morale of junior and middle-grade staff a sufficient reward in itself.—I am, etc.,

Department of Anatomy,
University of Cambridge.

J. S. ELKINGTON.

SIR,—My original letter under this heading to the *Oxford Medical School Gazette*¹ has achieved a wider public than I had expected but not than the subject deserves. I would refer interested readers to the original rather than to the letters of those who quote others who purport to quote me. Meanwhile, perhaps you will allow me briefly to state my position.

There are two aspects of this matter—duty to one's patients and education of oneself. Both are dependent upon discipline. This last is unfashionable and in the discard, and nowhere more noticeably so than in the ancient universities. Duty to one's patients turns upon the concept that as a resident one is available to them at all times at a minute's notice. It may be argued that this can be achieved if one lives in suitably placed married quarters in hospital. I doubt, however, if engrossment with purely domestic personal matters can always be laid aside as briskly as when one lives bachelor-style in the mess.

Of far greater importance to my mind is the educational value of living with the job, even when not actively seeing one's own patients. Being around in the mess for the casual discussion of cases and for consultation at resident level—where, for example, a colleague is uncertain what he should do with a patient sent up to the casualty department—these are the stuff whereof the training of a good doctor is made. One cannot receive this sort of education if one is in the married quarters feeding the baby or washing the nappies.

It is easy for an older person to earn the reputation of being *laudator temporis acti*, or even a curmudgeon, but it seems to one such that medicine is coming to be regarded more and more as “a job like any other,” and less and less as a vocation. The economic factor is quoted by some of your younger correspondents. It is quite true that they have never had it so good. But to some of us this does not seem an adequate reason for prematurely assuming marital responsibilities when these must be shared with a job which is quite literally full-time. Rather, it might be thought that one's resident years could be the time when one could save a little capital against the increased cost of family life, or that of higher examinations.

A sense of personal discipline, a feeling of independence which this engenders, and a realization that there are limits to the taxpayer's ability to make life cushy for young doctors may be unfashionable, but they are still reasonable virtues. If people wish to marry young they should not aim to be doctors; they will neglect one or other assignment. I can quote several cases where it was, in fact, the marriage which went to the wall.—I am, etc.,

Oxford.

RONALD MACBETH.

REFERENCE

¹ Macbeth, R. G., *Oxford med. Sch. Gaz.*, 1962, 14, 175.

* An article on married quarters appears at p. 1664.—Ed., *B.M.J.*

Halothane Hazard

SIR,—I read with interest the description by Mr. G. Chamberlain of a further case of liver damage following halothane anaesthesia (June 8, p. 1524), and also your editorial comment in the issue of June 8, p. 1494.

I have now traced in the literature 24 cases of liver damage following halothane administration, with 13 fatalities. In no case is it possible directly to incriminate halothane as the cause, but it must, as you say, now be under a cloud of suspicion as being at least a contributory factor. This drug, almost universally used, is of such real value in anaesthetic practice that the doubts surrounding it must be removed as quickly as possible.

I am at present, in Aberdeen, engaged in a controlled clinical trial to assess among other things the relative hepatotoxic effects of chloroform and halothane in a quantitative fashion. While the trial was not designed primarily to investigate the hepatotoxicity of halothane, it will throw much light on the subject. In view of the importance of clarifying the situation we have undertaken a further, and more extensive and more sensitive, controlled trial, aimed solely at the evaluation of halothane's possible hepatotoxic effects. We trust that the publication of these and perhaps other workers' studies under controlled clinical conditions will resolve the doubts surrounding what is otherwise a most useful anaesthetic agent.—I am, etc.,

Department of Anaesthetics,
Royal Infirmary,
Aberdeen.

D. DRUMMOND HART.

Dangers of Lignocaine

SIR,—I wish to endorse the remarks of Dr. Janet L. Elder and Dr. William G. Smith (May 25, p. 1416) regarding the toxicity of lignocaine. I have been using 2% lignocaine for minor operations in the casualty department for some time without mishap. On the afternoon of May 30, 1963, I attempted the manipulation of a classical Colles's fracture, the patient being an 82-year-old female with a blood-pressure of 210/110 mm. Hg.

She had a systolic murmur at the cardiac apex and scattered rales and rhonchi about the chest. Her central nervous system showed no abnormality. I decided that manipulation under local anaesthetic was suitable. I anaesthetized the skin over the radial and ulnar aspects of the wrist with 1 ml. of 2% lignocaine each side under strict asepsis. After 10 minutes I introduced 9 ml. into the radial fracture site and 7 ml. into the ulnar site. After a further 20 minutes I manipulated the fracture painlessly and successfully. A plaster-of-Paris was applied. The patient suddenly began to behave strangely. She became confused and developed a transient left facial weakness, with twitching of the legs and clonic spasm of the right arm. Her blood-pressure had fallen to 140/100 mm. Hg. She became shocked, pale, almost comatose, and in a further 10 minutes her blood-pressure fell to 120/40. Her pulse was slowed to 60 per minute with occasional dropped beats. She did not improve when the table was tilted to lower the head. I administered oxygen by face mask and an intravenous injection of 12 mg. of methylamphetamine. This was injected slowly over two minutes. There was a dramatic improvement in her condition. She was admitted to a ward immediately, where her blood-pressure was found to have returned to 200/120 mm. Hg, her pulse being 84 per minute. I did not give barbiturates since she had had a “tablet” from her doctor in the morning for pain. During the night she remained slightly confused but remembered all incidents well. She complained of swelling of her gums. For two further days she progressed well and her toxic symptoms resolved. She was then referred to the physicians for treatment of her hypertension.

I was under the impression that the maximum dose of lignocaine was 500 mg. (25 ml. of 2% solution).¹ My

patient had received a total of 18 ml. administered slowly over 30 minutes and did not develop symptoms until a further 20 minutes after the operation was completed. I have manipulated several similar fractures before using the same technique and without mishap. I am certain that at no time was the injection inadvertently injected into a vein but wondered if the anaesthetic was absorbed at the vascular fracture site.

I feel that lignocaine is an excellent anaesthetic, but in the light of my above experience I would like to see a wider advertisement of its toxic effects and a reassessment of the maximum dose.—I am, etc.,

Casualty Department,
The Royal Hospital,
Sheffield.

K. DAWSON-BUTTERWORTH.

REFERENCE

- ¹ *Brit. med. J.*, 1962, 1, 42.

Treatment of Snake-bite Poisoning

SIR,—Dr. R. Vernon Jones (April 13, p. 1017) queries—justifiably in my opinion—the recommendations for the medical treatment of snake-bite mentioned in your annotation (September 8, 1962, p. 661). Recent clinical research in Malaya has established:

(1) Contrary to previously recorded doubts¹ based mainly on experiments in small animals, specific antivenom is dramatically effective in correcting systemic poisoning from bites of sea-snakes² and the Malayan viper, *Ancistrodon rhodostoma*.³ (2) A double-blind controlled trial⁴ fully confirms the effectiveness of specific antivenom in combating systemic poisoning following *A. rhodostoma* viper bites but there is no statistically significant benefit to local poisoning, no matter how soon after the bite the antivenom is given. (3) Only a minority of human victims bitten by potentially lethal poisonous snakes receive sufficient venom to cause systemic poisoning requiring specific antivenom.⁵⁻⁷ (4) This minority can be recognized by clinical observation.^{2,4,7} (5) Specific antivenom can be effective even though not given until hours² or days³ after the bite. (6) Specific antivenom is clinically effective even though it may appear feeble by customary potency tests in small animals.²⁻⁴ (7) In human victims the severity of poisoning is not significantly related to age or weight.^{5,7} (8) In human victims prednisone does not help either local or systemic poisoning.^{4,6} (9) Provided meddling local measures are not employed, bacterial infection *never* occurs, except as a late complication of local necrosis.^{5,7}

From the above facts the following recommendations for the medical treatment of Malayan viper bites have been evolved:

(a) *Only a small minority need antivenom.* Clinical trials have shown specific antivenom is effective in severe poisoning although not given until several hours after the bite. It is therefore desirable to wait for clear clinical evidence of systemic poisoning before giving antivenom.

(b) *No local swelling=no venom injected=no antivenom* (occurs in one-third or more of viper bites): give placebo injection.

(c) *Local swelling but no systemic poisoning=no antivenom* (antivenom does not help or prevent local poisoning): give placebo injection.

(d) *Systemic poisoning present* as shown by haemoptysis (ask patient to cough *hard*, then spit into dish) and/or non-clotting blood (leave 1 ml. in dry test tube 20–30 minutes at ward temperature, then inspect for clot): 2–5 ampoules specific antivenom by intramuscular injection for average case; for severe cases with shock, 5–10 ampoules by slow intravenous drip.

(e) *Specific antivenom procedure*: first inject 0.2 ml. subcutaneously to test serum sensitivity (0.02 ml. if positive allergic history). If reactions occur, desensitization by graded doses would first be needed. Intravenous administration should be by slow drip over half to one hour. Reactions may develop despite negative sensitivity tests but can usually be controlled by adrenaline subcutaneously with or without intravenous antihistamine drugs. Children respond well to smaller doses of antivenom than those required by adults (contrary to previous textbook statements).

(f) *Other measures.* Release tourniquet if applied; leave the bite alone (interference often causes bacterial infection); if lower limb bitten rest on bed; if upper limb bitten, rest in sling (*no* dressing). Antibiotics and prophylactic antitetanus serum are *only* needed if local necrosis develops—*after* it becomes clinically evident. Steroids and antihistamine drugs are *only* needed for serum reactions.

From a study of the literature on *Vipera berus* bites and from personal correspondence with victims of this snake, I think these six recommendations should help clinicians who may have to deal with snake-bite in Britain.—I am, etc.,

General Hospital,
Penang, Malaya.

H. A. REID.

REFERENCES

- ¹ Reid, H. A., *Trans. roy. Soc. trop. Med. Hyg.*, 1956, 50, 517.
- ² ——— *Brit. med. J.*, 1962, 2, 576.
- ³ ——— Chan, K. E., and Thean, P. C., *Lancet*, 1963, 1, 621.
- ⁴ ——— Thean, P. C., and Martin, W. J., *Brit. med. J.*, in press.
- ⁵ ——— *ibid.*, 1963, 1, 992.
- ⁶ ——— *Lancet*, 1961, 2, 399.
- ⁷ ——— Thean, P. C., Chan, K. E., and Baharom, A. R., *ibid.*, 1963, 1, 617.

Hypnosis and Allergy

SIR,—I would like to comment on Dr. S. Black's contention (April 6, p. 925) that the degree of inhibition of allergic skin reactions is related to the depth of hypnotic trance.

The criteria that Dr. Black has selected as indicative of trance depth are highly suspect hypnotic phenomena. Spontaneous amnesia in particular is a false phenomenon, and most recent workers¹⁻³ do not support the view that it is genuine. Barber,⁴ in particular, comments on the artificial nature of it, and one only has to press the amnesic subject sufficiently for him to recall all that has occurred in the trance state. The amnesia is undoubtedly due to the subject's expectations, and if these are altered his memory will immediately return. With regard to the phenomenon of age regression, Barber^{5,6} reviews the claims of Gidro-Frank,⁷ Kupper,⁸ and Ford and Yeager⁹ in the light of more recent work,¹⁰⁻¹² and came to the conclusion that during hypnotic age-regression no patterns of behaviour are revived that could not be performed voluntarily by an appropriately motivated but unhypnotized adult. Any claim that subjects are in "deep trance," using such doubtful and uncertain phenomena as a measure, cannot be seriously upheld.

However, there is no doubt about the validity of the responses in Dr. Black's cases, and if this is so it may be argued that it makes little difference what one calls the subject's psychic state. The importance does lie, however, in the general application of the state, and if, as I believe, the responses occur only in certain pathological circumstances, then they may be very limited in their usefulness; moreover the positive response may have nothing whatsoever to do with hypnosis.