been assessed. Several Kuwait and Lagunillas sub-fractions are strongly carcinogenic in rabbits.

Among other observations of direct clinical use is the recognition of the value of serial biopsies during radio-logical treatment of carcinoma of the cervix (this permits the rapid recognition of radio-resistant cases which can then be treated surgically), and of restricting salt intake after uretero-colic anastomosis for bladder tumours (this reduces the mortality from disordered metabolism). Another study defines the place of local *versus* widespread excision in the treatment of malignant rectal polyps.

Radioactive cobalt dust was found to have been leaking from the radio-cobalt units in Leeds and Sheffield, and radioactivity was detected in their operators. However, the amounts absorbed were well within the safety range, and the faults in the machines have been dealt with.

Fundamental Research

It is a truism that, when dealing with a really stubborn problem, the quickest solution is not always the most direct. This is certainly so in medical research, and much of the report of the British Empire Cancer Campaign is concerned with fundamental research. From a host of such studies it is possible to pick out only a few for remark. Some of the most interesting work is on the way in which chromosomal aberrations take place. By applying a chemical mutagen to the root-tip cells of beans it has been possible to observe what happens. This has led to an entirely new interpretation of chromosomal aberrations: namely, that chromosome breakage and reunion are simultaneous, the event being similar in nature to chiasma formation in meiosis. In the words of the report, "There is no need to emphasize the importance which would attach to any correlation between mutagenesis, carcinogenesis, and something akin to the physiological process of meiosis, rather than through a more random mechanism of damage and repair by chance."

Anything that adds to our knowledge of the processes of normal growth may throw light on the disordered growth of cancer: hence the interest of the observation that in the chick embryo ascorbic acid synthesis is related to the rate of growth. The next step, which is being taken, is to see whether this applies to tumour tissue also.

Lastly, from this mine of material, one experiment may be selected for its technical virtuosity. It has proved possible to take the nucleus from one amoeba and exchange it with that of another. This remarkable feat has been used to study the effects of nitrogen mustard and x rays on nucleus and cytoplasm separately. The results show that direct damage is done to both nucleus and cytoplasm, although the nucleus is the rather more vulnerable of the two.

Pedestrians over 60 are involved in a high proportion of road accidents, and, as the ratio of people in the higher age groups is increasing, their safety on the roads is becoming a greater problem. In March the Pedestrians' Association held a conference on this subject, and the report of this meeting has now been published by the association. Road accidents are often due to the inability of the elderly to adapt themselves to the speed and volume of modern traffic. The report recommends that local authorities and road safety committees should, where necessary, provide special facilities for old persons to cross the road. Propaganda should be directed to drivers, many of whom make insufficient allowance for the limitations of the elderly. Conductors of public vehicles should show special consideration for elderly passengers. The old people themselves should be given advice about road usage, and clergy and social workers among old people should use their opportunities to do this. Lame and infirm persons should, if possible, be accompanied on the roads; risks of accidents to them could be minimized by the organization of a rota of neighbours, social workers, etc., to do their shopping. The report costs 1s. (by post 1s. 2d.), and is obtainable from Mitre House, 44-45, Fleet Street, London, E.C.4.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Male Pseudohermaphroditism

SIR.—I have read with the greatest interest the account by Drs. D. C. Beatty, C. J. Champ, and G. I. M. Swyer of "A Case of Male Pseudohermaphroditism" (*Journal*, June 20, p. 1369), since a case which conforms fairly closely to the clinical picture which they describe has come under my own observation, and forms the subject of a chapter ("Features in the Analysis of a Patient with a Physical Genital Abnormality") in my recent book.¹ My interest in the case was primarily psychiatric, the individual in question having been referred to me by "her" family doctor for psychotherapy on account of symptoms of anxiety and periodic depression. Accordingly, my reference to the physical aspects of the case is only incidental—which is perhaps unfortunate from the standpoint of general medicine, since I understand that only a few such cases have been described in the literature. It is also unfortunate from this standpoint that I found it necessary to withhold certain interesting data from my account and to leave others intentionally vague for reasons of discretion. My account is subject to further limitations in consequence of the fact that, although it was not published until 1952, it was written in 1930 for a meeting of the British Psycho-Analytical Society on January 21, 1931; for at that time knowledge regarding the sex hormones was less advanced than it is to-day, and laboratory facilities for their investigation were comparatively undeveloped. Also, I did not feel it justifiable to seek confirmation of the nature of the gonads by subjecting the patient to exploratory surgical intervention solely in the interests of scientific curiosity, especially since the effect of such intervention and of discovery of the data thereby revealed might well have inflicted a psychological trauma upon the patient, whose mental equilibrium was already precarious. The interested reader will perhaps desire to refer to my published account; but I take the opportunity to draw attention to certain of the data which it contains.

The patient to whom I refer had always been regarded as female, even after the discovery of her abnormality by her family doctor, whose introductory letter included the following statement: "She appeared to be a perfectly normal child until she reached the age of puberty. She began then to grow unduly tall, but did not menstruate, but kept perfectly well. When she was about 20 I was consulted, and made an examination. I found . . . only a pin-head opening as a vagina which led nowhere. As she felt perfectly well, nothing further was done."

Accepting the doctor's account, I took no steps to initiate a more detailed physical investigation before proceeding with psychotherapeutic treatment. As treatment proceeded, however, I began to entertain doubts not only regarding the adequacy of his account, but also regarding the sex to which "she" properly belonged. Accordingly, I arranged for the patient to be examined by a distinguished gynaecologist, who reported it as his impression that the case was one of male pseudohermaphroditism, and who described his findings in the following terms: "The general development is strongly masculine; the chest is very broad, but the mammary development is, if anything, more suggestive of the female type in that the tissue is soft and slightly dependent. The pubic hair is normal in its distribution for the female, and the more superficial organs are quite definitely female—namely, labia, mons, clitoris, vestibule, and urethra. The hymen is completely closed, and is represented by a series of small bands crossing the site of the normal depression. Rectal examination was not easy, but . . . no cervix or uterine body was made out. These, under ordinary circumstances, are usually made out with perfect ease by this route. At the same time the examination was not sufficiently complete to exclude the presence of an imperfectly developed organ. The general impression which I have formed is that we are dealing with a condition of essential masculinity with the presence of male gonads accompanied by secondary characters of a female type."

It may be added that, in spite of his diagnosis, the gynaecologist agreed with my opinion that it would be inadvisable to acquaint the patient with the nature of his findings. Doubts were, however, subsequently cast upon the diagnosis when a specimen of the patient's urine was examined for oestrin and gonadotropic content, and reported upon as follows: "Oestrin—at least 20 mouse units per 24 hours. Gonadotropic content—less than 100 mouse units of follicular maturation hormone per 24 hours. These excretion results are similar to those usually obtained in a female subject, and the oestrin excretion is higher than would be expected in a male. The results suggest the presence of female secretory gonads."

In the light of this report I considered it all the more desirable to continue, for practical purposes at any rate, to regard the patient as a female.

The case in question differs interestingly from that described by Beatty, Champ, and Swyer in the facts that pubic hair was present and that the patient was abnormally tall (about 6 ft. 4 in. (1.93 m.). Another interesting feature was that during adolescence she was subject to recurrent rectal haemorrhages which lent themselves to interpretation in terms of vicarious menstruation, and which were actually mistaken for proper menstrual periods. These were followed later in life by periodical bouts of epistaxis, which lent themselves to a similar interpretation. It is also a striking fact that, while under my observation, she always spoke quite spontaneously of her periodic attacks of depression as "being unwell," and would also speak of "missing a turn" when an attack was deferred for longer than usual. The case conformed to the description of Beatty, Champ, and Swyer in that she had a definitely female mentality and displayed no evidence of Lesbian characteristics; and it may be added that her libido was highly developed towards men, and that men seemed to find her singularly attractive.

In conclusion it is of interest to record that an identical abnormality was present in several of her numerous sisters, the remainder of whom were normal women, married, and the mothers of children.—I am, etc.,

Edinburgh.

W. RONALD D. FAIRBAIRN.

REFERENCE

- ¹ *Psychoanalytic Studies of the Personality*, 1952, p. 197. Tavistock Publications, Ltd., London.

Mean Body Weight, Food Intake, and Temperature

SIR,—Although Alice's consumption of cake and mushroom was undoubtedly responsible for some of the variations in her size, and hence presumably weight, it was, significantly, the White Rabbit's fan that she dropped hastily to avoid shrinking away altogether. The fact that the fan was overlooked when its owner discovered Alice is no excuse for it to be forgotten in preoccupation with other matters this side of the rabbit hole. In the discussion of the valuable paper by Mr. J. M. Harries and Miss D. F. Hollingsworth (*Journal*, January 10, p. 75) little reference was made to non-dietary factors, other than activity, affecting body weight: the suggestion therefore that weight data can be used as an "index of inadequacy in food supplies" deserves some comment.

The closeness of the demonstrated weight-calorie relationship is paralleled by that between weight and mean temperature of the month in which it was recorded. The correlation coefficients for the whole series are respectively $r_{ew} = +0.612$, $r_{tw} = -0.730$, both highly significant; these may be obtained from the analysis, given in the table, of variance and co-variance, calculations permissible since serial correlations in the weight series used were not significant and since there was no reason to assume serial correlations in the independent variates. That these correlations were independent of each other is shown by the partial correlation coefficients ($r_{ew.t} = +0.586$, $r_{tw.e} = -0.714$). The temperature factor therefore should also be considered in assessment of the adequacy of food supplies from body weight.

Several points of interest emerge from the figures in this table. Limitations of the data may well account for the insignificant contributions by temperature and calories to the small residual sum of squares for weight. The calorie effect predominates in the longer term weight fluctuations and contributes little to the seasonal variations, while it is in the latter that the temperature effect is most marked. Thus it might appear that the state of food supply in Britain is indicated by mean body weight if this is observed over a long period—long enough, that is, for temperature fluctuations to be cancelled out. However, caution is still necessary, since differences in weight from year to year remain

Analysis of Variance and Co-variance of Mean Weight (Males), Temperature, and Calorie Intake

Source	Degrees of Freedom	Sums of Squares			Sums of Products		
		Weight	Temperature	Calories	Wt./Temp.	Temp./Cal.	Wt./Cal.
Years	5	8.6174	37.53	51,854	-4.225	-435.4	+514.78
Quarters	3	11.2815	1,720.68	9,918	-136.64	-3,173.9	+286.86
Residual	15	1.1067	74.68	27,369	-2.381	-455.2	+35.36
Total	23	21.0056	1,832.89	89,141	-143.270	-4,064.5	+837.00

highly significant after allowance is made for calorie intake, both alone and in combination with temperature. Some further influence thus appears to operate on long-period variations in weight, and hence not all such can be used to diagnose dietary adequacy or inadequacy. Not all of Alice's metamorphoses were occasioned by what she ate and by the White Rabbit's fan.

The writer wishes to acknowledge his indebtedness to Mr. M. H. Quenouille, of the Institute of Statistics, Oxford, who advised upon statistical procedures, and to Mr. Harries and Miss Hollingsworth, of the Ministry of Food, who made available their data for further examination, which was prompted not by any spirit of unappreciative criticism but rather by the wider implications of their work.—I am, etc.,

Oxford.

D. F. ROBERTS.

Peptic Ulcer in Women

SIR,—Mr. D. H. Clark's article on peptic ulcer in women (*Journal*, June 6, p. 1254) essentially confirms the findings of previous authors and establishes the absence or disappearance of peptic ulcer symptoms during pregnancy as the most impressively unequivocal coefficient in the natural history of this much studied and as yet incompletely understood condition.

In Mr. Clark's series of 400 women over the age of 21 with histories of peptic ulceration, 204 of whom had reached the menopause, only 118 had pregnancies, and it would be interesting to know how this proportion compares with a similar but unselected group of women in the same town. Should the incidence of pregnancies in Mr. Clark's series be significantly lower than in the unselected sample, this would enhance the importance of his observations on the reverse aspect of the correlation—namely, the frequency of pregnancy toxicoses in sufferers from peptic ulceration in whom the ulcer symptoms persisted or recurred during pregnancy. The possibility then arises of an abnormality of the endocrine secretions being the common factor underlying peptic ulceration, some cases of pregnancy toxicosis, and at least one circumscribed type of sterility in women. The data suggest strongly a correlation between the secretion of some of the sex hormones and the inhibition of the periodicity of peptic ulceration and emphasize *inter alia* the need to study the curious and often dramatic action of gonadotrophic hormones of placental origin on the symptoms of peptic ulcer patients. This does not imply that gonadotrophic hormone produced during pregnancy has a specific effect or even any direct effect upon ulceration, but only indicates that it is involved in some manner, a subject which I have recently discussed elsewhere (*Lancet*, 1953, 1, 1000).—I am, etc.,

London, W.1.

T. CSATO.

Intravenous Barbiturates for Drunkenness

SIR,—Dr. Peter Nobes's comments (*Journal*, April 11, p. 836) to my letter on this subject (*Journal*, January 17, p. 163) call for a reply in defence of my procedure in dealing with such cases.

Dr. Nobes theorizes on what might happen if my procedure was adopted for "obstreperous drunks," but surely such complications as "silent regurgitation" and "glottic spasm" are no more a danger here than in any of the emergency cases that receive a similar dose of any intravenous barbiturate. Moreover, I think I am right in saying that when the stage of obstreperous behaviour is reached