1947, but the mass at the transverse colon was much larger than before and a biopsy only was taken, which showed the presence of anaplastic adenocarcinoma. The patient made a good recovery and was discharged home on December 20, 1947. She attended my follow-up clinic for some years and I last saw her about 10 years ago."

On October 2, 1963, the patient was admitted to New Cross Hospital in a confused senile state associated with hypertension, blood-pressure 220/130, and severe bronchopneumonia from which she died on October 7.

At necropsy there was an encysted empyema between the middle and lower lobes of the right lung, the lower lobe showing bronchopneumonia. The left lung was congested. The heart weighed 430 g. and the coronary arteries were atheromatous. The gastro-intestinal tract showed no evidence of growth. The omentum and mesentery appeared normal. No glands were present. Sections were examined from post-mortem tissues and no evidence of carcinoma was demonstrated.

We are grateful for the co-operation of Mr. Matheson, St. Giles's Hospital, Dr. K. McLean, New Cross Hospital, and the pathologist of Lambeth Hospital for the histological preparations of the original operations.

—We are, etc.,

J. M. FULLERTON.
R. D. HILL.

London S.E.14.

Cough Reflex in Animals

SIR,—At a meeting of the Section of Comparative Medicine of the Royal Society of Medicine dealing with respiratory distress in man and animals Mr. Robert Cook mentioned that the horse does not possess a cough reflex. As far as I am aware, this is the first time that this remarkable fact has been stated.¹ It is beyond doubt a most interesting and unexpected observation, and in the discussion which followed I suggested a possible explanation for the surprising absence in horses of this "watchdog" reflex which is indispensable in man.

In a later personal communication Mr. Cook added that only the cat has a cough reflex comparable with the human one. The cough reflex of the dog is somewhat weaker and that of the cow poor. In the healthy horse the laryngeal cough reflex is missing.

I would be most interested to hear from your readers of any observations regarding cough reflex in animals which they may have made.—I am, etc.,

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REFERENCE

- ¹ Cook, W. R., and Roskdale, P. D., *Proc. roy. Soc. Med.*, 1963, 56, 972.

Unsuspected Chronic Glaucoma

SIR,—Whilst finding the article on the incidence of unsuspected chronic glaucoma in a population sample at Oxford

most interesting (November 16, p. 1237), there are two suggestions made therein with which I am not entirely happy—first, "Tonometry with a Schiötz tonometer is a simple test . . ." and second, "It would not be difficult for the general practitioner to perform routine tonometry . . . in the same way as beaumanometry."

Tonometry is not easy and even when carried out by experienced medical or nursing staff, as in eye hospitals, inaccurate readings are very common, especially in new patients; when both operator and patient are experienced, errors are much less common. In my view a general practitioner does not have the time to carry out repeated routine observations on each of his patients to ensure accuracy. The result of a casual approach to tonometry could well be a mass of readings between 25 mm. Hg and 32 mm. Hg, and out-patient clinics and glaucoma clinics would be swamped by normal patients.

Inaccuracy of recorded tensions cannot be proved simply by repeating the tonometry and getting a normal reading, for ocular tensions vary too much to allow this to be acceptable. Consequently, to dispose of each false reading a mass of work would be forced upon an already overburdened hospital service.

The present surveys being carried out may give some indication of the size and type of organization required for mass screening and the investigation of suspect cases. When such an organization is developed the general practitioner could send suspected cases, but even then it would be wiser to indicate only a provisional tonometer reading. It might well be that, just as in mass radiography, a higher percentage of positives would result from those cases referred by general practitioners—but an initial tonometer reading is not diagnostic, and may even be deceptive.—I am, etc.,

W. MARTIN WALKER.

Birmingham 15.

Service in Africa

SIR,—When I announced my intention of working in Africa for two years or so people who graduated with me remarked, "What a good idea. I wish I could do it, but . . .": they are married; they have to keep to recognized posts for special qualifications; they believe work here will reduce their standards and they will forget what they have learned; they have immediate prospects in practice; they have many reasons. But I cannot see why these reasons influence so many doctors, and why so few come to young countries like Uganda for a tour before they settle down.

The valuable clinical experience need not be emphasized—tropical diseases, complete clinical control of patients, operations, police post-mortem examinations—the list is endless. But in addition, and perhaps more important, the doctor gets a different, and broader, outlook to

life as a whole and to medicine in particular. He is jolted out of what could be called the Health Service rut, and inevitably takes a more critical view of medicine and medical practice both here and in the National Health Service. I have no direct intention of recruiting for these countries, but I believe that a tour in one of them benefits the doctor personally, the National Health Service if he returns to it, and, of course, the country itself.

It is generally recognized in medical circles that experienced doctors—usually senior registrars—can help in teaching posts to everyone's benefit. Is there any reason why there has been no such authoritative encouragement for doctors to work in general posts? Is there a feeling that the doctor will be worse off in years to come after such experience, or that the country needs his continual presence? Does the College of General Practitioners, for instance, think that a general practitioner will be able to give better, or worse, service to his patients after a tour abroad?—I am, etc.,

D. DALRYMPLE-SMITH.

Masaka, Uganda.

Consanguineous Marriage

SIR,—The medical conditions of the islanders of Tristan da Cunha described in the interesting articles by Mr. N. Samuels and Dr. J. A. Black and others (October 26, pp. 1013 and 1018) appear to be grouped into those due to their environment—such as a restricted diet and intestinal parasitism on the one hand and congenital physical and mental defects ascribed to interbreeding within a small isolated community. It is possible that some congenital abnormalities may be derived or intensified by a deficient nutrition independently of genetic determination, as many recent experiments on animals have shown.

The influence of consanguineous marriage on the offspring was discussed in a paper "On the Physical Effects of Consanguineous Marriages in the Royal Families of Ancient Egypt" by Sir Armand Ruffer in 1920. I had the privilege of knowing him well in Alexandria during the first world war as a man learned in the medical aspects of the historical records and the pathology of various mummies of ancient Egypt. There has been much discussion and disagreement on the effects on the offspring of the marriages of blood relations. Many, mostly geneticists, consider that the result of these unions become, sooner or later, physical and mental degenerates, but others, in field studies, are not convinced that this is true.

In the ancient world consanguineous marriage was very common, as, for example, amongst the earliest Hebrews, Persians, and especially Egyptians. The Egyptian gods set an example of incestuous union such as the marriage of Osiris with his sister Isis and Set with his sister Nephthys. Marriage of brother and sister of the royal dynasties of Egypt was so common as almost to be the rule, and yet, as Ruffer showed, some of the greatest kings and queens from eighteenth dynasty to Cleopatra VII, the last of the Ptolemaic line, were the offspring of incest.

Examples quoted are many, but space forbids more than brief references.

Ahmose I (1580 B.C.), the son of a brother-and-sister marriage, reigned for 24 years. By his energy and military skill he finally drove the hated Shepherd Kings (the Hyksos) out of Egypt after their domination for 200 years and made his country strong again. Ahmose married his sister Nefertari, who produced their brilliant son Amenhotep I. Incestuous marriages of great-grandparents, grandparents, and parents ultimately gave birth to the beautiful Aahmes. Her portrait, which adorns the walls of the temple at Deir-el-Bahari, shows that "her expression is fascinating; the features are refined and it would be difficult to find a nobler countenance."

Passing on with many notable omissions of kings and queens, mention must be made of the great Queen Hatshepsut, who was also the daughter of a brother-sister marriage but nevertheless an outstanding personality in Egyptian history. The greatest king was Thutmose III, the product of a series of incestuous marriages. Ruffer describes him as a historical figure comparable to any who have lived during the centuries after his death. Akhnaton, the last of the famous eighteenth dynasty, was unique in that, as a very young man, he overthrew the immense power and vested interests of the polytheistic priest hierarchy and introduced a monotheistic worship of the beneficent sun (Aton). Though he was not physically robust he reigned for 17 years (1375 to 1358 B.C.) and displayed an astonishing energy and moral courage in his contest with the priesthood.²

Another long interval brings us to the Greek line of the Ptolemies, of whom there were 16, including Cleopatra VII, the last of the dynasty. The first four sprang from normal marriage, but the rest were nearly all incestuous.

The Ptolemies were distinguished by their moral depravity, which was a feature of the Alexandrian population in general, but Ruffer points out that the latter 12 were no better or worse than the first four and most of them were energetic and able administrators. The extant portraits of the great Cleopatra show that she was not an outstanding beauty, but it seems that she was endowed with an "irresistible charm" which has been romanticized, though perhaps not exaggerated, by William Shakespeare.

There is no evidence of early death of the Ptolemies, sterility, idiocy, or deaf-mutism. The average age of those who were not murdered was 64 years. Indeed, through the centuries of incest in ancient Egypt there is very little record of physical or mental failure, but, on the other hand, a story of great conquerors, temple builders, and patrons of literature and the arts.—I am, etc.,

ALECK W. BOURNE.

London W.1.

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- Ruffer, M. A., *Proc. roy. Soc. Med.*, 1919, 12, 145.
- Weigall, A., *The Life and Times of Akhnaton*, 1922.

Fate of Gräfenberg Rings

SIR.—Amongst those providing medical care for this area there was a few years ago an enthusiastic inserter of Gräfenberg rings. Many of these rings have been removed over varying periods on

account of purulent and/or copious blood discharge. Some have been the probable cause of lower pelvic pain and some have been removed at the patient's request. More remarkably two of the rings have been removed in this hospital from the peritoneal cavity, one by another surgeon and one by myself. It would seem that this must be a rare complication of Gräfenberg-ring insertion and as such worth reporting.

I do not know enough about the other surgeon's findings to detail them, but in my own case the ring was to be removed on account of a purulent vaginal discharge. However, at "D. and C." and after a full-scale intrauterine search the ring could not be found. The position of the ring in a plain abdomen x-ray indicated that it may well be found out of the uterus, and accordingly laparotomy was undertaken. The ring was readily found wrapped in mobile omentum just above the level of the pelvic brim and was, of course, easily removed. A search of the uterus and appendages revealed no spot or scar through which the ring may have come. It would seem to be anybody's guess as to how the ring did in fact get from the cavity of the uterus to where it was found.—I am, etc.,

J. M. FOREMAN.

Lautoka Hospital,
Fiji.

Obstetrics in General Practice

SIR.—In 1962 I spent two weeks at Chelmsford attending the course arranged by Mr. David Brown. I have happy memories of the experience, and it has been pleasant to read the many tributes which you have printed since publishing Mr. Brown's article in your Educational Number last September (September 7, p. 597).

Few practitioners, however, are aware of the excellent facilities available at University College Hospital Obstetric Unit under Professor W. C. W. Nixon. Recently I worked for a year as one of the two general-practitioner clinical assistants to his antenatal clinic, and I can testify to the value of this arrangement. Although the posts are scheduled for sessional fees in the future, at present they are unpaid. The appointment is initially for six months, but can be extended for a year by mutual agreement.

The work consists of a weekly session of about three hours. In this time the general practitioner takes a full part in routine antenatal examination. At first this is done under the guidance of the senior assistant. Later a degree of independence is encouraged. Confidence is increased by the comforting proximity of two experienced obstetricians in the adjoining cubicles.

The full facilities of the department are available—library, seminars, tutorials, ward rounds, research, and perinatal mortality conferences. There is also opportunity for limited practical work in the labour wards, if so desired.

The general practitioner's main contribution to obstetrics is in the management

of the normal case. If he is faced at a domiciliary delivery with disproportion, breech presentation, or twins, then his antenatal care has probably been inadequate. Failure to appreciate the early signs of pre-eclamptic toxæmia is even less excusable. His basic task is to exclude such abnormalities; then it follows that he should be welcomed into the hospital antenatal clinics. A maximum of three months of undergraduate training in obstetrics is not sufficient instruction in this form of preventive medicine. Professor Nixon's innovation in providing this type of experience at a teaching hospital must surely benefit all concerned. From the point of view of the general practitioner the stimulus of assisting in the tuition of students is particularly enlivening.

In addition, it is now possible for the general practitioner to reside at University College Hospital so that he may act as locum for the obstetric house-surgeon. Unfortunately the hospital could not make the necessary arrangements during my year, but I hope to do this at a later date instead of one of my annual refresher fortnights.

It is hoped that Professor Nixon's initiative will be widely followed.—I am, etc.,

London E.9.

DAVID G. BERRY.

Intrauterine Transfusion

SIR.—It was with great interest that I read the preliminary communication of Dr. A. W. Liley concerning intrauterine transfusion of the foetus in haemolytic disease (November 2, p. 1107). But I failed to find any evidence in the data presented that an effective foetal transfusion had occurred. That anaemic erythroblastosis have a lower per cent. of Hb F than normal infants is an old observation.¹ Indeed, 43% Hb F in an infant with Hb 6.8 g./100 ml. would be well within the expected range for erythroblastotic infants prior to transfusion² and would perhaps indicate that this particular infant did not receive a significant amount of adult Rh-negative blood prior to delivery.—I am, etc.,

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REFERENCES

- Jonxis, J. H. P., *Nature (Lond.)*, 1948, 161, 850.
- Schulman, I., and Smith, C. H., *Amer. J. Dis. Child.*, 1954, 87, 167.

Hand, Foot, and Mouth Disease

SIR.—Two small outbreaks comparable to those described by your contributors. (November 16, p. 1267) have been seen in the Crawley Down and Crawley areas of East and West Sussex.

A provisional diagnosis of hand, foot, and mouth disease was made in the first.