In late 1963 I started to use prilocaine only for all kinds of local analgesic techniques at the county hospital in Växjö, Sweden. Like many others I soon discovered that it was necessary to increase its concentration to 3% for satisfactory caudal and other forms of epidural analgesia comparable to that after 2% mepivacaine (carbocaine) and 2% lignocaine. Indeed, after I learned that the curious cyanosis noted at least twice by me represented the invariable methaemoglobinemia accompanying the use of prilocaine¹ I used only mepivacaine during the last months before coming to this country.

I have available an impressive list of publications supporting my present conviction that mepivacaine is the best available local analgesic. It is worth noting that already eight years ago it was found that "under the (dental) conditions described carbocaine gave 82.8% and lignocaine 48.3% of successful anaesthesias."² Most important of all, the use of mepivacaine allows the omission of adrenaline, and this avoids the high mass-volume-time action by which adrenaline permits a 1% or 2% local-analgesic concentration to act, in reality, as a 6% or even higher concentration.³ The grand old man of local analgesia, Professor Hans Killian, is deservedly respected in central Europe for his opinion that most of the unpleasant effects of local analgesics are in fact due to the added adrenaline.—I am, etc.,

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Alcohol and Road Accidents

SIR,—When one considers the implications of the article by Dr. B. R. Hopkinson and Mr. G. M. Widdowson (19 December, p. 1569), and also of your leading article on this subject (p. 1546), one cannot fail to observe how unsatisfactory the position is from the point of view of the public at large.

What the individual would like to know is what happens to the alcohol he imbibes. A youngster of 17, taking half a pint of a good beer, may easily have his driving ability markedly impaired if he is unused to it, particularly on an empty stomach. At the other end of the scale we all know the man, not necessarily a habitual toper, who can drink all the evening and still remain apparently *compos mentis* with no sign at all that his higher centres are in any way affected. This problem goes far beyond the question of drivers involved in accidents who are found to have more than 50 mg. of alcohol per 100 ml. of blood as a result of taking x number of drinks.

What many of us would like to know is what happens to any alcohol we may consume in terms of rate and extent of absorption into the blood-stream, and duration of the effect, especially in relation to the blood-alcohol figure.

The case of the man who can take a lot without apparently being mentally or physically affected is particularly interesting. Does he fail to absorb the alcohol, has his

body learned to metabolize it very rapidly, does he excrete most of it quickly, or has his central nervous system learned to tolerate it? I feel that there is room for much research, not just on the driver who has drunk and crashed, when shock can well alter many findings, but in the calm of a room near the laboratory, where all tests can be made.

I would like there to be an institution where, on payment of a fee, a man could go and have his mental and physical reactions to " x " amount of alcohol assessed. If he knows the answers, but became involved in a blameless accident, he might well demand that his blood-alcohol, urine, and breath content be determined, instead of dreading the procedure. We should study the normal subject more deeply.—I am, etc.,

Broadbridge Heath,
Sussex.

GUY BOUSFIELD.

SIR,—In the matter of drinking and driving there is one important point that has not been, in my opinion, sufficiently stressed. It is known that the first faculty to be affected in intoxication is that of judgment, before there is evident any affect of speech, balance, logic, or ability to control the mechanics of a car. Yet in the most dangerous operation on the road, that of passing another vehicle, this is perhaps the most important function of all. The danger is further increased in the dark, and it is at this time that most drinking and driving are done.

As impairment of judgment is not detectable or assessable on the road, it would appear evident that the only sound method of assessment of the potential for accident of the drinking driver—indeed of any driver involved in accident—is by examination of alcoholic concentration in the body. In my view there will be no marked improvement in road safety until this examination is automatically employed, with a low critical level as standard.—I am, etc.,

New Milton, Hants.

J. CRAWFORD.

Rule of Three

SIR,—This notion that it is safe to drive after only three drinks may be a useful rough-and-ready guide as far as the law is concerned, but let us hope that the general public do not take it too literally. The ghastly carnage of the roads that we now seem to take almost for granted has only one important cause, and that is sheer careless driving. The careful driver never has accidents, no matter whether he has had no drinks, three drinks, six drinks, or even more.

Why? Because he knows the limits of safety appropriate to his particular condition. As Sir Edward Wayne sensibly remarks (12 December, p. 1528), "It is unrealistic to believe that everyone who drives will take no alcohol at all." It is also unrealistic to believe that one can lay down an arbitrary limit to the safe number of drinks permitted—human nature and behaviour being so variable and unpredictable.

What one can say quite definitely, and one cannot say it too often, is that even one drink may make the bad driver into a dangerous one. Surely what we want to emphasize, if we want to be realistic as apart from idealistic, is that after drinking the sensible driver must drive more carefully and more

slowly—adjusting his cautiousness to the number of drinks he has consumed.

The cautious driver who restricts his speed to, say, 40 m.p.h. after several drinks is probably far safer than the road-hog who insists on speeding at 60 after only one or two. I think a far more realistic approach would be some such slogan as, "Cut your speed down by 5 m.p.h. for every drink you have had in the past two hours." This I feel sure would appeal to the better nature and common sense of the average driver, who prefers to be treated as a responsible adult rather than a naughty child.

I have been appalled by the bad standard of driving of many of the visitors here in the summer, and the idiotic risks taken by many of them—often with tragic results. The accidents we see in this area are always due to careless driving, but rarely caused by alcohol.

I feel, therefore, we must keep a strict sense of proportion in this matter of alcohol, important though it undoubtedly is. Why so many decent law-abiding citizens behave like maniacs behind the steering-wheel of a car is an unsolved mystery, and I am afraid that well-meant admonitions about the role of alcohol are only dealing with one small aspect of this Herculean problem.—I am, etc.,

Penrhyndeudraeth, CLAUD C. M. WATSON.
Merioneth.

Complications of Oral Contraception

SIR,—In view of recent correspondence in your columns and your leading articles, "The Pill and Thrombosis" (31 October, p. 1089) and "Oral Contraceptives and Blood Coagulability" (26 January 1963, p. 207), I feel that the following case may be of interest to your readers:

The patient, a 32-year-old woman, was suddenly taken ill and died. The history was obtained from her husband, who told us that she had had acute cholangitis about seven years ago, with sporadic episodes of gall-stone colic later. She had also suffered from attacks of asthma. She had had two normal pregnancies, and two abortions on social grounds between the pregnancies. Five months before her death she started taking an oral contraceptive (Anovlar, norethisterone acetate and ethyl oestradiol), at the usual dosage of one tablet daily for 20 days followed by five days without. After the second course the dosage was reduced by half, as she was troubled by irregular bleeding. At about this time she started to complain of dyspnoea. Two months before her death she woke up one night with chest pain radiating to the left arm and neck and severe dyspnoea. She recovered after a few days in bed. She had a similar though milder attack two weeks later. On the morning of her death she collapsed with similar symptoms and died before medical help arrived.

Post-mortem examination showed that pathological changes, apart from terminal acute venous congestion of all organs, were confined to the heart, lungs, liver, and gall-bladder. The heart was dilated and large areas of the myocardium, particularly the posterior wall of the left ventricle, were of mottled yellow colour—i.e., the picture was one of infarction. However, the main coronary arteries showed no arteriosclerotic changes and no gross obstruction was found. Microscopically the smaller branches of the coronary arteries were plugged with thrombi at all stages of development—from fully organized and recanalized to fresh. These arteries showed no sign of a primary vascular lesion. Corresponding myocardial changes—from relatively young fibrous tissue with lymphocyte infiltration

to necrosis with granulocyte infiltration—were found. The lungs showed chronic venous congestion in addition to the acute congestion. There were stones in the gall-bladder and microscopy showed chronic cholangitis.

In view of the changes these oral contraceptives may cause in the blood coagulation mechanism,¹ and in particular in view of the study in which similar drugs were found to cause thrombi in the hearts of hamsters,² these findings tempt one to postulate that this case may be an example of thrombosis of similar aetiology. The dosage in this case was low, but she was obviously intolerant, as she developed side-effects. Could it be that detoxication of the drugs had been hindered by her liver disease?

It now appears to be accepted that venous thrombosis with subsequent embolic complications may be expected in women on these drugs³ (in, as Tyler⁴ puts it, a state of pseudo-pregnancy), but that the danger is probably no greater than that in pregnancy. However, the present case, and possibly Zilkha's⁵ cases also, indicate that the possibility of arterial thrombosis may also exist. No conclusions can be drawn from single cases, but it is suggested that we should continue to be on the look-out for similar cases, and above all be aware of the possible dangers of oral contraception.—I am, etc.,

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Cervical Cytology in General Practice

SIR,—I am prompted by the letter from Dr. Geoffrey C. Rivett (12 December, p. 1531) to give my views on cytodiagnosis and its application to general practice. It has been conclusively shown by the work done in British Columbia and in this country that selective screening is not the answer to the prevention of cervical carcinoma. In other words, it means comprehensive screening or the general practitioners taking smears from every parous patient on their lists from the age group of 25 to 60. The cytologists hope that this would almost eliminate carcinoma of the cervix by 1980.

The practitioners have only to multiply the number of female patients (ages 25 to 60) by the time it takes the women to undress and re-dress to realize the time factor involved. Added to this must be the time taken to complete laboratory forms and dispatch of the slides to the cytological laboratory.

In my opinion, any general practitioner who commences this work without a concrete contract, either from the National Health Service outwith the Pool, or by private arrangement with the patient, for payment for this service, to put it mildly, should seek psychiatric advice. The day for altruism in both the hospital service and general practice is nearly over.—I am, etc.,

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Intravenous Plastic Catheters

SIR,—In our experience with intravenous plastic catheters inserted through a needle we have found that the following precautions are effective in dealing with the dangers mentioned by the secretaries of the three defence societies (19 December, p. 1600).

(1) The needle should be completely withdrawn from the tissues to the end of the catheter against the junction of the catheter and connecting base.

(2) At least one inch (2.5 cm.) of free catheter should be present between the point of the needle and the skin puncture.

(3) The catheter should be taped firmly to the skin by a piece of plaster over the point of entry through the skin.

(4) The needle should also be firmly taped in two places—firstly, across the metal and, secondly, across the plastic wings used for gripping the needle.

(5) The catheter should be replaced completely after three days—at the latest after four days—as we have found that early fractures are present in catheters removed on the fifth and subsequent days.

If the above precautions are followed the likelihood of any fracture occurring in the tissues or in the veins, thus allowing a catheter embolism, is extremely unlikely. Despite almost routine use of these catheters, we have had no complications.—We are, etc.,

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Injuries at Work

SIR,—Your leading article (12 December, p. 1479) on industry and health refers to "the chapter on accident statistics records 204,269 accidents causing loss of working time during 1963," and remarks that greater

success in prevention is imperative. In fact, what the number 204,269 really refers to is the number of injuries which were reported to the Factory Inspectorate and which lost more than three days from work. It takes no account of injuries which resulted in loss of more than three days from work and were not reported (about 40% in 1962), or of the injuries which resulted in loss of one to three days, or of the injuries which occurred but did not, by chance, result in loss of time beyond the day or shift.

What in fact is being recorded is the tip of the iceberg—and in terms which are not only misleading but also tend to minimize the true extent of the problem. This form of approach does not help to produce greater success in prevention. These injuries are not accidental (in the dictionary sense of being "events without apparent cause"), they are caused. Anyone who has investigated the incidents which result in injuries is also aware that in most cases the injury could have been prevented. To continue to talk of accidents with all the connotations and overtones of the unpreventable and the supernatural, when what we really mean is injuries, is to do a disservice to preventive efforts. Just as we cannot deal with an outbreak of typhoid by thinking of it as without apparent cause ("accidental"), or by concentrating on those victims who happen to be brought to our attention and are horizontal in hospital for more than three days ("reported"), but have to look at the vertical cases and at all causative factors, both personal and environmental, and at the mode, place, and time of interaction of these factors, so we are prevented from making progress in an epidemiological approach to the problem of injuries while we use confusing and misleading terms in official reports or in discussions of the subject.—I am, etc.,

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The Solihull Stretcher

SIR,—Steep head-up and head-down tilts are required for many surgical, obstetric, and anaesthetic purposes. To secure the patient against slipping off the table under these conditions straps, foot-rests, and shoulder-rests have been advocated, but the least accident-prone method is the corrugated

rubber mattress described by Dr. C. Langton Hewer in 1953,¹⁻³ which allows tilts up to 45°, using skin friction only to secure the patient.

At Solihull Hospital we use a modification of this mattress, not fixed to the table, consisting of two layers of corrugated rubber