cycles. Continuous records are part of the proper background for the diagnosis and treatment of infecundity, also for the supervision of pregnancy in its early stages.

Concerning the statistical evaluation of the extensive data available some results have already been published (see Fig. 2 in the paper quoted; also Figs. 100 A-D inclusive, in Siegler, S. L., *Fertility in Women*, London, 1944; also Palmer, A., 1942, *Surg. Gynec. Obstet.*, 75, 768). These show mean *rectal* readings on suitable grids. Further statistical evaluation of data will be useful in some respects, but Dr. Bishop overrates the function of statistics if he thinks that the statistical evaluation of temperature readings taken by themselves can solve such questions as to whether ovulation is denoted by any given pattern. They can only be used for this purpose when related to some different and direct indicator of ovulation such as findings at laparotomy.

I would add that my experience is not "unique," as can be readily ascertained by anyone who cares to avail himself of the extensive literature on the subject which has come into being in the last ten years.—I am, etc.,

London, W.1.

MARY BARTON.

Identification of Medical Documents

SIR.—It appears to me that Prof. Lancelot Hogben and others (April 3, p. 632) are trying to make a mountain out of a mole-hill. We are, presumably, on the eve of a National Health Service. If code numbers can be supplied to death certificates, why not to birth? These could be used for the medical histories.

I have been told that Records Officers have experienced difficulty in obtaining National Registration Card numbers, but after 30 years' experience of giving identification numbers to my patients I am convinced that where the Records Officer may fail the doctor never will if he is worth his salt.—I am, etc.,

Halifax.

A. GARVIE.

Treatment of Phlebothrombosis

SIR.—Mr. Hamilton Bailey's article (March 27, p. 594) is both timely and welcome, and it should serve as a stimulus to the earlier detection of phlebothrombosis. It would be a pity, however, if the impression is gained that all such cases should be treated by interruption of the vein.

Since 1944 I have been on the look-out for this condition and have performed the operation in a number of cases. I have been impressed at the number of times the condition can be spotted if one remembers to look at the legs after the fourth post-operative day. My own feeling is that the large majority of cases are best treated with anticoagulants. I have tried to define, for my own benefit, the indications for operation as against anticoagulative therapy, and I have come to regard them as follows:

1. Where anticoagulants are not available—this was so in three battle casualties.
2. Where haemorrhage follows the use of anticoagulants. In a recent case of spreading thrombosis and pulmonary infarction on the 7th day following prostatectomy, profuse haemorrhage occurred from the prostatic bed when heparin was given.
3. Where anticoagulant treatment would have to be maintained over many months and active leg movements are prohibited, as is the case where phlebothrombosis develops during heart disease.
4. Where there is recurrent phlebothrombosis—e.g., in 1943 and 1944 repeated small emboli with pulmonary infarction occurred at intervals of a few months in a serving soldier. Each attack was severe enough to require hospitalization. Venous interruption has given him complete relief.
5. Where there is obvious arterial disease contraindicating anticoagulants. In one case I have seen cerebral haemorrhage follow their use.
6. Where extensive ulcerating lesions are present—e.g., ulcerative colitis from which haemorrhage is to be feared.

In the actual operative procedure I have made it a practice to expose the external iliac vein and not the femoral. There is some evidence that the collateral circulation is more efficient here than below Poupart's ligament.

I have found a glass tube of a diameter a little less than that of the external iliac at this site to be the most efficient extractor of clot. The tube must be angulated 135° at about 6 in. from the tip. A powerful suction apparatus is required, and the glass tube gently pushed up inside the vein, thus detaching the clot where it is adherent

to the intima. As the clot gradually becomes free it can be watched passing up inside the glass tube until the upper limit of attachment is reached, when it is suddenly sucked down the tube, often in one piece.

It is wise to have the patient half sitting-up during this stage of the operation, and as soon as the clot is free he should be instructed to hold his breath so that the blood flows back down the vein. Pain in the calves usually disappears within 24 hours of the operation.

I have never regretted carrying out this operation, though I have once regretted that I did not tie the opposite vein as well. At the same time I think it would be unwise if the vein was ligated in every case of deep thrombosis. In the majority of cases all that is needed is treatment with heparin and dicoumarol. The difficulty which arises is to determine the cases in which vein interruption is preferable.—I am, etc.,

Bristol, 3.

W. M. CAPPER.

Harrison's Grooves

SIR.—The article by Drs. J. Naish and H. R. E. Wallis (March 20, p. 541) on the significance of Harrison's grooves is an interesting work of research into the historical aspects of the problem. It is rather difficult, however, to agree with them in their explanation of the mode of occurrence of this clinical feature. If the ribs buckled along the line of separation of the "vertebro-sternal" from the "vertebro-chondral" ribs such an effect would be produced maximally in cases where the intercostal muscles are strongest and the negative intrathoracic pressure most evident. In complicated pneumonia there is very little alteration in the intrathoracic negative pressure; certainly there is no increase in the elastic recoil of the lungs in this disease. If bronchiectasis followed the pneumonia a varying amount of elastic tissue will have been lost, leaving the patient with less elastic tissue than previously. In any case if one is concerned chiefly with a disproportion between the negative pressure in the thorax and overacting chest muscles, one is still met with the fact that the diaphragm helps to fix the anterior portions of the lowest ribs, whose lateral portions tend to move outwards.

I agree with Dr. R. Good (April 10, p. 707) that an analysis of the problem should include a consideration of the question of position, though it is felt that he does not sufficiently stress the significance thereof. On the other hand it is difficult to agree that feeding is a matter of much importance. Feeding *per se* affects 100% of children; Harrison's grooves are not found in more than about 10%, and in any case they develop more commonly in children after illnesses in which anorexia, and therefore a diminished food intake, are clinical features. This of course does not rule out the part played by abdominal distension whether by aerophagy or by fermentation, in the intestines of a weakened infant.

However, I think more light will be thrown upon this clinical sign by considering in greater detail the incorrect posture in which many patients are nursed during several phases of their illnesses. The so-called "upright posture" frequently consists of flexion of the head and neck, of the upper part of the chest upon the lower, of the abdomen, of the knees, yet minimal flexion of the hips. It is enforced yet concealed by the tucking in of the bedclothes, which are rendered heaviest and tightest under the chin and over the shoulders in a patient who has partly slipped down—i.e., the custom of "tidying the bed" or making the patient "comfortable."

Where the best of nursing facilities exist—and certainly in the best of children's wards—such a posture is practically unknown. In many other children's hospitals, and in more than one adult ward, if understaffed, this "decubitus *en flexion*" has been encountered with somewhat more than slight frequency. It explains why *lumbar* rather than *sacral* pads of oedema sometimes develop in patients suffering from cardiac failure who are treated in bed in this manner.

An examination of conditions obtaining in the patients' homes will support this point of view. Especially in the case of the poorer ones—from which many of the patients observed by Drs. Naish and Wallis came—and particularly where the sick child has been nursed in its parents' bed because other facilities are even less suitable, the posture described above is the usual finding. It is perpetuated when the debilitated convalescent child or one suffering from repeated attacks of asthma or recurrent mild infections is made to rest in a high and large adult's arm-chair with only his head, shoulders, and sacrum in contact with any support.

The result—as Dr. Good pointed out, displaces anteriorly and outwards the soft lower ribs by the action of the tense upper abdominal contents. It diminishes respiratory excursion and mini-

mizes the power of the abdominal muscles in the action of coughing. In this flexed position, if the rectus abdominis exerts any action at all, it tends to pull the 5th, 6th, and 7th costal cartilages *forwards* as well as *downwards*. Only when the child completely recovers from his pulmonary or other disease and is able to get about actively does the rectus abdominis, aided by the transversus thoracis, act in a truly vertical direction anatomically. But not all the child's natural and unbiased instincts are sufficient to compensate for the errors committed upon him during his periods of enfeeblement by his elders—and "better."

Perhaps one piece of evidence to support this explanation is the fact that Harrison's grooves, although commonly found in children who have chronically infected tonsils, do not occur particularly in those who have had diphtheria or meningitis—cases nursed in bed in the supine position. Lastly, it may be mentioned that one's study of human beings is necessarily incomplete if while pursuing such a study one does not oneself also consider them in the normal habitat—namely, the home. If one did it would soon become manifest that the "upright attitude" of man, though often "assumed," is not always "true."—I am, etc.,

London, N.4.

I. H. MILNER.

Thiouracil in Toxic Goitre

SIR,—I have been tempted to enter the lists on the discussion of the value of thiouracil in thyrotoxicosis following on the paper by Drs. Harold Cookson and F. H. Staines (Nov. 15, 1947, p. 759), the letter by Mr. Geoffrey Keynes and Dr. J. W. Linnell (Dec. 13, p. 971), and the reply by Drs. Cookson and Staines (Jan. 7, p. 123). In the past 30 years I have had an extensive experience in the surgery of the thyroid gland, and since the introduction of the "thio" drugs I have used them extensively in two ways: (1) as short-term treatment in preparation for operation of nodular or, as I prefer to term them, toxic adenomatous goitres, and (2) as long-term treatment for the acute primary hyperplastic toxic goitres, practically all patients being ambulant. I would draw particular attention to these two classes, as the adenomatous and old colloid goitres with secondary thyrotoxicosis are unsuitable for long-term treatment with the prospect of cure, as they invariably relapse and, provided they are operable, should be subjected to surgical treatment.

With acute primary thyrotoxicosis, however, the position is very different—in fact just as different as the pathological condition of the glands in primary and secondary thyrotoxicosis. In my last published report on the control of thyrotoxicosis by methyl thiouracil (*Med. J. Aust.*, 1947, 2, 93) I presented a detailed and critical survey of 84 patients with long-term treatment by methyl thiouracil, which I find is the drug of choice. There were fifty patients of the acute primary type in whom treatment had been concluded for varying periods and fifteen in whom it had not been concluded. Of these, four had been subjected to operation—one because she was subsequently found to be a secondary type, one for cosmetic purposes, and two because of reactions to the drug. There were nine patients with toxic adenomatous glands who had been on long-term therapy for various reasons, and three of these had finally been brought to operation. There were ten recurrent primary cases following either operation or x-ray therapy, of whom six had their treatment concluded with satisfactory result. One was referred for further deep x-ray therapy and three were still under treatment. There were no deaths, and only in eleven cases were there any reactions which could be classed as toxic. In four of these I do not consider that the drug was an aetiological factor, but as the various troubles developed during treatment they were included. In only three cases was treatment suspended, operation being carried out in two of them and the third referred for deep x-ray.

As Mr. Keynes mentioned, surgery in expert hands carries with it a mortality of less than 1%, but this depends not only on the surgeon but on his team, as the anaesthetist plays a very important part, as do the nurses concerned in the immediate post-operative course, and I still believe the average surgeon in this field has about a 5% mortality. Surgery carries with it other than mortality risks, such as laryngeal nerve paralysis, hypoparathyroidism, and residual toxicity, and if 80% of cases are eventually restored to complete normality by surgery it is good work. In my own cases of acute primary thyrotoxicosis I now subject them all to long-term therapy with methyl thiouracil and necessary adjuvant therapy, as I have laid down, for in 87% of cases apparent cure can be obtained, and if surgery is decided on later it can be carried out with safety. My own experience

confirms that of the Lahey Clinic in that I have not had a fatality in over 300 cases of toxic goitres since preparation has been carried out with thiouracil.

Mr. Geoffrey Keynes and Dr. Linnell give a very caustic criticism of the results obtained by Drs. Cookson and Staines, and not without some justification, as they compare very unfavourably with those published by other workers (possibly because only ten of their 95 cases were "smooth" goitres), but I feel that their implied contention that all cases of thyrotoxicosis should be operated on is not correct, and even in the Lahey Clinic one can see they are departing from this rigid standard laid down in their early experience of the "thio" drugs that surgery was the only cure. I would also point out that most workers in this field experience too many toxic effects, due, I consider, to too high dosages, insufficient clinical observation of the patients, adherence to a standard and not an individual routine, neglect of adjuvant therapy, and persistence with long-term treatment in cases of secondary thyrotoxicosis.

In over 500 patients treated with "thio" compounds or under treatment, whether short- or long-term, I have had one case of agranulocytosis only, and less than 7% of toxic manifestations, which are mainly so mild as not to interfere with treatment. The average time of treatment is about 7 months, and so far only 1% of recurrences have occurred, as contrasted with the 48% of a combined series of reports from U.S.A. and the 16% of Drs. Cookson and Staines. Dr. A. Wilson and Prof. H. P. Himsworth so far give the most encouraging results from Great Britain in the field of long-term treatment with thiouracil or methyl thiouracil, and it is hoped that other workers will publish their experiences, as it is only by free exchange of ideas and results that we can determine what is best for each individual patient. After all this is what constitutes our ultimate responsibility to the general public.

I would like to support the remark of Drs. Cookson and Staines that antithyroid drugs have established themselves as a most valuable addition to the methods of treatment of toxic goitre, and in certain types as the method of choice, and commend it to Mr. Geoffrey Keynes and Dr. Linnell for their further unbiased consideration.—I am, etc.,

Sydney.

HUGH R. G. POATE.

Calciferol in Tuberculosis

SIR,—Although calciferol has become established as a valuable therapeutic agent in lupus vulgaris, its use in the treatment of pulmonary tuberculosis is regarded with diffidence. Literature on the subject is scanty, but the report by Macrae (*Lancet*, 1947, 1, 135) appears to justify caution with this method of therapy. He records disastrous results to two patients undergoing treatment for lupus. One had a fatal haemoptysis, the other developing active disease in the lung, which fortunately subsided after the calciferol was withheld. Neither of these patients exhibited evidence of pulmonary involvement prior to the commencement of treatment.

In the treatment of established phthisis, however, calciferol may be of value and the dangers of its administration exaggerated. Dr. R. Grenville Mathers (March 20, p. 569) observed clinical improvement in six cases of advanced pulmonary tuberculosis treated by this method. No adverse toxic effects were noted. I have obtained similar results in ten patients, giving them weekly injections of 500,000 units for periods varying from six to twelve weeks. Moreover I noted a greater clinical and radiological improvement when this treatment was combined with the administration of "promanide." All the cases were of the very advanced and febrile type, and progress has exceeded that which I would have expected from bed rest alone.

Results so far have led me to conclude that calciferol may become a useful adjunct to the treatment of phthisis, but the uncertainty of its action does not yet justify its application to those cases suitable for more orthodox measures. If calciferol acts by stimulating the defence mechanism of the tissues it may prove a more effective means of treatment when used in conjunction with chemical agents acting on the tubercle bacillus itself, such as streptomycin, sulphathione, or sodium *p*-amino salicylate. The improvement seen with promanide lends support to this suggestion. Further research into the subject is necessary and it would be interesting in the meantime to hear from others who may have used this drug for the treatment of phthisis.—I am, etc.,

St. Helens, Lancs.

D. S. HAYES.