themselves to logical interpretation. Rather they perpetuate the need for empirical rules in interpretation.

The electrocardiogram is recorded in two planes, the frontal and transverse. The frontal plane includes the six limb leads. There is disagreement about precise reference of these leads to the heart. Earlier hexaxial reference systems were based on an absolute acceptance of Einthoven's theories. It is now thought that these theories may not be accurate, and a corrected reference system has been introduced.⁵ Whatever the theoretical considerations, in practice these six limb leads may be represented as viewing the heart from a series of approximate positions in the frontal plane. Uhley and Rosenblum⁴ consider that it would be logical to display the limb leads in the order aVR, aVL, I, II, aVF, III.

The chest leads describe an arc in the transverse plane. The two planes coincide in the area of V₆, so that V₆ could also be included with the frontal plane leads. V₆ is usually intermediate in pattern between leads I and II, as would be expected from their points of reference. Thus the two planes may be combined in displaying the electrocardiogram (see Fig.). When mounted in this way there is a gradual change of pattern from aVR, through aVL, I, V₆, II, aVF, to III, and similarly from VI-6. The electrical axis can be read at a glance. Ischaemic changes will be grouped together, so that, for example, a lateral infarction would give rise to abnormal tracings in leads mounted along the right-hand side of the paper.

Aminocaproic Acid and "Proteinuria"

SIR,—Your Today's Drugs article on aminocaproic acid (Epsikapron) (23 December, p. 725) indicates that this drug is being increasingly used in treating haemorrhagic states. Our own experience has been chiefly in the control of haemorrhage following dental extractions in patients with haemophilia.¹

This presentation may simplify interpretation.—I am, etc.,

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Swallowed Dental Reamer

SIR,—The letter by Mr. R. A. D. Booth and others (11 November, p. 356) about an ex-dental nurse who swallowed a dental reamer prompts me to record an interesting case we had recently in Kabale Government Hospital.

The patient was an African male in his early thirties and he complained of pain in his right loin. On examination he had a very large swelling which I thought was a right perinephric abscess. On incision, in addition to the expected pint of pus, we also found a 5-inch (12.5 cm.) nail identical to the ones sold in the local shops, except that it had no head.

When we presented the nail to the patient he rather sheepishly admitted that three months previously, when in gaol at Kilembe, he had swallowed it in a suicide attempt and had since had a lot of abdominal pains. I am happy to record that the patient made a good recovery.—I am, etc.,

Kabale Hospital,
Uganda.

G. D. VINDEN.

Poisoning by Oil of Wintergreen

SIR,—Recent experience has led me to believe that the composition of oil of wintergreen is not fully appreciated by profession and public alike. It must only rarely be prescribed nowadays, but it is still freely available at any chemist at a cost of 2s. 6d. for a 4-oz. (120 ml.) bottle. The substance wintergreen is an extract from wintergreen leaves, and as such is a liquid. It consists of pure methyl salicylate, and was at one time used orally in the treatment of rheumatic fever. Pure methyl salicylate is still sold as wintergreen, but since it is now used only as a liniment the label instructs one to dilute it 1 in 4 with vegetable oil. Oil of wintergreen is the 25% by volume dilution already prepared, and its *British National Formulary* description is methyl salicylate liniment, B.P.C. Its efficacy as a liniment is due to the local analgesic effect of the methyl salicylate, which is also responsible for its characteristic odour.

Children in the toddler age group will swallow almost anything they should not, and the pungent smell of wintergreen is likely to attract them. There are now many cases on record—mostly from the United States of America—of fatal poisoning in children from the accidental ingestion of wintergreen. Even a quarter of the 4-oz. bottle of oil of wintergreen will contain the equivalent of 90 gr. (6 g.) of aspirin, a lethal dose for any small child. A teaspoonful of pure wintergreen is approximately the same as 60 gr. (4 g.) of aspirin. Yet the label on the bottle, at most, says "Not to be taken." The accidental ingestion of all forms of salicylate by small children is still far too common. When advising parents about this we should include reference to wintergreen as one of those substances which should be kept well out of children's reach—preferably by not having them in the house at all.—I am, etc.,

R. R. GORDON.

The Children's Hospital,
Sheffield.

Reaction of Albustix to Urine Containing Varying Levels of Aminocaproic Acid

Subject	pH	50 mg./ml.	25 mg./ml.	20 mg./ml.	15 mg./ml.	10 mg./ml.	0 mg./ml.
1	6.5	++-	+	Trace	Trace	Trace	-
2	7.0	+++	+	-	-	-	-
3	6.0	+++	+	+	-	-	-
4	6.0	+++	+	Trace	Trace	Trace	Trace*
5	6.0	+++	+	„	-	-	-

* Negative to sulphosalicylic acid.

McNicol and others¹ have demonstrated that aminocaproic acid is excreted almost entirely through the kidneys, and that urine concentrations of up to 25 mg./ml. are found during normal therapeutic dosage with unrestricted fluid intake. Neither they nor subsequent authors describing its clinical use have drawn attention to the confusion which may arise if Albustix is used for routine urine testing when therapy is in progress.

Our attention was drawn to this when a haemophilic boy, in hospital for dental extractions, was unexpectedly reported as having heavy proteinuria. The urine had been tested, using Albustix. It was possible to resolve quickly the problem by showing that no precipitate formed on boiling the urine, nor when sulphosalicylic acid was added. A number of similar false-positive reactions from Albustix have subsequently

been found when aminocaproic acid therapy is in progress. As many patients receiving aminocaproic acid are likely to have routine urinalysis, it is clearly important to recognize this artifact.

Further investigations by the manufacturers, Kabi Pharmaceuticals, have shown

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Surgery for Intracranial Tumours

SIR,—We read with interest your leading article on "Surgical Treatment of Intracranial Tumours" (2 March, p. 531), but we were disappointed to see very little mention about the role of surgery in the management of metastatic intracerebral tumours. This prompts us to report one of our cases who just left hospital a fortnight ago and is doing quite well.

A 50-year-old man, a farmer by profession, with a young family, was first admitted in December 1966 with jaundice and melaena, and subsequently found to have carcinoma of the ampulla of Vater. This was removed surgically in March 1967. Following his operation he made a satisfactory recovery and was gaining weight until his recent admission to this hospital on 5 February 1968, when he presented with headache, vomiting, and weakness in the right arm. On examination the striking finding was a left homonymous hemianopia and sensory inattention on the left half of his body. He had difficulty in recognizing objects put in his left hand, but there was no obvious motor abnormality. Lumbar puncture was done and showed an increased protein in the cerebrospinal fluid. He was transferred to the neurosurgical unit, Aberdeen, where he was operated upon on 14 February. A circumscribed tumour in the occi-

pital lobe was removed and the histology of this showed that it was a moderately differentiated adenocarcinoma, possibly related to his previous carcinoma of the ampulla of Vater. He made an uneventful recovery. During the next few days he made remarkable improvement except for his persistent left homonymous hemianopia, and he was allowed home on 28 February. Since then he has been followed by one of our colleagues in the outpatient department, and he is remarkably well and symptom-free.

Thus we feel surgery has a place in the management of metastatic cerebral lesions in spite of its grim prognosis. This is apparent from this case.

We thank Dr. J. A. Tulloch for permission to publish this case.

—We are, etc.,

Medical Unit,
Stracathro Hospital,
Brechin, Angus.

C. DE VOIL.
S. N. SINHA.

Fluphenazine Enanthate in the Maintenance Treatment of Schizophrenia

SIR,—Since the publication of Dr. N. S. Capstick's report from Graylingwell (20 January, p. 181) I have reviewed the patients treated with fluphenazine enanthate at St. Cadoc's Hospital since the introduction of the drug in February 1966. A total of 150 patients have been treated, and 100 of these have had the drug for longer than six months. A breakdown of length of treatment in these 100 patients is as follows:

Length of Treatment	No. of Patients
More than 18 months	21
12 to 18 months	27
9 " 12 "	33
6 " 9 "	19

This group is unselected, and apart from seven patients diagnosed as acute schizophrenia with relapse in the first year of illness and one patient unsatisfactorily diagnosed as pseudo-psychosis, all are chronic schizophrenics. No patient had oral fluphenazine prior to the enanthate, and the dosage of the latter varied from 0.5 ml. monthly to 1 ml. weekly, although all commenced therapy with 1 ml. fortnightly. Anti-Parkinsonian drugs have been used routinely throughout the treatment.

Like that at Graylingwell the St. Cadoc's study has been to assess side-effects associated with long-term treatment with fluphenazine enanthate, although naturally clinical assessment of the patients' state has also been made. This has revealed the following: complete control of symptoms, 62; improved but not asymptomatic, 17; no change, 21.

In 14 patients discharged for a year or more, time spent in hospital during the five years before their treatment with fluphenazine enanthate totalled 176 months. In the year following discharge they have spent a total of only five months in hospital, accounted for by the readmission of three patients, two of them for social reasons and one for relapse after his family doctor had stopped his fluphenazine enanthate. All have since been discharged. Generally, side-effects have not proved too troublesome, and

in only four instances was the drug withdrawn on this account. I have, however, recorded the onset of side-effects after months of treatment, and the following Table is taken from a paper already prepared for publication.

Type of Side-effect	Variation in Time of Onset	Average
Dystonia ..	3 days to 8 months	2.7 months
Akathisia ..	1 week to 8 "	4.6 "
Akinesia ..	5 months to 6 months	5.3 "
Oral dyskinesia	2 " " 13 "	6.9 "
Parkinsonism	10 days to 13 "	2.6 "
Oro-pharyngeal spasm ..	2 weeks (1 case only)	

This would appear to be at variance with the experience of other psychiatrists who have used the drug.¹

A further point I should like to discuss is the statement made by Dr. Capstick when disposing of the argument that depot phenothiazines are of little gain when oral anti-Parkinsonian drugs are required concomitantly. He states, "This is not a valid argument in so far as there is an incentive to take anti-Parkinsonian drugs as a relief from side-effects. . . ." I have previously written similarly,² but now realize that this applies entirely only to my patients who had dystonic reactions (6) and akinesia (3). In this series 50% of patients with akathisia or Parkinsonism, and none of the few patients with oral dyskinesia or oropharyngeal spasm, were aware of their symptoms. The necessity for regular follow-up, therefore, is obvious, more so as these reactions are all potentially reversible.

The overall incidence of side-effects in this series was 41%. Complete control was obtained in 61% of all side-effects by varying the dosage of fluphenazine enanthate and anti-Parkinsonian drugs. As previously stated, in only four patients having a total of eight side-effects (17%) between them was it considered necessary to stop the drug. The remaining side-effects were controlled to a sufficient degree to warrant continuing it. These figures compare favourably with those quoted by Ayd³ for oral phenothiazines. He found 60% of patients treated with trifluoperazine; 52% of those treated with fluphenazine and 43% treated with prochlorperazine developed extrapyramidal reactions.

I agree wholeheartedly with Dr. Capstick's view that intramuscular fluphenazine is a safe treatment and I consider it to be the treatment of choice in schizophrenic patients with a chronic relapsing illness.—I am, etc.,

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- 2 Lowther, J., *Brit. J. Psychiat.*, 1967, 113, 557.
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Terrible Tautologies

SIR,—The use of such terrible tautologies as "traumatic injury" and "cervical collar" in your article on pain in the neck (2 March, p. 563), "prepared with the help of expert

contributors," may itself precipitate this symptom in susceptible subjects—though the experts are probably surprised at more than a "facial grimace."—I am, etc.,

London W.1.

ERIC C. O. JEWESBURY.

Personal View

SIR,—Let us hope you take Sir Derrick Dunlop's advice (2 March, p. 573) to heart. "Personal View" is an offence to the lively mind. Somewhere in your instructions to authors the words "bland, literary, uncontroversial" must have had a prominent place, and so there has emerged a series of pieces which might have been written by a computer. Doctors trying to be essayists have an alarmingly uniform style compounded of equal parts of Hazlitt, De Quincey, and the Sunday supplement columnist. There are the compulsory quotes (proof of a good English education), name-dropping references to the inevitably outstanding teacher, a style so smooth that it slips past without leaving a mark or making a point (except Sir Derrick's, of course).

If you have selected your authors because they have persuasive pens or penetrating minds command them to lead us somewhere. Who will make a gallant charge against the computer windmills, which spin so merrily in every pseudo-scientific breeze? Who will tilt a little at the peripatetic professors who are more easy to find in Tasmania or Peru than in their own departments? What honourable man, who cannot be deterred since he already has his large merit award and fellowship of the Royal College, will say some of the things that need to be said about some of the less desirable aspects of merit awards, such as the stifling effect not having one has on the nonconformist mind? Can no one be found who will write honestly about why doctors emigrate, or deplore abuses of part-time contracts, and full-time ones too?

Are all your authors members of the medical establishment whose marching song is "We shall not be moved"? Send them new instructions: "Write honestly about something that bothers you, and forget about style."—I am, etc.,

W. C. WATSON.

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SIR,—Having enjoyed the great privilege of attending Sir Derrick Dunlop's John Snow Lecture in Edinburgh in 1965, I would like to state publicly my desire to develop just that same variety of cerebral arteriosclerosis which Sir Derrick says afflicts him (2 March, p. 573). Only let it start soon, so that I too may hold an audience enthralled for an hour—with notes on a matchbox, and the occasional pause for a word, which invariably turns out to be the perfect choice. Let it start soon, before I am too old to appreciate my arteriosclerotic gifts; and if the affliction does not bring with it comparable gifts, perhaps it will at least endow me with some small part of the humility.—I am, etc.,

Chislehurst, Kent. MICHAEL P. COPLANS.