paediatric and psychiatric centres do a considerable amount of investigation which might elsewhere be done in hospitals for the subnormal." Unfortunately, none of these statements is in keeping with the facts. Apart from its "compact" nature not being obvious to me, "centres" in Birmingham have been unable to carry out all the investigations necessary, while in other parts of the country hospitals for the subnormal are generally not equipped to carry them out either.

In the light of the unqualified statement that only seven of the 1,652 patients in hospital were thought to need "medical investigation or treatment of any kind necessitating hospital admission," the expenditure of £2m. on Lea Castle Hospital must appear to be the best blatant outrage to the taxpayer since the cancellation of "Blue Streak." Even more ridiculous, however, is the fact that 560 of its 660 places are already occupied, over 200 by children, more than half of whom come from Birmingham and who were in fact awaiting admission at the time of McKeown and Leck's survey but were obviously overlooked. The number of children awaiting admission to hospitals for the subnormal in Birmingham at the time of McKeown and Leck's survey was I believe over 100, and at present four requests per month for the permanent care of severely handicapped children are received from that half of the city served by this hospital alone.

The establishment of a "multi-disciplinary assessment centre" in this hospital (a report on this is in preparation) and the demand for this indicates the lack of an assessment service for these children in the city of Birmingham in the past. Requests have been received from paediatricians, E.N.T. departments, the school medical service, and general practitioners, so that these children would not appear on the waiting-lists of hospitals for the subnormal. McKeown and Leck's survey could therefore not have encountered this particular group even if it had reviewed the waiting-lists for this or any other hospital for subnormal children. The provision of this service in this hospital has become necessary because previous attempts at assessment had failed at one or other of the existing paediatric, psychiatric, or school clinics. Our experience suggests that Pilkington's 10%¹ is far more realistic than that of McKeown and Leck.

The behaviour of a number of these children is such that the ophthalmological, audiological, and even x-ray studies often require to be carried out in sleep or under general anaesthetic, while adequate psychological assessment can be achieved only by continuous observation over a minimum period of two weeks. Our experience has shown that many of these children cannot be tolerated for more than a few hours in general paediatric wards, and many who have already been returned to schools and training centres had been previously designated "not assessable," "untreatable," or, in desperation, "impossible."

The handicaps for which assistance is most commonly requested are varying degrees of cerebral palsy, deafness, blindness, speech retardation, or combinations of these, often, but not necessarily, associated with behavioural disorders and intellectual retardation. The staff involved in these assessments have been drawn from various specialties—paediatrics, orthopaedics, ophthalmology, otology, biochemistry, psychology, and psychiatry—assisted by specialist teachers, a speech therapist, and a physiotherapist. The waiting-list for such assessments after four months is now over 25, and demand is increasing. None is accepted without one of three consultants deciding that it is impossible elsewhere. Several children are accepted following assessment for varying periods of treatment

or diagnostic teaching, for which special units have been established in the hospital. The majority, however, have so far been returned to the community with recommendations on placement and management.

The service outlined here is far from complete at present, but it would be quite unrealistic to suggest that, even in its present form, it could be carried out adequately on these children anywhere but in the context of a hospital specializing in the treatment and management of the severely handicapped child.

Despite their underestimate of the need, it should be remembered that McKeown and Leck do suggest that the provision of such facilities in hospitals for the subnormal is most desirable. From our brief experience of the demand, this is indeed fast becoming a necessity. Inevitably, however, the cost per patient in such hospitals must rise, and until the controllers of hospital finances are made aware of the need for this progress it can never be achieved. Estimates of the cost per bed in hospitals for the subnormal in the past few years have varied from £10 to £12 per week, whereas provision of the most basic service on the lines suggested above would amount to from £16 to £20 per week. Personal experience, however, has made it apparent that the treasury and finance departments of regional boards have not yet become aware of the necessity for any such increase. The Minister, in his recent directive on "the upgrading of hospitals," indicated his awareness of the need for a rise in standards, but, apart from expressing a pious hope that this might come about, makes no mention of meeting the increased cost. Until hospitals for the subnormal are given the necessary financial support, and until they cease to be looked upon as a "last resort" for the hopeless, neither these advances nor the wishful thinking of the Minister will ever materialize.

Finally, if any justification should be necessary for this expenditure on the handicapped child, it could be mentioned that at least half of these entering hospital at 5 years of age or under can expect to survive for possibly 50 or more years. At a conservative estimate this will cost £30,000 per patient. Surely it cannot require a great deal of foresight to become aware of the advantages of an increase in expenditure, which will then amount to only half the cost in a city general hospital, or one-third that of the teaching-hospital bed, and which could enable 10–15% of these children to be discharged after one or two years, in some cases with no further expense to the hospital service.—I am, etc.,

Lea Castle Hospital,
Wolverley, Worcs.

G. B. SIMON.

REFERENCES

- 1 Pilkington, T. L., in *Report of the Annual Conference of the National Association for Mental Health*, 1966, p. 50. London.
- 2 *First Report of the Joint Working Party on the Organization of Medical Work in Hospitals*, 1967. H.M.S.O.

Ventricular Aneurysm

SIR,—Your leading article (11 November, p. 312) on ventricular aneurysms prompts us to record a physical sign that we have not infrequently observed after extensive cardiac infarction, especially in women. This consists in a lifting or rocking movement of the fourth and sometimes also of the third rib which can be followed by the palpating finger from the costo-chondral junction right out to

the axilla. In a number of cases the movement is visible and we have, in one case, recorded it with a cinecamera. The sign may persist for two or three months, but can also be permanent. Although it more commonly follows anterior wall lesions, we have on at least one occasion observed it after a postero-diaphragmatic infarct.

We can offer no ready explanation for this phenomenon, which has not, to our knowledge, been described before. The fact that it is not due to localized outpouching is clearly shown on radioscopes, when the movement transmitted to the examiner's hand is visible at sites well clear of the left cardiac border.—We are, etc.,

E. MONTUSCHI.

H. E. S. PEARSON.

Whittington Hospital,
St. Mary's Wing,
London N.19.

Errors in Blood Transfusion

SIR,—Once again a transfusion catastrophe has received nationwide publicity,¹ and, in so far as it is fatal cases which are reported, we can draw no comfort from the knowledge that the incidence of incompatible transfusion is higher than this annual event would imply. I would suggest that a re-emphasis of certain facts relating to the practice of blood transfusion will not come amiss at this time. Having regard to the complexities of the subject, it might be thought surprising that more difficulty was not encountered, but there is a common theme running through most of these reported accidents. The incompatibility is in the ABO system and results not from technical incompetence but from clerical error.

I believe that a heavy responsibility rests upon the pathologist in respect of both the technical and clerical aspects of this problem. The problem of safeguarding identification of patients clearly varies from one hospital to another, but I cannot help feeling that more attention should be paid to this aspect of transfusion practice. Many hospitals have devised their own internal system; others have not, or at best have failed to enforce it.

Some years ago, at a meeting of the Association of Clinical Pathologists, I demonstrated a system which we have now operated successfully for many years at the Royal National Throat, Nose, and Ear Hospital. We use a three-part label which follows the colour coding employed by the National Blood Transfusion Service. An example is shown in the Figure. When blood is prepared the first and third part are completed and part three is detached and secured to the blood bottle. If there is no state of emergency requiring the immediate issue of the blood parts one and two are sent out on a report form indicating that the blood is available. Before the blood is issued part two has to be completed and returned to

The label in three parts:—

Part 1	Part 2	Part 3
GROUP	GROUP	GROUP
A Rh POSITIVE	A Rh POSITIVE	A Rh POSITIVE
Name _____	Please supply X matched blood for _____	No. _____
No. _____	Name _____	X matched with serum of _____
	No. _____	Name _____
	Signature _____	No. _____
		Date _____
Attach to Form.	Return to Laboratory	Attach to bottle

the laboratory, where it is checked against part three by the person removing the blood from the blood bank refrigerator. Even if the person is colour-blind they can presumably read, and we lay great emphasis on the proper use of hospital numbers. Both medical and nursing staff receive repeated indoctrination, and all house-surgeons are interviewed at the commencement of their appointment. The system is not foolproof, especially as we suffer in part from the disadvantages of dispersal. However, it does induce a greater awareness of the dangers inherent in the commodity which we are handling, and I would be glad to supply further details to anyone who might be interested.

I am convinced that some system can be evolved to meet the requirements of any hospital, but it must be rigorously enforced. The price of safety is eternal vigilance.—I am, etc.,

Institute of Laryngology and Otolaryngology,
London W.C.1. D. A. OSBORN.

REFERENCE

- ¹ *Daily Telegraph*, 17 November.

Alcoholism

SIR,—I would like to reassure Dr. J. J. MacSorley (25 November, p. 487) that the National Council on Alcoholism is not solely concerned with the alcoholic addict.

The National Council's activities at the moment are directed towards the discovery of the alcoholic who refuses, through sheer fear of social censure, to consult a doctor or a religious counsellor. For centuries past alcoholism has been mankind's best hidden secret. The more alcoholics the information centres discover the more we shall be able to present to the public known scientific facts about this disease, and this will form part of wider prophylactic measures to deal with it.

Since the aetiological factors of this disease are unknown and no one form of treatment is applicable to all alcoholics, the National Council on Alcoholism entirely endorses the view that prevention is better than cure, and therefore the education of the public, indeed of our own medical colleagues, is of paramount importance.—I am, etc.,

E. LINCOLN WILLIAMS,
President,
National Council on Alcoholism.
London W.C.2.

SIR,—In the article "Clients of Alcoholism Information Centres" (11 November, p. 346) Dr. Griffith Edwards and others show that the clients of the centres differ from those alcoholics on "Skid Row."

A survey of alcoholics admitted to the Addiction Unit of this hospital confirms the findings that "Skid Row" alcoholics do not reach treatment facilities. During the period 1965–6 at the time of admission 66% of the alcoholics were living with their next of kin (wife or blood relation). A one-in-three sample of general psychiatric patients in the same hospital at the same time revealed that only 53% were living with their next of kin when admitted.

The difference between the two groups is not statistically significant, but it is of interest to note that the alcoholics admitted for treat-

ment have been those who are in the main still in close contact with their families.—I am, etc.,

Addiction Unit,
Moston Hospital,
Chester.

R. P. SWINSON.

Bottle Cuts

SIR,—Dr. M. J. McArthur is to be congratulated on his letter (21 October, p. 171) urging the introduction of polyethylene containers to take the place of glass milk bottles. I would go further and suggest banning the use of glass bottles for the supply of milk altogether. The annual toll of casualties from glass used for domestic purposes is truly lamentable and could be largely prevented. Personal suffering and loss of working hours, not to mention the permanent disabilities that may ensue, create a problem of grave concern to all. . . . The campaign for cleaner milk, with its spectacular benefits to health, was waged successfully some years ago despite opposition from certain quarters, so why not a campaign for safer containers.—I am, etc.,

Llanhamlach,
Brecon.

E. F. ADAMS.

Paraquat Poisoning

SIR,—In your correspondence column Dr. K. A. Mourin (25 November, p. 486) has referred to the report of a case of suicide in Israel by subcutaneous injection of paraquat from Dr. Ch. Almog and Dr. E. Tal (16 September, p. 721), in which the transient occurrence of a right facial paresis was observed between the second and fifth days, and has reported a case of his own in which a right lower motor neurone facial palsy developed four days after a febrile episode with sore throat and general malaise, and 10 days after a trivial exposure to paraquat, occasioned by smoking a cigarette rolled with unwashed hands.

There is no doubt that, as Dr. Mourin indeed suggests, the association with paraquat in his case is coincidental. The paresis in the Israeli case was accompanied by signs of pyramidal tract involvement (also transient), loss of abdominal reflexes, and the presence of Oppenheim's sign—conceivably due to temporary vascular disturbances or other local toxic effect following the systemic absorption of a fatal dose. Dr. Mourin's case was clearly a peripheral lesion of the facial nerve (Bell's paralysis), with the fairly common history of a preceding nasopharyngeal infection. Indeed, the description of vesicles on the right fauces suggests the possibility of a geniculate herpes zoster infection. The initial neurological symptoms observed in animal experiments with paraquat,¹ referred to by Drs. Almog and Tal, were seen only in a proportion of animals after single lethal intraperitoneal doses (30–75 mg. ion/kg.), and consisted of hyperexcitability, violent forced movements, and stiffness and incoordination of gait. In no species have lesions of peripheral nerve been produced.

The burning sensation of the tongue in Dr. Mourin's case can, however, certainly be attributed to exposure to paraquat, since it has a pronounced irritant action on mucous membranes, which is the main reason for insisting that concentrated solutions should be handled with care. In spite of extensive

field experience over the past six years, in which by now several million people must have used paraquat more than once, there have been less than half a dozen cases to suggest skin reactions in abnormally sensitive individuals, and none in which any evidence of an allergic state has been demonstrated.

One can only wish that all cases of illness thought to be associated with the use of agricultural chemicals were as fully investigated and clearly reported as Dr. Mourin's.—I am, etc.,

A. A. B. SWAN,
Director,
Industrial Hygiene Research Laboratories,
Imperial Chemical Industries Ltd.
Alderley Park,
Cheshire.

REFERENCE

- ¹ Clark, D. G., McElligott, T. F., and Hurst, E. W., *Brit. J. industr. Med.*, 1966, 23, 126.

Salmonella in Tortoises and Terrapins

SIR,—Dr. L. T. Newman (4 November, p. 296) was no doubt right to draw attention in his letter to the possibility of human salmonella infection arising from contact with infected tortoises. Terrapins are also imported into this country in large numbers and present a potentially greater hazard because they are aquatic.

A family of two adults and two children were recently under investigation for an infective illness, with symptoms including fever and mild diarrhoea. They had acquired a small Spanish terrapin (*Clemmys leprosa*), which was not healthy from the outset and died soon after the two children fell ill. Cultures from the gut of the terrapin yielded *Salmonella poona*. Although no salmonella was isolated from any member of the family and the two children were shown to have an adenovirus type 7 infection, nevertheless the serum of the elder child agglutinated an H suspension of *Salm. poona* to a titre of 1/40. This suggests that she may have passed through an inapparent infection. Further inquiry showed that the infected terrapin came from a batch of 5,000 imported from Tunisia. Very few of these still remained on the wholesaler's premises, but the water from the tank in which they had lived yielded *Salm. montevideo* and *Salm. onderstepoort*.

American reports show that terrapins and their relatives are often infected by salmonellas, including serotypes which are regularly associated with human infection.¹ The water in which infected terrapins are kept is liable to contain salmonellas for long periods, in spite of frequent changes of water.² Terrapin owners are much more likely to acquire infection by repeated exposure to infected water than are the owners of tortoises, which are terrestrial in habit and likely in the main to contaminate only the garden.

It may not be out of place also to deplore the importation of large numbers of these small creatures, which are beautiful when seen in their natural setting but are doomed to die when imprisoned as pets in tanks. The large numbers exported annually could lead to their elimination from the countries of origin.—We are, etc.,

P. G. MANN.
Public Health Laboratory,
Bath.
B. R. EATON.
Public Health Laboratory,
Watford.

REFERENCES

- ¹ Williams, L. P., and Helsdon, H. L., *J. Amer. med. Ass.*, 1965, 192, 347.
² Kaufmann, A. F., Feeley, J. C., and DeWitt, W. E., *Publ. Hlth Rep. (Wash.)*, 1967, 82, 840.