might discourage unhealthy habits, and how rapidly they should legislate for greater road safety. I shall continue to offer whatever help I can whenever I come up with a road accident, cherishing the thought that this is normal for road users and being grateful for a medical and military training which probably enhanced my value to the casualty.

P A LAWRENCE

Oxford

Immersion and drowning in children

SIR,—We read with interest your leading article on this subject (16 July, p 146). We would, however, like to comment on the use of airway rewarming in the management of hypothermia, as, although this may be easily administered at the site of the accident, it has important limitations.

Lloyd, in his original article in 1972,¹ stated that quantities of heat may be delivered in this way amounting to 30% of heat production of a hypothermic patient, but later concluded on theoretical grounds that the absolute heat gain may not be very great. Experiments performed in our laboratory confirm this by showing, for example, that the quantity of heat taken up via the respiratory tract may well be less than 10% of metabolic heat production in the presence of shivering thermogenesis during hypothermia. This is not surprising considering that respiratory heat transfer is limited by the fact that the maximum temperature tolerated at the mouth is 50°C and that the inspired air cannot obviously be greater than 100% humidified. We have observed that even in the presence of moderate hypothermia (core temp 28–29°C) the expired air temperature using the Reviva¹ is well above that of the core, and this, together with expired air being fully saturated, means that the net heat uptake is minimal.

Central rewarming via the airway, therefore, has gross limitations as a rewarming device but may certainly play a part in the prevention of further heat loss from a hypothermic victim by insulating the respiratory tract under such conditions.

C D AULD
J N NORMAN

University Department of
Surgery,
Aberdeen

¹ Lloyd, E L, *et al*, *Scottish Medical Journal*, 1972, 17, 83.

Entry to medicine

SIR,—Like Charlotte Wright (6 August, p 388) I have just completed my first year at medical school. However, I differ from her as, in retrospect, I have enjoyed the past year. I have found the lectures and practicals (with their clinical importance shown where relevant) interesting, although I must admit that evening study of anatomy, physiology, and biochemistry hasn't always been quite as enjoyable, especially as the termly course exams approach. One must, however, appreciate that all this is necessary, and can indeed be very interesting, before one can learn about "caring"—as Miss Wright calls it.

I fully intend to make the most of and indeed thoroughly enjoy the second year of the pre-clinical course before embarking on the clinical work which will occupy the remainder of my career as I believe that before learning

the art of "caring" (or indeed medicine itself) one must be proficient in the basic sciences of medicine—that is, anatomy, physiology, pharmacology, biochemistry, etc. Enjoying and understanding the preclinical course is not only the responsibility of the staff at the medical school but of the medical students themselves.

ANNE-MARIE FEELEY
Medical student

Preston, Lancs

SIR,—It is sad to see Charlotte Wright (6 August, p 388) condemning medical education at Newcastle for being "about everything but caring" and dismissing a knowledge of biochemistry with an air of boredom.

Some hold that biochemistry holds the key to all human disease, while many admit that its study seems laborious and at times tedious. Nevertheless, to omit it from basic training would adversely influence the later management of some of one's patients.

Compassion is a human virtue which the Newcastle curriculum did its best to cultivate in my experience there four years ago. However, compassion without knowledge cannot be in the patient's interest.

B A BELL

National Hospital for Nervous
Diseases,
Queen Square,
London WC1

Pinning down the diagnosis in breast cancer

SIR,—In your leading article (30 July, p 282) you describe the pros and cons of excisional biopsy and needle biopsy in the diagnosis of a mass in the breast, and in general give your support to the needling procedures. Diagnosis by cytology, with its "about 60% accuracy," you virtually (and rightly) dismiss.

You say that "needle biopsy will be increasingly used in the diagnosis of breast disease" and that the various techniques "should centre on reducing error to a minimum." Yet the means of achieving the greatest possible accuracy, some 99.8% by our own figures, are already available in the excisional biopsy which you criticise. You give reasons for rejecting this and for preferring the needling procedures, and these reasons merit scrutiny. With one exception they appear to me either irrelevant or invalid.

The desired object, all are agreed, is confirmation or rejection of the presence of cancer with the greatest degree of accuracy. Excisional biopsy, you say, is "costly of theatre time"—in the circumstances is this really relevant? It "disturbs the routine of busy laboratories"—it is not, I submit, a "disturbance" at all; it is one of the obligations built into the very fabric and function of histopathological diagnosis wherever it is practised. "Putting the pathologist under pressure"—one really wonders, Sir, what your opinion of pathologists is; would you proscribe certain operations because they put the surgeon under pressure? The facility is "far from uniformly available"—if a laboratory is staffed and equipped to report on needle biopsies it will almost certainly be able to provide a frozen-section service; competence in the one technique is scarcely ever divorced from competence in the other. The extent to which an excisional biopsy may "make a definitive

operation technically less easy" I do not know, but I can say that I have never yet heard it mentioned by surgeon colleagues as a factor, significant or insignificant.

The one reason that might justify needling is the one about which, unexpectedly, you have some doubt—namely, lessening the psychological trauma to the patient of recovery from the anaesthetic minus a breast. To even the well-advised patient this must be highly traumatic, and none would minimise the size of the problem. Needle biopsy, you believe, can help a great deal and you illustrate your attitude well when you say that "surgeons in breast clinics are all familiar with the smile of relief from the patient when, convinced she has a rapidly advancing tumour, she is shown the contents of a syringe." To be sure, many patients when "shown the contents of a syringe" will be relieved and many thereafter will have no further trouble, but if this practice is continued the day will surely come when some patient returns with the "cyst" refilled, and this time the "cyst" will be solid. How many patients thus relieved are to be weighed against this one whose diagnosis was missed because the cyst, with carcinoma in its wall, was aspirated and not excised? To many the answer, when a more accurate technique is available, must be "none." At any time one false-positive or one false-negative diagnosis is one too many of either, not one too many per year or one too many per cent but absolutely.

The answer to the problem may lie in the better psychological preparation of the patient for the possibility that mastectomy may immediately follow tylectomy, but it does seem strange that, in cancer diagnosis, a less accurate procedure should be preferred to a greater. In the opinion of some these needling procedures as applied to disease in the breast appear to be verging on the meddlesome.

W WALLACE PARK

University Department of
Pathology,
Ninewells Hospital and Medical
School
Dundee

Which arm squeezes the bag?

SIR,—I have been interested in all kinds of wind instruments for over 50 years, but never before have I seen a right-armed bagpiper (30 July, p 332). Had I been asked, I would have said no such thing existed.

H G MAGILL

Exeter

*.*Dr Magill underestimates the versatility of the Scots.—Ed, *BMJ*.

Photo-onycholysis caused by tetracyclines

SIR,—Dr H J N Bethell's case report (9 July, p 96) prompts me to remark that, notwithstanding his statement that photo-onycholysis "has not been reported from the UK," this drug reaction is well known to British dermatologists, most of whom have probably seen at least one or two cases.

In the exceptional sunshine of last summer I saw it twice due to tetracycline in the low dosage of 250 mg twice daily used for acne. In neither case was it accompanied by significant phototoxicity of the skin. One woman complained of very severe pain under the free ends of the nails at the onset of the attack "like