medical schools. The basic fault is the totally illogical and unreasonable salary-system in Nigeria whereby a doctor is paid, *not* by his experience and the volume and nature of work and the conditions—often intolerable and unbelievable—he has to cope with, but by his academic degree-appendages, often luckily obtained with no significant experience to match. It is not uncommon for a doctor marking time on a poor yearly increment to his basic salary, or perhaps stuck for some years on his salary-scale maximum, to come overseas for postgraduate studies, and, if he fortunately gets the desired higher degree, in a year or two to earn about double his previous salary on a better salary scale on returning home to the same job. If he failed to get the degree he would return to his old salary scale, his postgraduate experience just acquired being completely ignored.

Apart from the two teaching hospitals at Ibadan and Lagos, and also Lagos General Hospital and Lagos Island Maternity Hospital, nearly all the other hospitals in the country are very ill-equipped—many without a simple functioning laboratory for routine investigations or for a simple, basic, reliable full blood count. Worse still, nearly all are chronically short of essential drugs; the nursing staff are hopelessly inadequate in number, and technicians (both laboratory and x-ray) exceedingly scanty.

The result of all this is that many of the “specialists” returning home with the postgraduate degrees crowd themselves into these few privileged hospitals—with little, if any, benefit at all to the country, or indeed to themselves.

From the foregoing facts the solutions are very clear and obvious.

(1) Two more medical schools—with facilities to train nurses and laboratory and x-ray technicians—should be established, one each attached to the University of Ife at Ife and the University of Nigeria at Nsukka. These should be started without delay and opened as soon as possible. A third medical school should be added, attached to Zaria University, or the two existing ones enlarged in the not-distant future. These schools will turn out the well-trained doctors the country needs. Medical auxiliaries have little appeal to the people, as experience has shown. Everybody wants the best, and it should be remembered that most Africans still come to hospitals very ill and overwhelmed with their diseases when everything else has failed, such is their fear of hospitals, though steadily improving.

(2) The utterly unsatisfactory out-of-date doctors' salaries structure should be completely overhauled, and appropriate incentives given for experience and the amount and nature of work done. “Remote-areas inducement allowance” would be a welcome step forward.

(3) A more realistic and sensible importance should be attached to postgraduate degrees. Hitherto these have been a passport to higher posts, fantastic jumps in salaries, and, more important, an immunity from unreasonable and often rude and precipitous transfers, all of which are the unhappy lot of the less-favoured doctors. This is totally wrong. All doctors should enjoy equal respect and treatment.

(4) Improve all the present hospitals in the country in the matter of equipment and drugs. Then distribute uniformly all over the

country all the “specialists” and several other doctors now crowded into our few privileged Lagos Hospitals, and also those overseas who will soon be returning home with higher degrees, as well as the new well-trained doctors, nurses, and technicians our medical schools will turn out.—I am, etc.,

Sully Hospital,
South Wales.

S. B. ONI.

SIR,—Professor W. R. F. Collis and others are to be warmly congratulated on their review of the present medical manpower needs in Nigeria and their excellent suggestions for the future (26 March, p. 792).

The Orthopaedic Unit in Kano, Northern Nigeria, to which the Royal National Orthopaedic Hospital, London, second medical and nursing staff, already depends heavily on locally trained Nigerian ancillary staff, and these nurses and assistants are well able to manage most of the routine work in Kano with only minimal supervision.

With little expansion this unit could easily provide a training centre of the type envisaged by Professor Collis and his colleagues. Practical instruction in plaster and operating theatre techniques and in the manufacture of simple artificial legs and appliances could be given, and the trainees would rapidly absorb a very useful amount of practical orthopaedic knowledge. When trained these personnel could relieve a busy doctor in the field of a very large proportion of routine orthopaedic and fracture work.

It is by sending doctors with special training, and by providing funds for schemes of this type, that the United Kingdom is best able to be of assistance to the developing countries of the Commonwealth.—We are, etc.,

MALCOLM SWANN.

Epsom, Surrey.

GEOFFREY F. WALKER.

SIR,—The article by Professor W. R. F. Collis and others (26 March, p. 792) on how to solve the problem of the desperate shortage of doctors and ancillary services in Nigeria is one which faces all the other newly independent African territories with similar urgency and requires, as they emphasize, a reorientation of approach in medical education, in both the European and American foundations and the medical schools of the territories concerned.

Nigeria has at present about one doctor to 55,000 of the population and has a population increase of 2.9% per annum.

This ratio is similar in other West African countries, in Tanzania, and others.

The Congo's 12,000,000 now have only a handful of doctors outside the capital town, and the Sudan southern provinces with some 1,250,000 (despite the recent massacres and famine) have literally no doctors at all.

It is more than doubtful if this ratio can be improved upon in any of these countries with the medical educational outlook as it is at present.

The authors of the above-mentioned article state so rightly, “The doctors themselves in these medical services are frustrated, as it is impossible for a single doctor to supervise a hospital and often ten rural areas, and be physician, surgeon, anaesthetist, prison doctor, and medical officer of health all at once.

To be faced with more work than can be carried out in any one day . . . rapidly leads to failure of morale in anyone exposed to such conditions.”

These sort of conditions were the general order of the day confronting the doctors of the former “Colonialist” Africa and formed a challenge which was often valiantly met, as far as it was humanly possible to meet it, with a genuine idealist outlook and a drive for pioneer work.

It was evident, however, that their efforts were only effectively far-reaching in areas where there was an extensive auxiliary staff, trained as nurses, dispensers, and the rest, as well as those trained in the work of special endemics such as sleeping sickness and leprosy.

Shortening medical courses and the training of quantity rather than quality in doctors is to be deprecated, as all are agreed. Most doctors with long experience of Africa in the field will agree that the services of nurses, laboratory assistants, sanitary overseers, health visitors, midwives, and medical assistants are invaluable, and this applies particularly to medical assistants who have had a sound three-year course of training. The latter have on occasion shown exceptional prowess when they have, of necessity, been left in charge of hospitals and districts during the transitional period of Africanization and acute doctor shortage.

The article mentions the two medical schools of Nigeria but does not mention how much provision is at present made there for the schools of medical assistants, nurses, laboratory assistants, health visitors, and the like.

Would not the provision of these on as greatly expanded a scale as the budget and the supply of teaching staff can meet be the first requirement?

The proposals made for the curriculum embody the reorientation that is so clearly necessary.

Before qualifying and completing house appointments the young undergraduate could be “apprenticed” to a district doctor who has charge of both hospital and district work, thus bringing him into intimate contact with the problems he will be required to solve.—I am, etc.,

Delgany, Ireland.

H. M. WOODMAN.

Aspirin and Children

SIR,—We wish to reply to the letters of Dr. T. C. Dann and Dr. J. F. Wood (9 April, p. 918) criticizing our paper on aspirin poisoning. That paper was about infants and toddlers, as stated in the title, and there is no contraindication to giving an aspirin to an older child with a headache and a normal fluid intake and output. We did claim that “the surest way to eliminate therapeutic aspirin-poisoning of infants and toddlers is to withhold the drug entirely from such children,” which is a truism, but we followed that statement with quoting a dosage of aspirin which could be used if a doctor felt that the drug was essential. Dr. Wood thinks aspirin essential in the treatment of otitis media, so perhaps our truism would have been better left unqualified. Proprietary ear-drops containing a local anaes-

thetic are safer and more effective than aspirin.

It was said that we did not recommend a drug to fill the analgesic role of aspirin. This is true. Our statement was, "We have insufficient knowledge of paracetamol to recommend it as a substitute for aspirin in this age group," which is one way of saying that paracetamol is an accepted analgesic but we have not seen enough of its use and abuse to recommend it firmly in print.

We are sympathetic to Dr. Dann's view that the most desirable control of therapeutic aspirin-poisoning would come from the education of parents and medical students in the proper use of aspirin. It is, indeed, essential to instruct medical students in the use of aspirin, but it is hardly realistic to hope to educate all the parents of Britain in the complicated dosage of a drug which can be bought across the counter. Furthermore, education may only be a temporary benefit. The first table in our paper showed that the average annual number of deaths from iron-poisoning in pre-school children in Britain in 1950-4 was 7.6, which fell to 1.2 in the period 1955-9 after the dangers of iron had been well publicized and the manufacturers had added a "poison" label to containers. The rise to 2.3 in the years 1960-2 looked a little ominous. Since submitting our paper for publication we have learnt that in 1963 there were seven deaths from iron-poisoning. It looks as if the lesson of iron is being forgotten, and we therefore feel justified in stating our objections to the use of aspirin in infants and toddlers in strong and simple terms.—We are, etc.,

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J. O. CRAIG.
I. C. FERGUSON.

Edinburgh Northern Hospital
Group.

J. SYME.

SIR,—In contrast to my colleague Dr. T. C. Dann (9 April, p. 918), I think increasing concern about the use of aspirin is much overdue. I regard the article by Dr. J. O. Craig and others (26 March, p. 757) as of first importance and hope that someone will do a similar study of the elderly, amongst whom the therapeutic mortality may be even higher.

Why do we use antipyretic drugs? Considering evidence that a raised body temperature inhibits the replication of infective organisms, experience with artificial pyrexia, and conversely with the anti-inflammatory steroids, where, for example, is the logic in treating influenza with aspirin? There are the objections that progress is obscured, early diagnosis of complications encumbered, and the patently real hazard that sufferers from active infection will stay in circulation, spreading disease and sometimes taking vigorous exercise, the fortunately rare extreme being the athlete who drops dead on the field.

Though I have not prescribed an antipyretic as such in the last quarter-century, there have been many opportunities of observing the self-treated, and I suggest that in fever therapy the relief of suffering these drugs confer is very illusory. For example, the aspirin-induced sweat-bath should be weighed against the febrile headache, and it is likely that secondary infection, prolonged convalescence, and post-influenzal depression are

mainly by-products of tampering with the defence mechanism of the body.

Without the complication of fear a day of misery leaves no lasting trauma, and seen in this light active parental comforting and sedation appear more urgent for children than analgesia; but in the instance of acute otitis media cited by Dr. J. F. Wood (9 April, p. 918) it is to be questioned whether a second-rate analgesic is really good enough. Surely one inference to be drawn from the article which started this discussion is that, properly used, the more powerful drugs are not more dangerous, and, to continue the otitis media theme, one wonders how many cases have been diagnosed late because of recourse to aspirin before the symptomatology became clear.

As a decline in aspirin eating will be hastened by a better substitute, I nominate promethazine hydrochloride (Phenergan), which I have used for the last 20 years in this context. As a sedative it is distinctly better. As an analgesic I find it difficult to place, but think it has a progressive effect rather than the "all or nothing" character. Its anti-allergic and anti-emetic properties are a frequently welcome bonus. It is well tolerated by children and I have not seen any side-effect of importance to bed patients.—I am, etc.,

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J. C. BOWIE.

Hand, Foot, and Mouth Disease

SIR,—In a leading article (26 March, p. 754) the main features of hand, foot, and mouth disease are discussed. Our experience during a large outbreak in South Wales in 1964 may be of interest because the clinical features differed in some respects from those described in previous reports. Biopsy studies were done in one patient.

The outbreak occurred in five primary schools in the Cardiff suburbs, and probably 800 children and adults were affected. A variety of Coxsackie A 16 virus was isolated from 23 of 67 faecal specimens, and from 12 of 18 specimens of vesicle fluid by inoculation of suckling mice. These viruses would not grow in tissue culture.

We confirm Meadow's findings¹ that there are two clinically distinct subgroups—the generalized form which attacks the hands, feet, mouth, buttocks, and occasionally the limbs, and a form confined to the mouth. In contrast to previous reports prodromata were not uncommon. Many patients had abdominal pain and diarrhoea for a few days before the eruption appeared, and two infants had a transient morbilliform erythema on the trunk before the characteristic vesicles developed on the hands and feet. There were three types of lesion on the buttocks: maculopapular, lichenoid, and vesicular. The latter are identical to the lesions on the hands and feet, and are usually restricted to the perianal area.

Three of our patients relapsed after an interval of two weeks, and one female aged 84 years has had a chronic infection for nearly two years. The eruption was widely distributed, and Coxsackie A 16 virus has been isolated on several occasions over the two years from faeces, throat swabs, and vesicle fluid. The biopsy, as expected,

showed the characteristics of a viral bulla. There was marked reticular degeneration of the Malpighian cells with the formation of an intraepidermal multilocular bulla containing many eosinophils. This unusual case is to be reported elsewhere.—We are, etc.,

E. WADDINGTON.

Cardiff Royal Infirmary.

A. D. EVANS.

REFERENCE

- ¹ Meadow, S. R., *Arch. Dis. Childh.*, 1965, 40, 560.

Intra-amniotic Hypertonic Saline

SIR,—The obstetric management of patients with dead or malformed foetuses presents a very difficult problem. Any method which can safely assist in its solution should be welcome. The use of hypertonic saline injected into the amniotic cavity is such a method and should be appraised dispassionately. Wholesale condemnation¹ based apparently on one unfortunate case can only darken counsel. Harrowing Japanese experiences in the production of abortion during a period when the "social condition was disastrous and chaotic and the facilities of most medical institutions poor"² is hardly relevant to an assessment of hypertonic saline injection for the induction of labour in the circumstances pertaining in this country today.

We have no experience with hypertonic saline injected into the uterus before the third trimester, but it seems clear from the work referred to by Turnbull and Anderson³ that there is some risk of intravascular injection of the solutions, which might have adverse effects on some patients. It was because of the possibility of such reactions that we chose to use 20% glucose solution when in 1962⁴ we introduced the method as a means of induction of labour in the third trimester. Although many patients have been safely and successfully treated in this way two have died of *Cl. welchii* septicaemia following the intra-amniotic injection of glucose. While a direct causal relationship between these two events cannot be established there seems little doubt that the presence of excess glucose is likely to enhance the growth of saccharolytic organisms within the uterus, especially in the presence of dead tissue. It seemed wise, therefore, to discontinue the use of glucose solutions and to use 200 ml. of hypertonic saline to which 100,000 units of crystalline penicillin has been added. In a preliminary study no evidence was obtained that either saline or penicillin passed out of the amniotic cavity into the maternal circulation. As an added precaution the bacteriology of the upper vagina before the injection was made was determined in each patient. The method thereafter was used routinely in patients with dead or abnormal foetuses who did not respond to intravenous oxytocin. We now have records of 150 patients treated with hypertonic injections. There were no untoward reactions in any of these attributable to the substances injected. Two patients developed pyrexia on the third and sixth puerperal days, but this responded promptly to antibiotics.

It is concluded that if reasonable precautions are taken the method is safe and effective and has earned a place in the treat-