cancer discovered by miniature mass radiography.

Of course, mass radiography has widened its scope since its introduction in the early 1940s. It has become a service, a tool for presymptomatic diagnosis. X-ray departments in hospitals are neither meant nor equipped to do this.

To destroy such a service without even taking regional differences and problems into consideration is a retrograde step.—I am, etc.,

G. Z. BRETT,
Director, Mass Radiography Service,
North-west Metropolitan Region.
London W.9.

REFERENCES

- ¹ *Daily Mail*, 12 November 1969.
² Department of Health and Social Security, H.M. (69) 27

Unnecessary X-rays

SIR,—How much I agree with Dr. R. M. Scott (13 December, p. 689). This, however, is another field in which the patient well versed in the pitfalls of medical practice by an assiduous following of current T.V. programmes is becoming increasingly critical of the doctor. Let the doctor assert that the injury is trivial. In the eyes of the patient he remains "guilty until proved innocent" by the all-powerful x-ray machine. The same trend is detectable in regard to E.C.G.s for chest pain.

There are schools of thought which maintain an x-ray is an indispensable part of the examination of any and every injury, and in any case a wise casualty officer will always err on the side of caution. There remain, however, cases where he should be able to say "absolutely no sign of fracture" and stick to it. There is a limit beyond which no doctor should be willing to be pushed by a public more generously endowed with anxiety than reason.

Unless we keep the machine in its rightful subservient place to basic clinical discipline the practice of the art of medicine is in danger of becoming just another technology.—I am, etc.,

S. L. HENDERSON SMITH.
Huddersfield, Yorks.

Pregnancy Tests Over the Counter

SIR,—May I be permitted to point out one good reason why pregnancy testing "over the counter" or by commercially advertised laboratories, or in any other way, on patient demand should not be encouraged?

It is because there is no specific test for pregnancy. Methods of determining the presence of chorionic gonadotrophin in the urine have been available for a number of years. The older tests required the use of animals and could therefore only be undertaken by certain specially qualified individuals. The newer chemical tests can soon be learnt by anyone. Even a "do-it-yourself" kit is not out of the question. If such a test is positive in a young woman who has missed one or two periods, the probability is that she is pregnant. If, however, a positive result is obtained in a woman of, say, 46 who has missed one or two periods, she may or may not be pregnant. The chorionic gonado-

trophin is present, but the explanation may simply be the early menopause. Women in this age group are demanding "a pregnancy test" simply to differentiate between these two possibilities, and this the tests are not capable of doing.

As you say (20 September, p. 667), the common reason for wanting early information nowadays is to seek abortion, and if reliance is placed on the test she may then be referred for consideration of abortion, often with form H.S.A. 1 completed by two doctors "acting in good faith." Clinical examination immediately reveals that there is no pregnancy to abort, and all this medical time and effort has been wasted, to say nothing of the emotional stress to which the patient has unnecessarily been put (I have had half a dozen such cases this year).

This laboratory test, like many others, may supplement clinical examination. It can never replace it.—I am, etc.,

WALTER CALVERT.

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Stepping Hill Hospital,
Stockport.

Life Cycle of *Toxoplasma gondii*

SIR,—We wish to report the elucidation of the life-cycle of the parasite *Toxoplasma gondii*. Specific-pathogen-free domestic cats were fed with tissue cysts containing *Toxoplasma gondii*. In two infected cats large numbers of oocysts were produced in the faeces; no oocysts were observed in the faeces of the uninfected control cat. Five days after the feeding of the toxoplasmas, profuse schizogonic and gametogonic stages were observed in the epithelial cells of the small intestine of one infected cat. A single schizont was observed in an intestinal epithelial cell of a second cat, six days after being fed the tissue cysts. There was no evidence of schizogony or gametogony in the uninfected control cat. The stages observed in the intestinal epithelium are identical with those of the well-known endogenous cycles of coccidian parasites. The appearance of these stages, together with the nature of the oocyst, indicates that *Toxoplasma gondii* is a coccidian parasite closely related to the genus *Isospora*.

Full details of this work will be published in an early issue of the *B.M.J.*—We are, etc.,

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Unusual Effect of Fenfluramine

SIR,—The recent letters about fenfluramine interest me because my colleagues and I have reported on the drug's effects in acute normal dosage¹ and overdose² and are currently studying its central nervous effects during chronic administration.

Dr. S. Brandon (29 November, p. 557) describes tooth-grinding after a youth took

a single dose of "half a dozen or so" tablets of fenfluramine (Ponderax). Brief periods of nocturnal tooth-grinding occur widely in normal persons and we have observed such episodes, of half a minute or so, to become more common during administration of 80 mg. fenfluramine daily. Overdosage of 20–40 tablets in three young women caused striking coarse tremor of the jaw.³ Dr. Brandon recommends that the drug should be regarded with as much suspicion as other "central nervous stimulants." We certainly found¹ that it does have some amphetamine-like properties, but it is an interesting compound in that these properties are modified by, for example, a tendency to cause subjective sleepiness (Dr. G. Ellis, 29 November, p. 558). While also it is of value to know from Dr. Brandon that his patient experienced an adverse reaction between a monoamine oxidase inhibitor and fenfluramine, the same could have happened with Marmite, and the fault should lie, not with fenfluramine, but with the prescription of any amphetamine derivative concomitantly with a monoamine oxidase inhibitor.

Dr. Brandon raises the important matter of whether fenfluramine might be a drug that invites abuse. In our recent research Dr. S. A. Lewis and I have found that sudden withdrawal, after prolonged administration, can be accompanied by temporary mood depression. Nevertheless, it would seem from the evidence that in the majority of persons the initial subjective effects are not pleasurable. Two of our young women patients had sat down together and eaten 50 Ponderax as an experiment. They found the consequences very unpleasant.¹ Dr. Brandon's patient, in a similar experiment, also found the effects unpleasant. The patient's comment, "I wouldn't have known they were pep pills," indicates the difference from other drug experiences he may have had.

Slimming pills were, by reputation, pep-pills in the minds of our two patients. The reported cases, however, would not seem to allow the inclusion of fenfluramine in such a generalization.—I am, etc.,

IAN OSWALD.

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Psychiatry,
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REFERENCES

- ¹ Oswald, I., Jones, H. S., and Mannerheim, J. B., *British Medical Journal*, 1968, 1, 796.
² Riley, I. D., Corson, J. C., Maider, I., and Oswald, I., *Lancet*, 1969, 2, 1162.

Mental Problems in Rheumatoid Arthritis

SIR,—Your leading article on personality trends in rheumatoid arthritis is most timely (8 November, p. 319). This is a field of considerable importance in the full assessment and management of rheumatoid arthritis.

In this department we have been studying personality patterns in all cases of rheumatoid arthritis over the past five years. Eysenck's Personality Inventory (E.P.I.) has been applied to all new cases and, further, has been repeated at the end of three years. In addition, after four or five visits of the patient to the department when rapport has been established between the patient and doctor, further more detailed studies of personality and environmental background have been

carried out. This has demonstrated a group of rheumatoids with fairly severe personality disturbances of long standing.

The advantage of administering the E.P.I. test and then carrying out studies in depth has been that it has demonstrated, quite remarkably in some cases, the basic personality problems which have been present from a very early age and therefore cannot be attributable to the rheumatoid processes. The E.P.I. results, on retesting after a considerable period of time, show a remarkable consistency and it is therefore a very useful tool to be used in the initial assessment of patients.

There has been some evidence that in those patients showing personality disturbance, evidence of depressive illness, etc., the frequency of episodes of disabling deterioration has been markedly decreased by treating their emotional condition. This study will be the subject of a fuller report to be published later.—I am, etc.,

ALAN J. ROWE.

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Medicine,
Addenbrooke's Hospital,
Cambridge.

Spotting Typhoid

SIR,—Though your leading article "Spotting Typhoid" has long since passed (13 September, p. 607) perhaps I can add some helpful comments.

I have worked in this hospital in western Uganda for eight months. Typhoid is endemic in the area, accounting for 360 admissions last year. The majority present in the classical manner with severe headache, fever, prostration, abdominal pain, and constipation. But I have also seen cases frequently presenting with the single symptom of tinnitus, dizziness, epistaxis, or diarrhoea. Deafness, epididymo-orchitis, and hoarse voice have been among the more unusual presenting symptoms.

We treat them with chloramphenicol for 14 days and the fever of 101°–103° F. (38.5°–39.5° C.) usually returns to normal within four days. Lack of space often dictates discharge after only seven days in hospital. In perhaps 200 cases treated I have seen only one case of sore throat and a leucopenia which could possibly have been due to bone marrow depression.—I am, etc.,

S. J. PARKER.

Kabale Hospital,
Uganda.

Heat and the I.U.C.D.

SIR,—Short-wave diathermy is now being frequently prescribed for the pelvis or sacroiliac joints, and in many physiotherapy departments the older techniques of anterior and posterior electrodes is still being used.

Many women patients are now fitted with an intrauterine device which is made of plastic, and a nursing sister has raised the question whether it would be safe to have such therapy in view of the risk that the plastic spiral might lose its shape from the heat. I did a number of experiments using an I.U.C.D. in the vagina which so far shows that the device does not become deformed. However, the question of whether the device

is affected at given temperatures now requires closer investigation, with the intra-uterine temperature being recorded at the same time.

I wish to draw attention to this possible hazard in the hope that those in charge of physiotherapy departments might be able to continue more detailed experiments on the continued reliability of the device when patients are submitted to short-wave diathermy treatment.—I am, etc.,

B. SANDLER.

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Jewish Hospital,
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Length of a Lippes Loop

SIR,—I wish to report an unusual complication associated with the insertion of a Lippes loop.

A presterilized Lippes loop size D in a 1-unit-sized pack was inserted into a multi-gravid patient according to the instructions—that is, the loop was pulled into the inserting tube only within a minute of insertion. Before insertion it had been noted that the loop within the packet appeared to conform to the normal dimensions of the loop size D—that is, 30 mm. long by 30 mm. wide. After half the loop had been inserted into the patient there was severe pain and a small amount of bleeding so that the loop and inserter were withdrawn. At no time had the insertion of the loop been associated with a sense of giving way, as would possibly occur if the myometrium was penetrated. The patient was hospitalized for 24 hours and given one injection of pentazocine 30 mg. intravenously. At the end of 24 hours there was no bleeding and no pain.

Closer investigation of the loop within 5 minutes of withdrawal of the loop from the patient disclosed that it had changed its dimensions. It still conformed to the 30 mm. width but the various angles had opened out and the new length had become 50 mm. Two days later this length had remained at 50 mm.

I would like to suggest that it might well be in future a wise precaution for the loop to be not only drawn into the tube as suggested before insertion but withdrawn into the tube and expelled at least once to see if it takes up its pre-tube length rapidly before use on the patient.—I am, etc.,

D. HOWARD BAILEY.

Cairns,
New Queensland, Australia.

Exacerbations in Chronic Bronchitis

SIR,—It is disappointing that the careful investigations by Dr. Mary Fisher and her colleagues (25 October, p. 187) throw little fresh light on the causes of exacerbations in chronic bronchitis.

During the past two years a study of acute bronchitis in children has been carried out jointly by one of us (I. G.) in his general practice at Roehampton, London, and by the department of virology of the Brompton Hospital, using methods of bacteriological and virological investigation broadly similar to those described by Dr. Fisher and her colleagues. In addition to the children, a small number of adult chronic bronchitics

were studied during acute exacerbations in a pilot trial for a larger study which has now begun this autumn.

The criteria which were used to define an acute exacerbation were similar to those of Dr. Fisher and her colleagues. Isolation of viruses was achieved in 12 of 28 episodes as follows: rhinoviruses (H and M types), three times; influenza A, twice; parainfluenza type III, twice; *M. pneumoniae*, once; respiratory syncytial virus, once; herpes simplex, three times. Serological investigations alone were performed in 12 other acute episodes, and a rise in complement-fixing titre was found in three of these episodes (influenza A, once; respiratory syncytial virus, once; respiratory syncytial virus and influenza A together, once). Thus, if the significance of herpes simplex is disregarded, we found evidence of an association with viral or mycoplasma infection in 12 (30%) of the 40 episodes which were investigated.

One reason for the discrepancy between our findings and those of Dr. Fisher and her colleagues may lie in the time interval between the onset of the acute episode and the inoculation of tissue cultures. In our study throat and nasal swabs were taken within 48 hours of the onset of the first symptoms. Sometimes this was difficult to determine, and in several of the episodes which were investigated with negative results it is possible that the true time interval was longer than this. Tissue cultures were inoculated within three hours of swabbing. In the investigations of Dr. Fisher and her colleagues it would appear that a considerably longer delay occurred in most cases between the first onset of symptoms and both the taking of specimens and the inoculation of tissue cultures.—We are, etc.,

IAN GREGG.
J. M. INGLIS.

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Epilepsy and Folate Deficiency

SIR,—Dr. John Wilson in his review of the drug treatment of epilepsy in childhood (22 November, p. 475) comments that "it is reasonable to remedy folate depletion as necessary." In the present state of knowledge concerning the effects of drug-induced folate deficiency this is hard to dispute, and we are prompted by his statement to mention a technique which we have been using for folate restoration in these children.

While we would agree with Dr. Wilson that documentary evidence concerning the exacerbation of seizures by folate therapy is equivocal, our own experience using standard dosage of folic acid (5 mg. tablets) has been alarming. This has led us to adopt the practice of low-dosage folate replacement. As our results have been encouraging we suggest that this approach might be more widely used. This would obviate the need to argue the pros and cons of standard-dose folate therapy in epileptic children.

Every epileptic child in our care who is folate deficient is given 100 µg. of folic acid daily. Using this dose we have obtained satisfactory folate restoration within about three months in the cases we have treated so far. There have been no untoward sequelae.

For prescribing on an inpatient basis, capsules containing 100 µg. of folic acid are prepared for us by our chief pharmacist. One