punch-grafting¹ confirms this and lends support to the suggestion that the factors concerned in male hereditary-type baldness are due to a change in hair pattern due to genetic and endocrine factors. The fact that normally the tonsure of the scalp is not susceptible to baldness whatever the hair pattern or cycle and that when transplanted remains so would seem to suggest a genetically unsusceptible region of scalp which is also not susceptible to whatever the hormone situation happens to be. In fact what is inherited genetically is hormone susceptibility of the rest of the scalp.

Furthermore, this seems to be confirmed by clinically observing the influence of hormones in treating excess loss of hair. It is noted that oestrogens do not influence the hair pattern in females. I am surprised that no reference is made to the generalized thinning of hair complained of by the menopausal female. No doubt this is due to endocrine changes affecting the hair cycle.

Preliminary work, in both males and females, of injecting 0.1 mg. oestradiol monobenzoate at monthly intervals serially over the whole area of the crown of the scalp, in the females supplementing with 0.625 mg. Premarin (conjugated equine oestrogen) daily for 21 days of each cycle, suggests very beneficial results. After three to four months of such treatment patients are reporting much less fall-out of hair, which would suggest a decrease in the telogen phase or an overall increase in anagen-telogen ratio. This would also seem to apply to males under treatment, and so far there is no change in pattern but the cycle is advantageously effected. These patients have been undergoing treatment for varying periods up to seven months and confirm reports from Dr. Orentreich,² whose series now includes cases treated for 15 months.

No doubt the more readily available methods of hormone estimation and scalp biopsy in patients before and undergoing treatment will provide valuable material in establishing the results of this research, and thanks are due to Dr. Rook's stimulating lecture for drawing attention to investigating hair cycles in man.—I am, etc.,

London W.1.

P. LEBON.

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- ¹ Lebon, P., *Brit. J. Derm.*, 1963, **75**, 170.
- ² Orentreich, N., personal communication.

Porphobilinogen-like Chromogens in Urine of Epileptics

SIR,—M. Markovitz¹ reported the presence of porphobilinogen-like chromogens in urine from 47 out of a total of 91 epileptic patients. Though weak positives have been reported with the Watson-Schwartz test by Townsend² in the urine of general hospital patients, the proportion was much smaller—59 in 1,000 routine specimens. It seemed worth confirming the work of Markovitz and possibly identifying further the substances responsible for the weak positive results he reported.

A group of 93 Maudsley Hospital patients with epilepsy was examined. The series of patients consisted of 53 males and 40 females. The age range was from 13 to 65 years, with an average age of 30 years. There were 34 patients with temporal-lobe epilepsy, 43 with petit-mal and grand-mal epilepsy, 14 with focal cortical epilepsy, and 2 cases of epilepsy of uncertain aetiology. The diagnosis had been confirmed in

most cases by electro-encephalogram and neuro-radiological methods as well as by history and clinical examination. The patients were treated with phenobarbitone, phenytoin, primidone, tridione, methoin, acetazolamide, ethosuximide, and sulthiame, usually two of the drugs in combination. A single specimen of urine was examined from each patient—an early-morning specimen in the case of in-patients and a random specimen from out-patients.

The Watson-Schwartz test³ was performed as follows: 5 ml. of Ehrlich's aldehyde reagent was added to an equal volume of fresh urine; 10 ml. of saturated solution of sodium acetate was then added followed by 5 ml. of chloroform. The mixture was shaken and inspected. The test was considered negative if the aqueous layer was colourless—i.e., all the pink colour had been extracted from the aqueous phase. If, however, any pink colour remained in the aqueous phase butanol extraction was carried out, as discussed by Watson *et al.*⁴ Not a single positive result was obtained even in the chloroform extraction, hence butanol extraction was not required.

These findings do not agree with those of Markovitz despite the similarity of the patient sample and the technique used. No satisfactory reason can be given for the contradiction; however, it seems that such a discrepancy is more likely to be related to variation in technique than the epileptics examined.

Thanks are due to Dr. D. W. Liddell, physician, Maudsley Hospital, for the use of his cases, and to Dr. R. C. Wilcox for his advice, and to his staff for performing the tests.

—I am, etc.,

The Maudsley Hospital,
London S.E.5.

D. F. SCOTT.

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- ¹ Markovitz, M., *J. Lab. clin. Med.*, 1957, **50**, 367.
- ² Townsend, J. D., *Ann. intern. Med.*, 1964, **60**, 306.
- ³ Watson, C. J., and Schwartz, S., *Proc. Soc. exp. Biol. (N.Y.)*, 1941, **47**, 393.
- ⁴ ———, Bossenmaier, I., and Cardinal, R., *J. Amer. med. Ass.*, 1961, **175**, 1087.

Blackboard Drawing in Medical Teaching

SIR,—Mr. A. Barabas in his article (20 March, p. 782) is quite correct when he states that blackboard drawing is still the most useful visual aid in a lecture. It is about time that the disadvantages of magic lantern slides and moving pictures were exposed. Mr. Barabas has mentioned some of these. A very large number, if not the majority, of people who attend international meetings fall asleep before the end of each lecture. This is due to the fact that the audience has to sit in darkness in an overheated and sometimes very badly ventilated lecture hall. Would not the audience learn more if they got a chance of staying awake in a room full of sunshine and fresh air? Undergraduates certainly do.—I am, etc.,

BARTHOLOMEW JAMES O'DRISCOLL.

Department of Therapeutics,
University College,
Galway, Eire.

"Break-through" Bleeding and Cervical Cancer

SIR,—Recent correspondents have suggested that, despite weighty pronouncements to the contrary, oral contraceptives may predispose to thromboembolic phenomena. Another and equally grave danger is that these drugs may be conditioning many women (and, even worse, their doctors) towards accepting intermenstrual bleeding as "break-through" in type and relatively unimportant.

A recent case shows just how dangerous this thinking can be. The 30-year-old patient had been on oral contraceptives for 17 months after her fifth pregnancy, when she developed intermenstrual "spotting." The complaint was dismissed by her doctor as "break-through" bleeding and the brand of tablet changed twice in order to obviate the trouble. Five months after the initial symptom, by which time the bleeding had become post-coital in type and was no longer to be ignored, she was seen at the hospital clinic. A clinical diagnosis of cervical cancer was easily made and subsequently confirmed by histology. It seems clear that the contraceptive therapy led directly to unnecessary delay in diagnosis. It is possible that this delay was contributed to by (but still not excused by) the fact that a year before the intermenstrual bleeding began a cervical smear had been reported as negative.

Having envisaged the possibility of such a case arising, I once suggested to a well-known drug firm that packages of contraceptive tablets should carry a suggestion to patients to have regular smear tests and to report any unusual bleeding. This was declined as being liable to create more difficulties (? commercial ones) than it would solve. It is regrettable that even when a patient does report intermenstrual bleeding it can be casually dismissed as a side-effect of "the pill."—I am, etc.,

Postgraduate School of
Obstetrics and Gynaecology,
University of Auckland,
New Zealand.

G. H. GREEN.

Chromosome Mosaicism in Stein-Leventhal Syndrome

SIR,—My attention has recently been drawn to a letter by Mr. N. P. Bishun and Dr. W. R. M. Morton (7 November, p. 1200) which records the results of chromosome studies in three cases of the Stein-Leventhal syndrome. While studying in the pathology department in Cambridge in 1962 I studied the chromosomes of a similar case.

The patient, a short, dark, somewhat hirsute female with some degree of virilization had complained of infrequent irregular periods since the menarche at the age of 21 years. She was 27 at the time of investigation. Vaginal examination revealed a small, hypoplastic, anteverted uterus, and moderate bilateral ovarian enlargement. She was admitted to Addenbrooke's Hospital under the care of Mr. O. Lloyd. At laparotomy both ovaries were found to be about twice the normal size and to contain multiple follicular cysts. Bilateral wedge resections were performed, and samples of fluid from the cysts were obtained. Analysis of the follicular fluid by Dr. R. V. Short (Department of Veterinary Clinical Studies, University of Cambridge) showed absence of oestrone and oestradiol, but the levels of 17-hydroxyprogesterone and androstenedione were considerably higher than those found in normal women.

Urinary excretion of steroids was not studied in detail. Studies of nuclear chromatin in buccal cells from the patient had given variable results, but most reports had shown less than 20% of cells to have Barr bodies. Two samples of blood were cultured by the leucocyte method of Hungerford *et al.*¹ Most of the 94 cells considered satisfactory for study came from the first culture. Of these, two cells had 43, two had 44, 39 had 45, and the remaining 44 cells had 46 chromosomes each. The cells with 46 chromosomes all had normal karyotypes. At least 37 of the cells with 45 chromosomes showed a loss of a chromosome from the group 6-12;

X-chromosome maps of four of these confirmed a consistent loss of a similar chromosome from each.

The evidence suggests that this patient may have a mosaic of cells containing 46/XX and 45/XO chromosomes in the blood. This is a similar pattern to that reported by Mr. Bishun and Dr. Morton.

Thanks are due to Mr. O. Lloyd for permission to publish details of his patient.

I am, etc.,

St. Mary's Hospital
Medical School,
London W.2.

D. C. HARGRAVE.
Medical Student.

REFERENCE

- ¹ Hungerford, D. A., Gonnely, A. J., Nowell, C., and Beck, S., *Amer. J. human Genetics*, 1959, 11, 215.

General-practitioner Hospital Beds

SIR,—Dr. G. N. Marsh (6 March, p. 644) reckons without the ward sister—the cornerstone of the whole business. What sister, faced with a multiplicity of ward-rounds, umpteen different diagnostic and therapeutic “cultures,” and a wide diversity of criteria for length of stay would not tear her hair, pack her bags, and depart? Nor does Dr. Marsh take into account the tremendous strain on beds in general wards. This in itself demands the most stringent criteria for admission and discharge. When beds are under severe pressure, admission and discharge are inextricably linked, and divided authority would lead to acrimony and rapid breakdown of the whole situation.

The crowning naïveté is the concept of the consultant being called to the bedside “if the case proves more difficult than expected” (*sic*). Comment here is superfluous.

The general practitioner, with the proudest and most challenging specialty of all, has no need to complicate his task or enhance his prestige; with Dr. H. C. Moody in the same issue (6 March, p. 650), “I do not see what useful contribution . . . [he] . . . could make to the hospital service.” On with the diagnostic centres!—I am, etc.,

Knowle Hospital,
Fareham, Hants.

C. F. J. CROPPER.

Intraocular Foreign Bodies

SIR,—In bringing to your notice what might well be the youngest case of an intraocular foreign body on record I hope that some useful purpose will be served in drawing attention to the dangers of hitting an iron object with a hammer. In industry the relationship between intraocular foreign bodies and hammering with a chisel is so well known that it is normal practice in all workshops and factories where these processes are carried out for the persons concerned to be wearing protective goggles, though this is very often not done.

What is not so generally understood is that these accidents can happen both to people who are passing the area where the metal is being struck and also that they can happen in private houses.

A few weeks ago I was called out to see a child of 2½ who was toddling about in a room where his father was about to strike a bolt with a hammer. As the blow fell the child glanced round and, at a range of 11 ft. (3.3 m.), a particle of steel shot like a bullet from the piece

of metal that was struck—or possibly from the hammer—and entered the child's eye at the limbus, penetrating the anterior chamber, the iris, and lodging in the posterior vitreous. At the time of the accident the child made very little complaint apart from rubbing his eye for a few moments, and his mother who was observant did notice a small particle of blood on the lower lid. This possibly came from a minute conjunctival vessel which might have been damaged at the limbus. The child was playing happily with his toys within a few minutes of the accident and as a result of this was not brought to the doctor for two days. When I saw the child it was quite obviously a severe injury and the child was admitted to hospital and the foreign body removed by means of a magnet extraction from a posterior incision. Since then the child has had rather a stormy passage and the fate of the eye is still rather uncertain, but it is probable that the eye will be saved, though with it very little visual acuity on account of opacity in the vitreous.

This surely must be the youngest case of an intraocular foreign body on record, and one must take warning of the dangers of hammering when people are standing around watching the process. There must be many cases on record of intraocular foreign body having occurred in private houses. I myself have seen quite a number in the past ten years.—I am, etc.,

G. M. BARLING.

Peterborough Memorial Hospital,
Peterborough, Northants.

Simple Method of Transvaginal Pudendal Block

SIR,—Transvaginal pudendal nerve block is less traumatic and more precise and effective than the more commonly described transperineal route, nor is it precluded by the presence of the foetal head, which can easily be dislodged. Its disadvantage is that the operator is liable to spear vagina, foetal scalp, or his own finger. A simple, suitable, readily available guide is a 4 in. (10 cm.), luer fitting, gauge 14, cannula needle* (commonly used by anaesthetists as a filling needle), which neatly accommodates a 12 cm. 19 gauge Labat's needle (record fitting) connected to the luer lock of a 10 ml. Labat's syringe.

The operator locates the patient's right ischial spine with his right middle and index

FIG. 1

FIG. 2

fingers, which hold the cannula needle in approximation to the sacrospinous ligament just medial and posterior to the tip of the spine. The connected Labat's needle is then directed down the cannula—it can be felt to perforate the sacrospinous ligament, and when fully inserted extends about ½ in. (1 cm.) beyond the cannula's tip. Following the usual precautions, about 4 ml. of 0.5% Lignocaine is injected, which efficiently anaesthetizes the pudendal nerve. Some operators find it more convenient to reverse hands to anaesthetize the opposite side.

The accompanying photographs show (1) the pack used for local perineal anaesthesia in the Ulster Hospital and (2) the cannula needle with the 12 cm. Labat's needle *in situ*.

—I am, etc.,

Ulster Hospital,
Dundonald, Belfast.

M. R. NEELY.

* Made by Roleson's Ltd., Birmingham 20.

Longer Training for Radiographers

SIR,—I should like to comment on Dr. R. E. Eban's attack (16 January, p. 194) on Mr. R. F. Farr concerning length of training of radiographers.

Dr. Eban disagrees with the proposal to increase the length of training and is extremely scathing about Mr. Farr's remark that “the third year would be devoted wholly to additional systematic practical training and experience.” Dr. Eban's comment on this is that “anyone with actual experience of x-ray departments and radiographic training schools will recognize this for the meaningless waffle it is.” Speaking as a radiographer of not inconsiderable experience, I agree with Mr. Farr that a more thorough practical training is required by radiographers than that given by the majority of training schools to-day, and the answer may be to devote an extra (third) year exclusively to practical work.

I think Dr. Eban's contemptuous attitude arises from the chair-borne radiologist's inability to comprehend the stresses and strains of practical radiography, and from an illusion that he is always there propping the radiographer up, as implied by his remark that a radiographer “takes x-ray pictures under the supervision of, and for the use of, the radiologist.” He does not take into account the vast number of x-rays taken on emergency duty in the total absence of the radiologist and for the immediate use of the casualty officer.

In a busy general department as much as 14% of the total number of patients x-rayed, including a high proportion of critically ill patients, are x-rayed during the 125 hours of the week when there is no radiologist available in the department. From personal experience and from observation of radiographers on my staff I feel it is a very great strain for a newly qualified radiographer to be left in sole charge of a busy x-ray department on night duty. She realizes that she is the only one in the hospital with any knowledge of x-ray equipment. She has to deal with some truly awesome road casualties the like of which have probably never been seen at her city training hospital. When a blank film is inadvertently produced in a moment of panic as the attendant casualty sister anxiously checks the patient's pulse and the casualty officer puts his head round the x-ray room door to announce the arrival of two