Journal of Pathology*, 1974, **112**, 1.

SIR,—The medical memorandum by Dr. M. R. Higgins and others (17 August, p. 450), reporting a case of nephrotic syndrome with oat-cell carcinoma, suggests the possibility of antibody formation against nuclear antigen, possibly DNA, released by tumour necrosis.

I showed¹ that much of the basophilic deposition in retinoblastoma previously attributed to focal calcification was in fact due to DNA precipitation. I postulated that these deposits might be a manifestation of some form of tumour activity. Dr. A. Ahmed quoted² my work and with electron microscope studies on cases of oat-cell carcinoma of the lung found a similarity between this vascular DNA deposition and similar fibrillary material considered to be antigen-antibody complexes in dermal lesions in disseminated lupus erythematosus.³

I suggested⁴ doing serological studies in retinoblastoma cases to determine if anti-DNA antibodies might be present, particularly in relation to the occasional spontaneous retrogression of these growths. I would also like to offer a theory that the demyelinating phenomena which can occur in oat-cell lung cancer patients could be due to localizing antigen-antibody complexes in the central nervous system, such as may be happening in the kidney in the nephrotic syndrome, and that a DNA product may act as the antigen.—I am, etc.,

JOAN MULLANEY

National Ophthalmic Pathology Laboratory
and Registry of Ireland,
Royal Victoria Eye and Ear Hospital,
Dublin

- ¹ Mullaney, J. M., *Archives of Ophthalmology*, 1969, **82**, 454.
- ² Ahmed, A., *Journal of Pathology*, 1974, **112**, 1.
- ³ Grishman, E., and Churg, J., *Laboratory Investigation*, 1970, **22**, 189.
- ⁴ Mullaney, J. M., *Irish Journal of Medical Science*, 1969, 7th ser. **2**, 57.

Intrathoracic Foregut Cysts

SIR,—I was interested to read the leading article on this subject (20 April, p. 132), and I regret that my absence from the U.K. has delayed my comments. It is also unfortunate that I am away from most books of reference as well as my own clinical records. What is not stressed in the article is that such lesions may be manifestations of a much more extensive “spinal dysraphism.” This syndrome can include mesenteric cysts and intestinal duplications, intrathoracic cysts, and also intraspinal lesions—the so-called enterogenous cysts. Any of these lesions may be associated with a wide variety of axial skeletal anomalies, which include hemi-vertebra, fusion of vertebral bodies or of laminae, bifid vertebral bodies, and fused or forked ribs. In one article in the *Proceedings of the Staff Meetings of the Mayo Clinic*, on intestinal anomalies, these changes were referred to as “scrambled spine.” There may also be anomalies of the spinal cord.

Some years ago Mr. R. A. C. Jones, of

Salford, and I reported to the Society of British Neurological Surgeons a number of such enterogenous cysts, the most interesting of the series being a young boy who had been operated on as an infant for a mesenteric cyst which had produced melaena. At the age of 10 years he came under the care of Dr. C. E. C. Wells with an intraspinal cyst in the cervicothoracic region, the presence of which was confirmed by myelography. In the absence of any progressive neurological signs laminectomy was not considered necessary or desirable. There was a circular defect in the body of D1 or D2 which contained the "stalk" of an intrathoracic cyst 5 cm in diameter, which was subsequently removed by Mr. T. H. Rosser at Sully Hospital. The combination of all these lesions in one patient throws additional light on the embryology and pathology of these remarkable lesions.—I am, etc.,

CHARLES LANGMAID

Protestant Hospital,
Dabou,
Republic of the Ivory Coast

Further Application of the Nitroblue Tetrazolium Test

SIR,—The claim by Dr. R. M. Rowan and others that the N.B.T. test can be helpful in distinguishing between thromboembolism and lobar pneumonia (3 August, p. 317) is both interesting and surprising. They refer to our prospective study¹ but do not emphasize our view that, in general, the N.B.T. test, whether performed by the original method or by the same modified method as they have used,² was of no value in distinguishing pyogenic bacterial infection from other disorders even when performed by highly experienced observers. Though they were correct in stating that this "experience contrasts with that of most previous workers," three subsequent well controlled studies have supported our observations that the N.B.T. test is of minimal value in the differential diagnosis of pyogenic infection.³⁻⁵

It is now known that the N.B.T. test measures the phagocytosis of particulate complexes of N.B.T. and heparin and fibrinogen by neutrophils, or both.^{6,7} The phagocytosis of these complexes may be stimulated in ill patients as part of the acute phase reaction, possibly by the acute phase protein orosomucoid.^{7,9} Immature neutrophils are unable to respond to these stimuli.

Raised N.B.T. test results in patients after myocardial infarction^{10,11} and operation⁸ clearly indicate that false-positive results may occur in acutely ill patients in the absence of sepsis. It is surprising, therefore, that universally low N.B.T. scores were obtained in patients with uncomplicated pulmonary thromboembolism by Dr. Rowan and colleagues. They appear to be comparing a group of patients, most of whom were post-operative or post-partum with pulmonary thromboembolism, with a group with lobar pneumonia who had not undergone operation. This trial was uncontrolled in that other postoperative patients or patients ill from other conditions were not studied. For a valid trial it is essential that both groups be uniform in all but the specific conditions being evaluated. N.B.T. test results may be raised postoperatively and become negative⁸ at a time when serum concentration of acute phase proteins are still raised.¹² This sug-

gests that there may be a defect in the ability of neutrophils to phagocytose complexed N.B.T. despite the stimulus of orosomucoid, possibly because of the replacement of circulating mature neutrophils by less mature ones as a result of the enhanced turnover of these cells associated with inflammation induced by operation.¹³

The initial enthusiasm for the value of the N.B.T. test as a non-specific indicator of bacterial infection has not withstood subsequent critical evaluation. This experience provokes us to advise caution before accepting its value in the particular role advocated by Dr. Rowan and colleagues. Their study is unique and thus not subject to direct comparison, but we feel that their results require confirmation using adequate controls and patients with a wider spectrum of symptomatology and disease severity before any diagnostic or therapeutic decisions are reached as a direct result of N.B.T. tests. Until then we would support the view that "N.B.T. reduction is an interesting tinctorial reaction, but it seems most unwise in individual cases to rely on it for important decisions regarding the application of antimicrobial therapy."¹⁴—We are, etc.,

A. W. SEGAL
A. J. LEVI

Northwick Park Hospital and Clinical
Research Centre,
Harrow, Middx

- 1 Segal, A. W., Trustey, S. F., and Levi, A. J., *Lancet*, 1973, 2, 879.
- 2 Gordon, A. M., et al., *Journal of Clinical Pathology*, 1973, 26, 52.
- 3 Steigbigel, R. T., Johnson, P. K., and Remington, J., *New England Journal of Medicine*, 1974, 290, 235.
- 4 Bittner, S. J., et al., *American Journal of Clinical Pathology*, 1973, 60, 843.
- 5 Soonatrakul, W., and Andersen, B. R., *Archives of Internal Medicine*, 1973, 132, 529.
- 6 Segal, A. W., and Levi, A. J., *Clinical Science and Molecular Medicine*, 1973, 45, 817.
- 7 Segal, A. W., M.D. Thesis, University of Cape Town, 1974.
- 8 Ninane, G., and Schmitz, A., *Lancet*, 1974, 2, 174.
- 9 Segal, A. W., and Levi, A. J., *Clinical Science and Molecular Medicine*, in press.
- 10 Lauter, C. B., et al., *Annals of Internal Medicine*, 1973, 79, 59.
- 11 Shafar, J., Behr, G., and Rusius, J., *Journal of Clinical Pathology*, 1974, 27, 399.
- 12 Aronsen, K. F., et al., *Scandinavian Journal of Clinical and Laboratory Investigation*, 1972, 29, Suppl. No. 124, p. 127.
- 13 Boggs, D. R., *New England Journal of Medicine*, 1974, 290, 1055.
- 14 Nathan, D. G., *New England Journal of Medicine*, 1974, 290, 280.

Psychiatry in the Soviet Union

SIR,—Professor J. K. Wing (10 August, p. 408) is encouraged by someone's statement that Dr. Zhores A. Medvedev's compulsory admission to a mental hospital was "an error." It would be more encouraging if Professor Wing could furnish us with some details—for example, who admitted the error? Was it Professor A. V. Snezhnevsky (Chief Psychiatrist of the U.S.S.R.), Professor George Morozov (Director of the Serbsky Institute), or Dr. A. Y. Lifshits (Head of the Kaluga Psychiatric Hospital)?

Was any promise made to hold an inquiry? Professor Wing is rather vague here. He hints that an inquiry may have been held but that he "may" have missed a public announcement about it. The error is said to have been frankly acknowledged at the Serbsky Institute on 15 October 1973, 10 months ago. It is discouraging that Professor Wing still cannot enlighten us as to what

went wrong to cause the incarceration of an eminently sane scientist.—I am, etc.,

I. ATKIN

Weybridge, Surrey

Organic Psychosis

SIR,—It was interesting to see your leading article (27 July, p. 214) on organic psychosis. I wish to report a case of organic psychosis due to a once common but now rare cause—namely, bromide poisoning.

A 57-year-old woman was admitted to hospital after several days' disturbed behaviour. She had a recent history of neurotic depression and possibly barbiturate abuse. She was unkempt and fearful but had no focal signs other than sluggish pupillary light reflexes, dysarthria, ataxia, and tremor. Mentally she showed clouding of consciousness, disorientation, memory defects, and perseveration. A provisional diagnosis of a toxic confusional state was made and the condition ascribed to barbiturate abuse until the serum barbiturate level was found to be zero. Investigations revealed no evidence of metabolic, endocrine, or cerebrovascular disorder, and no evidence of infection or trauma was found. The E.E.G. was abnormal, with diffuse runs of slow and fast waves and short periods of inactivity. The C.S.F. was normal except for a pressure of 180 mm. Her clinical state had not improved after a week, and a serum bromide estimation, done as a "long shot," was 250 mg/100 ml. Salt and a thiazide diuretic were given and the patient's mental state improved slowly over the following four weeks. In a home search bottles of a proprietary nerve tonic which contained nearly 30% w/v bromide salts were found.

Recently there has been renewed interest in bromide poisoning. Carney's review¹ suggests that bromism should still be excluded as an aetiological agent in organic psychoses. My own experience of two cases in six months would tend to confirm this. I believe some doctors continue to prescribe bromides as hypnotics, and there are a number of proprietary bromide preparations available without prescription as nerve tonics and cough mixtures. On removal from the source of bromide some cases of bromism initially worsen.^{1,2} Most cases recover slowly as the ion is excreted. Hence the condition may remain undiagnosed even in hospital and the patient might return to bromide abuse on discharge. Increased awareness of bromism may lead to detection of more cases and prevention of others.—I am, etc.,

RICHARD J. W. WILLIAMS

Whitchurch Hospital,
Cardiff

¹ Carney, M. W. P., *Lancet*, 1971, 2, 523.

² Levin, M., *American Journal of Psychiatry*, 1948, 104, 798.

Swelling of Arm in Patients With Arteriovenous Fistula

SIR,—In haemodialysis patients with a Cimino-Brescia arteriovenous fistula swelling of the fistula arm with oedema and phlebectasis has been observed. The cause of the swelling is not always clear. Recently we saw a patient with this condition.

A 75-year-old man with prostatic carcinoma had a side-to-side fistula between the radial artery and the cephalic vein made in his left arm for intravenous injections of a cytostatic drug.¹ The fistula functioned well and caused the patient no inconvenience. After an episode of precordial pains a blood sample was drawn from a subcutaneous vein close to the fistula. As bleeding occurred from the puncture site a fairly tight compression bandage was applied immediately proximal to the fistula. A few hours later the patient had pain and swelling of the arm and hand distal to the bandage. After five hours