veins of the legs) and found that there was increased radioactivity in the thrombosed limb. We have similarly found such increased activity and gamma scans of the legs show that this activity is confined to "hot spots," probably at valve pockets. It may be that such local vascular accumulations are associated with venous thrombosis, but they are not diagnostic.

Browse and his colleagues studied a large number of patients without venous thrombosis, but since many patients were excluded from their survey with conditions often confused with deep vein thrombosis—for example, superficial phlebitis, haematoma, arthritis, cellulitis, and gross oedema of the legs—the control group of venographically negative legs cannot be considered representative. In a series of 32 patients including such conditions, using the ^{125}I fibrinogen test as in the original method of Flanc, Kakkar, and Clarke,¹ we have not found correlation of increased ^{125}I fibrinogen uptake with deep venous thrombosis. However, there was often a higher initial count over the affected limb, possibly owing to pooling of the isotope in the deep veins.

There is a great danger of overdiagnosis of venous thrombosis by the method of Browse and his colleagues. This would discredit the ^{125}I fibrinogen test as a useful research tool, particularly in the treatment and prophylaxis of venous thrombosis. Until controlled studies have been completed there seems no place for this quick screening test that is being introduced for suspected venous thrombosis.—We are, etc.,

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S. TALBOT

Physics Department,
Nottingham General Hospital

- 1 Flanc, C., Kakkar, V. V., and Clarke, M. B., *British Journal of Surgery*, 1968, 55, 742.
- 2 Rosenthal, L., and Greyson, N., *Radiology*, 1970, 94, 413.

Epidemic Keratoconjunctivitis

SIR,—Mr. J. C. D. Hart and others (23 October, p. 229) suggest the use of a disposable rubber sheath for tonometry in cases of epidemic keratoconjunctivitis. In the case of Schiötz's tonometer I suppose that readings could be taken in such a way, though their reliability would seem to be open to question. However, I have always sterilized the Schiötz's instrument before use by holding the footplate in the flame of a spirit lamp for about five seconds, and I am assured by my bacteriologist friends that this will effectively destroy the adenovirus and any other infective agents.

The applanation tonometer presents a more difficult problem. I cannot imagine that it could be used through any rubber membrane, however fine, and the applanator will not withstand flame sterilization, while soaking in antiseptic solutions is an unreliable method of removing virus contamination. Applanation tonometers and the various diagnostic contact lenses are now in regular use in eye clinics, and the usual methods of cleaning these instruments scarcely deserve the name of sterilization. I am sure that many ophthalmologists must feel uneasy about this problem, and would welcome guidance on it.—I am, etc.,

IAN W. PAYNE

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Obesity and Smoking Habits

SIR,—Dr. G. Pincherle (30 October, p. 298) has called for details of obesity and smoking habits by social class. The following data were analysed at the preparatory stage of reports on dietary sugar, smoking, and obesity,¹⁻³ but were not published in detail. The figures are not directly comparable with those of Dr. Pincherle or those of Dr. T. Khosla and Professor C. R. Lowe (2 October, p. 10) since they show weight gain in men (aged between 40 and 54 at the time of the survey) since the age of 25. One might well expect that weight gain over this span of between 15 and 29 years would show the effect, if any, of social class. The figures show that current cigarette smokers (most of whom have smoked for over 20 years) have gained less, on average, than exsmokers, those currently smoking pipes and cigars only, and those who have never smoked. This is in line with the findings of Dr. Khosla and Professor Lowe and of Keys *et al.*,⁴ though Dr. Pincherle might well think that the variations between the smoking categories in this present series do not show the "considerable differences" demonstrated by Dr. Khosla and Professor Lowe. When the means for weight gain are standardized for social class it is clear from the Table that social class had little effect in this sample on smoking habits and obesity.

Mean Weight Gain by Smoking Habits in Males Aged 40-54 Years

	Smoking Habits					Total
	Never smoked	Ex-smokers	Cigars/pipe only	Cigarettes Less than 20 daily	20 or more daily	
Number of men ..	34	287	184	412	203	1121
Mean weight gain (lb) ..	17.7	17.2	18.8	14.1	16.2	16.3
Mean weight gain after social class standardization ..	17.8	17.8	18.9	14.0	16.0	16.3

The data on which this Table is based confirm the findings of an earlier study⁵ in which male manual workers (lower social classes) were heavier at all heights and ages than non-manual workers (higher social classes). Weight gain and social class are related in these present data when smoking habits are disregarded. Weight gain was lowest in those smoking 1-19 cigarettes a day; both Dr. Pincherle and Dr. Khosla and Professor Lowe found that this class of smoker had the lowest incidence of overweight.

This analysis was prepared during the course of employment with the U.K. Atomic Energy Authority.—I am, etc.,

R. W. HOWELL

Tilhurst, Reading, Berks

- 1 Bennett, A. E., Doll, R., and Howell, R. W., *Lancet*, 1970, 1, 1011.
- 2 Howell, R. W., and Wilson, D. G., *British Medical Journal*, 1969, 3, 145.
- 3 Howell, R. W., and Wilson, D. G., *British Medical Journal*, 1969, 4, 559.
- 4 Keys, A., *et al.*, *Acta Medica Scandinavica*, 1966, Suppl. 460.
- 5 Howell, R. W., *Transactions of the Association of Industrial Medical Officers*, 1965, 15, 25.

Cot Deaths

SIR,—With reference to your leading article on "Cot Deaths" (30 October, p. 250) I propose, as a hypothesis to be tested, that non-traumatic atlanto-axial dislocation which occurs in children in association with throat infection is the cause of some of the cot

deaths. Non-traumatic atlanto-axial and also occipito-atlanto-axial dislocation in children following sometimes trivial throat infection have been described by many authors since 1875.¹ In children such dislocation manifests itself as a form of torticollis.

In the infant the consequence of dislocation may be instant death owing to pressure on the spinal cord; spontaneous reduction may occur without damage to the cord. Reduction of the dislocation may occur even after death. In the adult dislocation of the atlas occurs only as a result of severe trauma and is associated with fracture of the odontoid process.

The anatomical features of the atlanto-axial joints of the infant differ greatly from those of adults or of older children and the different anatomical features in each age group explain the different sequence of events. In the adult the articular facets are large, concave, inclined, and divergent. They form a cup for the reception of the condyle; this and strong ligaments prevent dislocation. In the infant the articular facets are flat, there is no inclination of the facets, and the condyles are small. Therefore dislocation occurs more easily than in adults. In infants variants of the anatomy of the atlas in association with its development are known to occur. Some variants may be more liable to dislocation than others. Such variants may be similar in brothers and sisters and this

similarity of the anatomy may explain that more than one cot death occurred in some families. Genetical factors appear to be implicated.

Coutts² brought forward the theory that the atlanto-axial joints, also the transverse ligament, are affected by inflammatory processes of the throat and of the neck and he supported his view by description of the lymph channels which connect the lymph nodes of the neck with the atlanto-axial joints.

Atlanto-axial dislocation in the infant may cause instant death due to damage of the spinal cord; this is more likely to occur during sleep when muscles are relaxed and reflexes fail or cause harmful spasm. In such event the cause of death will be difficult to detect unless suspected causes are looked for. Dislocation of the atlas may be reduced by movement of the head even after death and therefore the head and neck should be well supported especially during transport.

I suggest that following examinations should be carried out in sudden infant death in addition to those that are done at present. External examination; the tip of the transverse process should be located by palpation. Normally this tip can be felt just in front of the mastoid process. In occipito-atlanto-axial dislocation, which is probably very rare, the tip can be felt behind the mastoid. In atlanto-axial dislocation, however, the tip will be in front of the mastoid. The posterior surface of the oropharynx should be examined by inspection and by palpation; x-ray examination of the atlanto-axial region: lateral and

anteroposterior view and submentovertical view. Postmortem examination and procedure to be designed and developed for this particular region and for this purpose.

One may hope that the individual and corporate effort which may be expended testing and perhaps developing my proposition will yield knowledge that will lead to preventive measures eventually if not directly. Co-ordination of efforts with workers in the field of the sudden infant death syndrome will be sought.—I am, etc.,

O. ENGLANDER

Stoneygate,
Leicester

¹ Englander, O., *British Journal of Radiology*, 1942, 15, 341.

² Coutts, M. B., *Archives of Surgery*, 1934, 29, 297.

Anaesthesia for Cardioversion

SIR,—We read with interest the paper by Professor K. Somers and others (2 October, p. 13) on intravenous diazepam for cardioversion and the subsequent letter by Drs. S. M. Lyons and R. S. J. Clarke (23 October, p. 228). Our experience has been similar to that of Professor Somers and others. We have studied 10 patients undergoing diagnostic cardiac catheterization for evaluation of a variety of acquired cardiac lesions. The patients were unpremedicated and fasting prior to the procedure. Intravenous diazepam (0.1 mg/kg) was administered via a catheter in the pulmonary artery and recordings of arterial pressure made via an indwelling aortic catheter 10 and 20 minutes later. In addition, cardiac output, and right ventricular dP/dT were also measured. None of these parameters showed any significant change from control values during the period of observation.

We feel that the discrepancy between the observations of Professor Somers *et al.* and those of Drs. Lyons and Clarke is probably due to the premedication administered by the latter.—We are, etc.,

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Handicapped Children in Preschool Playgroups

SIR,—It was with great interest that we read the article on "Handicapped Children in Preschool Playgroups" by Dr. Elizabeth Grantham (6 November, p. 346). As part of the paediatric team in this hospital we have facilities for detailed developmental assessment and also a remedial playgroup. A regimen is specially designed for each child depending on his handicap. This is carried out under the supervision of the physiotherapists and occupational therapists in the remedial playgroup.

All that Dr. Grantham says has been borne out by our experience and we feel very strongly that to obtain the maximum benefit from admission to outside playgroups this specialized tuition is essential. In this way we have overcome many of the problems mentioned in her article. When parent and child have been taught the exercises and special stimulation needed for the specific handicap we then manage to place many of our children in outside playgroups and we are able to pass on detailed information on

the specific needs of each child. This ensures correct stimulation and understanding of the child by the outside playgroup, who will know where to seek further help if additional problems arise.—I am, etc.,

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Poole, Dorset

Breast-milk Jaundice and Oral Contraceptives

SIR,—The article by Dr. Y. K. Wong and Dr. B. S. B. Wood on "Breast-milk Jaundice and Oral Contraceptives" (13 November, p. 403) is thought-provoking and further study is clearly required. However, is the title not misleading? A study was made of only breast-fed infants. They were classified on a basis of whether the mother had been on the "pill" or not. If the authors had also studied infants who were not breast-fed we might have some idea as to whether breastfeeding was a contributory factor, perhaps an essential requirement. The design of the study leaves us ignorant on this point. It is hoped that the authors will extend their work to answer this important question.—I am, etc.,

G. H. LATHE

School of Medicine,
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Thiopropazate Hydrochloride in Persistent Dyskinesia

SIR,—We would like to add the following addenda to our paper (2 October, p. 22) in which we reported that thiopropazate (Dartalan) was significantly more effective than a placebo in relieving dyskinesia in patients with functional psychosis and persistent dyskinesia associated with prolonged phenothiazine therapy:

ADDENDUM I: Thiopropazate was also found to be more effective than a placebo in relieving dyskinesia in 15 patients with organic psychosis. The differences were statistically significant in all three rating scales for dyskinesia. The trial was double-blind with cross-over as already described. These patients were, in fact, inadvertently included in the original trial.

Diagnostic Categories

Presenile and senile dementias ...	7
General paralysis of insane ...	3
Psychosis associated with epilepsy ...	2
Psychosis associated with brain tremor ...	2
Cerebral arteriosclerosis ...	1
Total	15

ADDENDUM II: Perphenazine (Trilafon), a piperazine derivative of phenothiazine, in a dose of 8 mg three times daily was found to be effective in relieving dyskinesia in 14 patients with functional psychosis and prolonged phenothiazine intake. Pretrial and post-trial scores at the end of three weeks were significantly different in all three scales. The trial, however, was not blind.

Perphenazine was selected for evaluation because this is probably the active substance in the organism when thiopropazate is administered (the thiopropazate being broken up into perphenazine and acetic acid).—We are, etc.,

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Hong Kong Psychiatric Centre,
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Seat-belt Fasteners

SIR,—In reply to Dr. C. W. A. Emery (13 November, p. 430) may I point out that for some years past seat belts have been compulsory front-seat fittings in all cars registered since 1 January 1965?

All seat belts must comply with laid-down British Standards, and new standards defined last month will make them even more comfortable to wear and, to an extent, safer. As each belt manufacturer uses his own design there is at present a wide variety of buckles, but the problem posed for an unfamiliar would-be rescuer in an emergency is more apparent than real, as most are clearly labelled with their *modus operandi*, "Lift," "Press," etc.

Under legislation put before Parliament in July last cars registered after 1 April 1973 will have to be fitted with "one-handed-action" seat belts which must be able to be put on and fastened in one singlehanded movement and similarly unclipped and stowed again after use. When stowed they must leave the floor uncluttered. This requirement will virtually eliminate the short centre-mounted strap which tends to get lost under the seat. Britax pioneered the singlehanded British belt with their "Twin-Lock," in which the buckle tongue slots into a centrally fixed box, to be released by pressure upon a clearly labelled lever. Healthy competition in detail design is good for developmental progress.

Years ago I had the unpleasant experience of finding myself hanging by my Britax lap-and-diagonal belt in an overturned car. I can reassure Dr. Emery that I had no trouble at all in instantly unclipping the buckle to emerge without a scratch. Unbelted, I feel I would have been quite seriously injured in that accident. The essential thing is for us to get into the habit of always using the ever-better belts available, lest under pressure we are forced to buy passive restraint systems which may give poorer protection but will inevitably cost a lot more.—I am, etc.,

KEITH E. JOLLES

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Casualties

SIR,—We take the point raised by Mr. W. H. Rutherford (13 November, p. 427) about our use of the adjective "casual" in our paper (23 October, p. 214). While nobody who read our report could be in any doubt about our definition of the word, we accept that "non-referred" is a preferable alternative which is less likely to be misinterpreted.

We are less happy about the implication in Mr. Rutherford's letter that we advocated minor accident departments in health centres which would be run entirely by nurses. We did point out the need for appropriate safeguards, and for the availability at all times of medical advice and skill. Given these conditions, we think that experienced nurses are well able to undertake a certain amount of primary and follow-up care, as indeed they are doing in clinics, health centres, group practices, and, probably, accident departments up and down the country. We believe that accident department staffs, members of the primary care team, and patients will all benefit if more non-referred sufferers from minor accidents