Correspondence

Because of heavy pressure on our space, correspondents are asked to keep their letters short.

Radiological Hazards

SIR,—A committee was set up last year by the Secretary of State for Scotland and the Minister of Health "to review the present practice in diagnostic radiology and the radiotherapy of non-malignant conditions, with the object of considering the hazards involved." This review was recommended by the Medical Research Council in their report on "The Hazard to Man of Nuclear and Allied Radiations," for they found that medical radiology is in fact the chief source of the extra radiation to which we are now exposed. They emphasized the genetic damage which might be caused by irradiation of the gonads, and it is this damage with which our committee is chiefly concerned. Its importance is difficult to assess, but it means that we must not neglect even very small sources of radiation.

Since I fear that our inquiries are bound to add to the work of busy people I hope you will allow me to describe the investigations which we have in mind. Our first requirement is a more accurate estimate of the amount of gonadal radiation over the whole population, for the genetic hazard depends ultimately on the total rather than on the individual dose, and we must know the present figure if we are to keep in touch with future developments. To obtain such a base-line we need a survey of the total number and type of x-ray examinations carried out within a given period, followed by estimations of the gonadal dose in a representative sample.

We have already sent out detailed questionnaires to make a census of all medical and dental procedures involving x rays and radioactive substances, and a similar more limited inquiry will be made six months hence to take care of any seasonal fluctuations which might affect the result. To measure the probable dose to the gonads in different radiological procedures we are asking a number of hospital physicists to make a detailed investigation in a sample group of about 100 hospitals. This will enlarge the excellent surveys which have been carried out already in particular departments, and when it is finished we shall have a figure for the total gonadal radiation in this country which should be at least more accurate than any former estimates, here or elsewhere.

We are told that any exposure of the gonads may induce some mutations and that all mutations are more likely to be harmful than beneficial. But medical radiology must not be unduly hampered; the possible harm to the race must be set against the certain benefit to the individual. We must aim, however, at reducing all unnecessary exposure of the gonads, and with this in view the committee has formed small specialist groups which are to consider individual procedures in different clinical fields and to suggest measures for improving their safety.

In seeking through your columns to put this information before the profession as a whole, my committee hopes to enlist the interest of all those whose work touches on the use of x rays and radioactive substances. We are fully aware of the inconvenience and extra work we are causing, and we have learnt with regret of occasional failures in our arrangements for giving notice of the survey. But we believe that the final result will justify what we are doing. We live in a period when a rise in the level of man-made radiation cannot be ruled out and ought not to go undetected. It is disturbing to think that medical radiology may be causing unnecessary exposure of the gonads and that it may cause more if we take no steps to measure the present level. We hope that all doctors and dentists will co-operate with us in our work.—I am, etc.,

Cambridge.

ADRIAN.

Danger of Iso-immunization from Intramuscular Blood Injections

SIR,—A recent case has illustrated the danger of iso-immunization to a blood-group antigen (in this case Rhesus D) from the intramuscular injection of donor blood. Blood was being matched for a male patient prior to operation for partial gastrectomy and the patient was found to be group B Rhesus D-negative (d). Since there was no history of previous blood transfusion and repeated transfusions were unlikely, group B Rhesus (D)-positive blood was matched as well as group B Rhesus-negative blood (cde). The latter was compatible, but the former incompatible by the indirect anti-globulin (Coombs) technique. Subsequent investigation showed that there was anti-D present in the patient's serum in the incomplete form detectable by the albumin and by the indirect anti-globulin technique.

The behaviour of the anti-D suggested that it was an immune type of antibody, but there was no history of a previous blood transfusion. Detailed investigations subsequently have failed to reveal any previous transfusion of blood, but 27 years ago the patient did receive two intramuscular injections, each of 10 ml. of malarial blood, for treatment of general paralysis of the insane.

While intramuscular injections of donor blood are probably not now given on a large scale, the danger of blood group iso-immunization should be kept in mind. The writers have in fact encountered a case of severe haemolytic disease of the newborn in a first pregnancy in a Rhesus-negative woman who had never received a transfusion of blood, but had previously been treated with intramuscular injections of her husband's blood (Rh D-positive).—We are, etc.,

IAIN A. COOK.
JOHN WALLACE.

Glasgow.

SIR,—The recent correspondence in the *Journal* on "The Hurt Brain" draws attention to the fact that, though most venereologists and psychiatrists use penicillin alone or with other drugs for the treatment of neurosyphilis, there are still some who also use malaria therapy for selected cases.

A recent case seen by one of us developed a severe haemolytic anaemia of idiopathic acquired type during malaria therapy. During the serological investigation of the acquired haemolytic anaemia the patient's serum was found to contain the immune Rhesus antibody anti-D active at 37° C. in saline and albumin. The only history of exposure to red-cell antigens was the intramuscular injection of malarial blood some three weeks previous. A sample of blood from the donor of the malarial blood was obtained and this grouped as O, CDe/CDe. In view of the absence of transfusion history and in the fact that the anti-D gave the characteristics of an immune antibody, we feel the source of the immunization was the malarial blood.

The literature contains few references to immunization by intramuscular injection of blood, and the only proved cases known to us were reported by Thomson and Walsh¹ and van Loghem.² Subsequent inquiries of users of malarial blood leads us to believe that the possibility of immunization by intramuscular injection is not fully appreciated.—We are, etc.,

Doncaster.
Sheffield.

A. L. HILTON.
G. OWEN.

REFERENCES

- 1 Thomson, E. F., and Walsh, R. J., *Med. J. Aust.*, 1950, 1, 440.
- 2 van Loghem, J. J., *British Medical Journal*, 1948, 2, 326.

Women's Footwear

SIR,—A few weeks ago, as I left a lecture in the West End on Eastern colour prints and went into the darkness of the streets, I was faced with a series of such brilliantly lighted windows that for a moment I thought I was still in the lecture hall. I looked again and thought that these were a series of magnificent modern paintings. This was not the case. I looked again more closely and thought I was looking at a museum of ladies' shoes. Even this was not the case. I looked even more intently at a window and saw

that the shoes were indeed modern ones. For some of the models the captions should have been "As worn in old Pekin," or "Hallux valgus guaranteed in three months and bunions in one year." Others again looked guaranteed to cripple in six months. I then realized that I was looking at "fashion shoes of high décor." My mind went back to the anatomy I had learnt and taught, and to the human feet I had seen.

What has happened to women's shoes? Many of the present models have little relationship to the anatomy or physiology of the normal human foot. They produce a self-conscious and stilted gait with hardly any normal movement at the ankle joint, and the slightest wearing of the pencil-point heels produces valgus or varus deformity or wobble of the whole foot during walking. Yet these shoes have become so fashionable that there is a demand that buses, escalators, and gratings should be modified to avoid danger. They must be extremely uncomfortable, since the royal parks in summer are filled with women resting their feet with their shoes by their sides.

There is, however, a practical problem involved. In a certain proportion of my patients I have to take some interest in the type of footwear which is being worn. Over the past few years it has become clear that many women are finding it more and more difficult to get reasonable walking shoes for normal feet. On inquiry I find that they have tried shop after shop without success. Some well-known firms seem to have given up the manufacture of ordinary walking shoes, and at one shop which was, in the past, celebrated for the quality, style, and normality of its shoes, a lady was recently informed that they now only sold high décor shoes and they advised her to go to an orthopaedic shoe-maker. Another lady, who had previously had no trouble at all in getting shoes, recently spent a whole day in London shoe-shops in a completely vain endeavour to get reasonable shoes.

My interest is not merely clinical. I spent the whole of my early life in a county celebrated for its boots and shoes and in a town whose manufacture of these has a world-wide reputation. I have visited many boot factories, I have known hundreds of clickers, finishers, closers, and men in the rough stuff room, and I know the quality of their workmanship. Even years ago, many of the firms took the greatest possible interest in the anatomy and physiology of the foot and made every endeavour to relate this to the design and quality of the footwear they produced. I wonder what the craftsmen think of some of the shoes that are now being produced? The explanation of the present position is that the fashions are entirely commercial. How far is this due to the altered financial structure of the boot and shoe industry? Children's shoes are very satisfactory, but they become more and more abnormal and commercial as the girl of teenage is approached. Many of the women who are wearing contemporary shoes get pain in the calf, oedema of the foot, hallux valgus, and fatigue, to say nothing of the more serious injuries, such as sprains and fractures. It has been estimated that 75% of girls leaving school have hallux valgus. These represent potential patients in the future. All these matters are related to the cost of the Health Service. If animals were treated with the degree of inhumanity to which women now are prepared to subject their feet at the behest of the boot manufacturers, there would be an outcry from all the humanitarian societies in the country. A young doctor, uncertain of the future, might do worse than take up the study of chiropody, for it will obviously be of increasing importance. Eventually he might become a consultant and serve on Government commissions, or an industrial adviser on feet, or he might turn to politics. Whichever course he finally chose, he would have valuable knowledge as to where the shoe really pinches.

As an immediate step, I suggest that the Minister of Health has a talk with the President of the Board of Trade. It might even be necessary to promulgate new sumptuary laws in connexion with women's footwear in order to save the tax-payer and the Treasury.—I am, etc.,

London, W.1.

REGINALD T. PAYNE.

Scapulo-thoracic Crackling in Youth

SIR,—Some time before the second world war, at the German Hospital in London, I was asked by one of the German house staff to see a young Englishwoman living in the neighbourhood of the hospital who had come to the out-patient department. On movement of the shoulder-blades a peculiar kind of crackling could be felt (not heard) over the region of the shoulders at the back of the thorax, apparently unaccompanied by any pain or even disagreeable sensation. This young woman was not in the least afraid nor wished to appear ill, but simply wanted to know the nature of her condition, and whether she ought to do anything about it. On examination the "crackling" seemed clearly to be due to some unusual unevenness of development between the scapulae and the bony cage of the thorax. It could hardly be called crepitous, and certainly there was no actual bony grating, such as may be due to exposed bony surfaces after a fracture. She seemed perfectly normal in every other respect. The chief questions in my mind were whether one was justified in assuming that the abnormality was "rheumatoid" in nature and if it varied at all with the weather. Was it likely to increase or diminish with the age of the patient? Such abnormalities were associated in my mind with changes commonly occurring in later life. One had heard the well-known lines in Dr. Edward Jenner's (the vaccination Jenner) famous poem on the signs of the weather:

"Hark how the chairs and tables crack;
Old Betty's joints are on the rack."

But there were no pains in this case, nor need there be any pain associated with obvious so-called osteoarthritic changes in later life. As a matter of fact, I need go no further than my own person in that regard. Sometimes, on movement of my neck during conversation, a loud crack can be heard, though I feel nothing whatever, and the sound only interrupts my talk. In this young woman, the crackling which one felt with one's hands on her shoulders was obviously of the same nature as crackling which can actually be heard, but I do not know of any other case of crackling like this in youth, or even in elderly people. Minor degrees, I believe, are not rare, though they have attracted very little attention.

On the whole, I thought it better not to advise any special treatment. The young woman was desirous of making a holiday tour in Germany, and, hearing this, the residents of the German Hospital invited her to tea in order to work out the best itinerary for her and her father. It happened that my wife and I met them on the cross-Channel steamer. She introduced us to her father. Her peculiar symptoms remained much the same, and I determined to bring her to a meeting of the clinical section of the Royal Society of Medicine. Mr. Duncan Fitzwilliams was then the president of the section, and I got him to examine her carefully. His commanding figure, great knowledge, and pleasant manner could certainly do no harm. With his hands on her shoulder-blades he said very seriously: "Ah, those are where the wings were amputated." The meeting was a very large one, but beyond this gallant remark I could get no other information worth mentioning. My case was quite rightly not reported in the published account of the meeting.

At the end of the second world war I ascertained by letter that the crackling was still present, apparently neither better nor worse. I now regard the case as a little-known abnormality of development, allied to other conditions, such as camptodactylia of Landouzy, often associated with varying degrees of Dupuytren's contraction of the palmar fascia. Such abnormalities may commence to show themselves at varying ages, often excited by local traumatism; then after reaching a certain stage they tend to remain stationary or regress. In middle age my father, my eldest sister, and myself suffered from a peculiar chronic tenderness about the metacarpo-phalangeal joint of both index fingers, which might have been thought to be of so-called