Like most of us, the young doctor is faced with the painful necessity of having to earn a living, particularly as he is likely to be married and often has a family to support. After, say, two years' work, he can enter general practice, an interesting and rewarding life with much variety, or decide on radiology as a career. In the former case he will have a fairly wide choice of district and start at £3,000-£4,000 p.a., achieving a high salary in the not too distant future. If he should choose radiology he will start as registrar for two years or more, obtain his D.M.R.D. and then become senior registrar for three years, altogether about five years' training. He can then take a further qualification if he wishes.

He will then start as a consultant and after 10 years or more reach the maximum salary. This will still be less than in general practice, unless he is fortunate enough to obtain a merit award or a lucrative private practice, both of which are rare in radiology.

What does the future hold for radiology in the United Kingdom? If things go as at present, it is a dying specialty. It is true many are in training, but how many will remain in Britain under the present system?—I am, etc.,

GEOFFREY MEDHURST.

General Hospital,
Kettering, Northants

ABO Blood Groups and Myelomatosis

SIR,—Dr. D. Catovsky and his colleagues (22 August, p. 438) have reported a 3.2% current incidence of thromboembolic disease in the M.R.C. myelomatosis therapeutic trial series, and they believe that this percentage will increase. On the other hand, each of three series of patients with thromboembolic disease in general¹⁻³ has shown a significant deficit of blood group O and excess of A. It is therefore worthy of note that there is an appreciable, though far from significant, deficit of O and excess of A in a series of 120 North-east Scotland cases of myelomatosis blood-grouped prior to transfusion in 1955-70 (see Table).

As many more years would have to elapse before this result could be either refuted or confirmed in North-east Scotland, with its very small population, it is to be hoped that further series will be compiled by others with access to much larger numbers. In this connexion, however, concerted action^{2,5} would clearly be particularly desirable, because of the uncommonness of myelomatosis, plus the strength of Wiener's⁶ argument that the study of the blood groups in relation to disease is called in question, to an unknown extent, by the putative non-publication of negative findings. The same would be even more true in respect of amyloidosis, whose relationship to myelomatosis and thromboembolism is discussed by Dr. Catovsky and his colleagues.

The possibility of a blood group association between thromboembolism and cancer

was suggested by Dick *et al.*,¹ who, referring to the relationship of thrombosis and cancer in general, pointed out that the significant excess of A in their series of thromboembolism cases was confined to the subgroup A₁, and that the same had been true in respect of their series of stomach cancer cases. Accordingly it is interesting that there is not only "evidence of some strength" of an association between group A and cancer of the pancreas,⁵ but also some evidence of a particularly high incidence of thrombosis (single or multiple) in cancer of the body or tail of the pancreas.⁷ Thus it is possible that, from the standpoint of ABO blood group distribution, a division of cases by site and type, not to mention secretor status, would be as profitable in pancreatic cancer as it has been in peptic ulcer.—I am, etc.,

T. M. ALLAN.

Blood Transfusion Centre,
Royal Infirmary,
Aberdeen.

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ABO Blood Group Distribution in Myelomatosis in N.E. Scotland, 1955-70

ABO Blood Group	Number of Myelomatosis Patients in N. E. Scotland, 1955-70				
	Observed	Expected ^a	Difference (O. minus E.)	Ratio O./E.	(O. E.) ^a E.
A	53	42.4	+10.6	1.25	2.64
AB + B	16	16.6	0.6	0.96	0.02
O	51	61.0	-10.0	0.84	1.64
Total	120	120.0	Nil	1.00	4.30

$$\chi^2 = 4.30 \text{ for } 2 \text{ d.f.; } p < 0.1$$

Internal Sphincterotomy

SIR,—For almost two years we have been using lateral subcutaneous internal sphincterotomy for fissure-in-ano and our results¹ are similar to those of Mr. D. C. Hoffmann and Professor J. C. Goligher (19 September, p. 673). We wish to make some

observations from our experience.

As an alternative to the von Graefe cataract knife a no. 11 Bard-Parker blade may be used and indeed is often more readily available. We find it entirely satisfactory. Like Notaras² we divide the sphincter

from within outwards. The point of the knife-blade is introduced in the perianal region and advanced under the skin towards an anal papilla at the base of a column of Morgagni. Thus perforation into an anal crypt is avoided. Then by cutting laterally that part of the internal sphincter below the dentate line is firmly divided. Conversely when cutting towards the anal lumen, as advocated by Mr. Hoffmann and Professor Goligher, we find mucosal perforation more common. However, a small perforation is not serious. It heals without fistula formation. It is neither necessary to suture the defect nor to convert it to an open sphincterotomy.

In our clinic local infiltration anaesthesia with 0.25% bupivacaine containing adrenaline and hyaluronidase is used for many anorectal operations. This gives several hours of complete postoperative freedom from pain. Furthermore, outpatients may go home immediately after surgery, thus reducing the work load on nursing staff.—We are, etc.,

ANTHONY P. CLERY.

MICHAEL FEELY.

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Varicella and Herpes Zoster

SIR,—Varicella was at one time regarded as a relatively benign childhood ailment, but it is becoming increasingly realized that the virus of varicella may lie dormant in the central nervous system for many years to erupt later as herpes zoster, a much more serious complaint that causes great pain and suffering. Apparently this is associated with a waning of immunity to the varicella virus.

Surely the time is ripe for a vaccine to be made available to adults which could boost their immunity and so reduce the risk of their ever developing shingles.—I am, etc.,

T. H. GILLISON.

Ilkeston, Derbyshire.

Teratogenic Drugs—R.C.G.P. Survey

SIR,—In a leading article (14 March, p. 642) a survey conducted by the Royal College of General Practitioners was mentioned as a source of further information about possible relationships between aspirin consumption by women in the early weeks of pregnancy and subsequent congenital malformation in the child.

The college survey, now completed, is based on a study of approximately 10,000 women. Both self-administered drugs and prescriptions issued to these women in the period from six weeks before the last menstrual period to 22 weeks after the last menstrual period were recorded. The numbers given below, unless otherwise stated, refer to individual prescriptions by the practitioner or to reports by the woman to her practitioner of any drugs she has taken herself. The numbers of expected prescriptions based on the numbers issued to all women who reached term in the corresponding drug categories are in brackets.

The 911 (855.7) prescriptions issued to women who were delivered of a congenitally malformed baby show a 6% excess over those expected. The equivalent number of prescriptions, 349 (306.6) for a stillborn outcome, is equivalent to a 14% excess. The excess of barbiturate prescriptions, 54 (35.6), over the number expected for congenital malformations outcomes is highly significant. However, this is only evident for barbiturates prescribed after the ninth week of pregnancy.

Fewer prescriptions for aspirin were given than was expected, 47 (54.0), but the deficit was not statistically significant. No difference was observed when mixtures containing phenacetin were removed. Where congenital abnormalities or stillbirths occurred there were fewer prescriptions for paracetamol and phenacetin than expected, 19 (30.9) for congenital abnormalities and 6 (11.1) for stillbirths. The deficit was significant for congenital malformation outcomes only. No significant differences were found when the periods before and after the ninth week of pregnancy were taken separately.

Iron preparations show a deficit 259 (283.3) and hormones an excess 30 (23.1) over expected numbers for a congenital abnormality outcome, but the only significant difference is observed with hormones after the ninth week—12 (6.3).

The excess of hormone prescriptions in stillbirth outcomes 18 (8.3) is highly significant, becoming evident after the ninth week of pregnancy 8 (2.2), although the expected and observed numbers are very small for this period.

The effect of drugs on congenital abnormality outcome must be relatively insignificant and indirect since the total excess of prescriptions in those with a congenital abnormality outcome compared with all those who reach term is 6%. This excess is evenly distributed throughout the first 22 weeks of pregnancy, and no clustering of excess prescriptions is found in the first nine weeks. Any relationship between excess drug consumption and a congenital abnormality outcome is indirect and possibly more directly related to the morbid conditions for which the drugs were given.

A later report will deal more fully with both drugs taken and morbidity experiences in early pregnancy and the subsequent outcome. Recording details from 10,000 pregnancies and analysing those records has been a major task, yet even this number yields a relatively small number of abnormal outcomes. It is essential, therefore, that studies of this nature should be planned and recorded in such a way that the results can be summated. We would urge the concept of an "expected" distribution used as shown here, by which the normality of the observed distribution can be measured.

This work has been made possible by Public Health Service Grant No. HD 00773-01, National Institutes of Health of America.

—We are, etc.,

D. L. CROMBIE,
Honorary Director.
R. J. F. H. PINSENT,
Research Adviser.
B. C. SLATER,
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Nicotine Intake in Cigarette Smokers

SIR,—Dr. Heather Ashton and colleagues (19 September, p. 679) state "This proposition [that smokers unconsciously modify their smoking patterns in an attempt to obtain this ('optimum') dose]... suggests that nicotine exerts in man some central pharmacological action. Subjective evidence from smokers that they are either 'tranquillized' or 'stimulated' by smoking... would seem to support this thesis."

This thesis was supported, indeed, I would have thought established, some 28 years ago¹ by my describing the subjective action of nicotine administered by various routes—by mouth, throat spray, hypodermically, intravenously, and transcutaneously (which including an accidentally sublethal dose²); also by my finding that after self-administering nicotine (1.2 mg.) hypodermically three or four times a day, with some smoking for a month, I preferred a hypodermic of nicotine to a cigarette inhaled.—I am, etc.,

LENNOX JOHNSTON.

Malta, G.C.

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- 2 Johnston, L., *The Disease of Tobacco Smoking and its Cure*, p. 29. London, Christopher Johnson, 1957.

Psychiatry Courses for G.P.s

SIR,—Further to my letter regarding psychiatric courses for general practitioners (26 July, p. 241) I would wish to inform the profession at large that general practitioners can now obtain subsistence and postgraduate training allowance for courses held at the Oxford Institute of Psychiatry, as long as their applications are approved by the local dean or director of postgraduate studies in Oxford.

I would further like to thank all interested people who have helped us to maintain this facility for general practitioners.

The new address of the Oxford Institute of Psychiatry and Postgraduate Fellowship of Psychiatry is 5, Walton Street, Oxford, and courses are still convened by Dr. R. R. Tilleard-Cole.—I am, etc.,

R. I. MUIR.

Hingham, Norwich.

Cancer and the Pill

SIR,—Dr. P. Strickland (18 July, p. 165) has underlined an aspect of the contraceptive pill causing considerable concern to those of us who see large numbers of patients with breast carcinoma.

I have not yet seen an early tumour in a patient taking either the pill or oestrogens. One has the impression that many of these tumours have undergone hormonal stimulation when reviewing both the history and surgical pathology. Oestrogen stimulation of breast carcinoma in the younger age groups is well known. Dr. Strickland's susceptible group may be those with microscopic, relatively latent tumour foci, which of course are not detectable clinically.

As yet, we have only impressions and suspicions, but these are founded on scien-

tific logic. Emotional factors are clouding the issue, but I would like to reinforce the note of caution that has been sounded.—I am, etc.,

R. M. CLARK.

Princess Margaret Hospital,
Toronto, Ontario,
Canada.

Toxocariasis

SIR,—Professor A. W. Woodruff's article (19 September, p. 663) has made a most timely appearance. There are other features of *Toxocara canis* which make it even more dangerous than is apparent in his excellent article.

In the tropics, the larva of *Toxocara* are able to penetrate the broken skin of gardeners who do not wear gloves, and of sunbathers who lie on contaminated beaches. The first sign of infection is one or more papules which later become a wavy line clearly visible through the upper layers of the skin. This condition is called by the profession who can recognize it "Cutaneous larva migrans" and by the lay public "Beach worm." The main symptom is intense itching, especially at night; if the two ends of the worm are marked with a fine indelible pencil (or ball point), within 48 to 72 hours the cephalic end of the larva can be detected, since it will have moved several millimetres away from the mark. The chemotherapy employed was diethyl-carbamazine (Hetrazan) in a similar dosage to Banocide (150-500 mg. daily). Where sensitivity to the drugs occur, the larva can be killed by repeated freezing of the head with ethyl chloride, and rarely diathermy is required.

It would be interesting to investigate whether cutaneous infestation causes antibody production which hinders visceral migration of the larva, since this appears uncommon. It is a fact, however, that infection can occur through the skin without ingestion of the worm or its ova.—I am, etc.,

COLIN VAUGHAN.

London S.E.3.

Puberty and Cancer

SIR,—We are puzzled to know precisely what you mean when you ask if the peak incidences of the different cancers caused by obstetric x-rays "correspond to periods of maximum growth rates in the tissue concerned" (26 September, p. 722). On the assumption that you are referring to the growth rates of the normal tissue elements (not the neoplastic elements) the short answer is "no," since growth rates for all normal tissues are maximal immediately after conception and progressively decrease with age until puberty causes a small and short-lived reversal of the main trend.

You quote us¹ as reporting death rates when we were in fact reporting attack rates, or rates related to the age of the children when symptoms first developed. We were also at pains to point out that the attack rate for all solid tumours not caused by x-rays (that is, over 90% of the cases) progressively decreased with age. Since we already know that the earliest set of cancers is exposed to hazards which do not apply to