logist, has equally carefully been removed by the printers. While this state of affairs pertains the greatest economy in illustration is required to allow editors to present a few really worth-while pictures in colour. If in the course of such an economy drive a few unwanted papers and magazines were suppressed altogether, we might comfort ourselves with the thought that the illustrations in the remaining journals might perhaps be worth looking at.—I am, etc.,

E. ELKAN.

Pinner, Middx.

SIR,—I have long ceased to wonder at the often seemingly uninformed and unintelligent actions of Government departments (3 May, p. 266). Presumably they are the outcome of meetings in committee where informed and intelligent men have found themselves deadlocked on important issues and turn with relief to a marginal issue which can be agreed and pursued unitedly. So we have such weighty trivia as *Health Trends, Proplist,* and so on. On the other hand, since the proper treatment of narcotic addicts or of psychogeriatric patients, for example, is far more important, opinion is divided on which need comes first and money can be made available for neither.—I am, etc.,

H. DALE BECKETT.

Cane Hill Hospital,
Coulsdon, Surrey.

L-Dopa in Parkinsonism

SIR,—I should like to comment on your interesting leading article "L-Dopa in Parkinsonism" (26 April, p. 202). The dose range was stated to be 3 to 16 g. per day, which might prove misleading.

Although a daily dose of 16 g. has been reached using the racemic mixture, D,L-dopa, the pure laevorotatory isomer does not appear to have been given in doses greater than 8 g. daily. On a weight basis, L-dopa is more active than the racemic mixture. Many patients develop adverse reactions to the drug at doses considerably less than 8 g. per day, and 16 g. per day may be quite unsafe. Since L-dopa is now superseding D,L-dopa in clinical use, the above consideration is of importance.—I am, etc.,

A. S. D. SPIERS.

Medical Unit,
University College Hospital
Medical School,
London W.C.1.

Neonatal Serum Bilirubin Estimation

SIR,—Accurate measurement of serum bilirubin levels in neonates is essential, since the development of kernicterus in infants with severe neonatal jaundice can now be prevented by exchange transfusion. We have encountered difficulty in accurate measurement using a modification of the Malloy and Evelyn technique.[1] This may give rise to difficulties when the decision to give an exchange transfusion is based on serum bilirubin levels.

Total serum bilirubin levels were estimated using a reaction mixture containing 200 µl. serum, 0·4 ml. diazobenzene-*p*-sulphonic acid (10 ml. 0·1% sulphanilic acid, plus 0·3 ml. 0·5% sodium nitrite), 1·4 ml. water, and 2·0 ml. ethanol. The mixture was allowed to stand for 30 minutes, and the extinction then measured in a Pye-Unicam SP 600 spectrophotometer at 540 nm. An appropriate blank determination was made.

During the period 1961–8 268 neonates had one or more exchange transfusions in the special care baby unit at Exeter. During this time the serum bilirubin could not be estimated accurately in four infants by the conventional technique. In these cases less than 50% of the azo colour developed after 30 minutes when 200 µl. serum was used. When 100 µl. serum was used all the bilirubin could be measured by this technique.

The causes of the jaundice in these four infants were haemolytic disease of the newborn due to Rh disease in two, ABO incompatibility in one, and in one case no cause for the jaundice could be found. The birth weights were in excess of 3·0 kg., and the pretransfusion serum bilirubin levels were greater than 27·0 mg./100 ml. Two cases developed kernicterus, but the other two are now well.

These cases serve to emphasize the importance of accurate serum bilirubin levels. In certain neonates we have found difficulty in measuring serum bilirubin completely by diazotization using the recommended volume of serum due to slow development of the azo colour. This was corrected by using half the recommended amount of serum. The cause of the phenomenon is not known. The infants did not have a common cause for their jaundice. All had high serum bilirubin levels before exchange transfusion, but a high serum bilirubin level is not necessary for the phenomenon. In one case the serum bilirubin could not be estimated completely at a level of 15·6 mg./100 ml. High bilirubin levels as such do not cause the phenomenon, since sera with much higher bilirubin levels can be estimated normally by this technique. It can be demonstrated that adequate diazobenzene-*p*-sulphonic acid is available for coupling in the reaction mixture of this method by using normal serum containing bilirubin and obtaining a high extinction value. The phenomenon has also been noted when 20 µl. serum are used to estimate serum bilirubin by the Beckman Ultra micro technique.[2] A correct value was obtained when half the recommended amount of serum was used (10 µl.).

It is possible that in these children the plasma albumin is unable to bind bilirubin normally, and so it is not available for coupling in the usual way. The mechanism of the diazo reaction using serum from these patients is being investigated further.

I would like to thank Dr. F. S. W. Brimblecombe, Professor W. Gaisford, and Dr. L. Haas for permission to report cases under their care, and the South Western Regional Hospital Board for financial assistance.

—I am, etc.,

TOM HARGREAVES.

Area Department of Pathology,
Exeter, Devon.

REFERENCES

1 Quoted by MacLagen, N. F., in *Recent Advances in Clinical Pathology*, 1951, 2nd ed., edited by S. C. Dyke, p. 164. London, Churchill.
2 Beckman Instruments Inc., *Model 150 Ultramicro-analytical System*. Technical Bulletin UM-TB-008E. Fullerton, California.

Disposable Cholangiogram Cannula

SIR,—We were concerned to read Mr. Y. B. Kattan's letter (12 April, p. 121) about his unfortunate experience with a Stoke-on-Trent cholangiogram cannula, especially as one of us (J. McK. B.) has been using these cannulae regularly for over three years without mishap. In the original article (15 March, p. 706), it was implied, although perhaps not sufficiently stressed, that the tapered mount of the cannula is inserted into the cystic duct, and should then be retained there throughout the whole procedure of cholangiography; only when the length of the cystic duct is too short need the cannula be pushed into the common bile duct.

It might be emphasized at this point that these cannulae are essentially disposable articles and on no account must they be boiled or autoclaved. However, they can be used several times after careful washing and resterilization in a formalin cabinet.

The material used in the manufacture of the cholangiogram cannula is nylon six and not polyethylene as Mr. Kattan has suggested. The quality assurance on line assembly for this product is such that each tube is subjected to a water test with an air flow of 15 lb. per sq. in. being passed to the lumen of the cannula as a test against leaks and blockages. Additional quality assurance on batch testing provides for a dead weight pull on the cannula grommet and Luer connecter. Any cannula in which separation occurs in the mount when a dead load of 1,450 g. is applied is rejected. Similarly, any items in which separation occurs at the grommet under a dead load of 800 g. are also rejected.

Finally, since August of last year over 3,000 of these cannulae have been made and there has been no other complaint, of which we are aware, during this period.—We are, etc.,

J. MCKENZIE BUCHANAN,
Consultant Surgeon.
North Staffordshire Hospital Centre,
Stoke-on-Trent.

D. S. ALLEN,
Product Manager.
Portex Limited.

Hythe, Kent.

Severe Self-poisoning

SIR,—In reply to Dr. J. H. Brooks (26 April, p. 248) I am sorry that I failed to make it entirely clear in my article that all patients were seen by the psychiatric staff prior to discharge from the Royal Infirmary, Sunderland, except in the few instances where the patient took her discharge against medical advice from either the casualty department or the medical ward (1%). In my original article (15 March, p. 679) I did say "the patient was transferred to the acute medical unit for the remaining stay in hospital until seen by the visiting psychiatric staff and assessed."

I agree with Dr. Brooks that all self-poisoned patients should be seen by a psychiatrist, preferably prior to discharge from the medical unit, as such patients often default if given outpatient appointments in the first instance.

One reason for the huge increase in the number of admissions to the Royal Infirmary following self-poisoning has been the abandonment of the policy of discharging home