to show whether these organisms are or are not related to the disease. The following report has been published:

Report on the Clinical and Bacteriological Examination of the Vagina in 60 Cases of Rheumatoid Arthritis. (Vol. iii, No. 4, p. 83.)

14. *Chemical Research.*—An important and tedious research is being carried out in the Research Hospital on the metabolism of arthritic patients. These studies are most exacting to the observer, to the nurses, and to the patients, and could not be possibly carried out without the aid of such an institution. The following reports have been published:

Observations on the Purin Metabolism. (Vol. ii, No. 6, p. 146.)

Observations on the Uric Acid Excretions in One Normal Person and in 4 Cases of Rheumatoid Arthritis. (Vol. iii, No. 2, p. 87.)

Observations on the Uric Acid Excretion in Gout and Rheumatoid Arthritis. (Vol. iii, No. 2, p. 17.)

Observations on the Calcium Metabolism and Uric Acid Excretion in Rheumatoid Arthritis. (Vol. iv, No. 3, p. 33. In the press.)

15. *The Effect of Climate and Soil on Disease Generally, and So-called Rheumatoid Arthritis Particularly.*—It is believed by the medical profession and the public that residence in certain districts is harmful to those suffering from certain diseases; while there is some evidence that this is true, it is by no means sure, and it is important that the question should be settled if possible; for, by the advice of their doctor, patients are constantly removing from one locality to another reputedly more suitable for their condition, at great personal loss and hardship to their family. In connexion with our studies a geographical survey has been organized, in order, if possible, to determine the relationship, if any, of climate, geological formation, vegetation, and allied factors to certain diseases.

The study includes the following factors:

- (a) Geographical situation.
- (b) Geological formation; for example, limestone, clay, sand and soil generally.
- (c) Vegetation; for example, trees—pine, oak, elm—thickly or sparsely wooded; cultivation, pasture, crops, moorland.
- (d) Altitude.
- (e) Rainfall.
- (f) Sunshine.
- (g) Temperature.
- (h) Wind.
- (i) Water supply—hard, soft.
- (j) Situation; for example, mountain, fen, moorland, sea coast, inland.

Another line of research which the above studies have shown to be urgently needed and which at present our funds will not allow us to undertake is operative treatment of arthritic joints. In many patients the changes in the joints can only be remedied by operation, and there is great probability that the pain which is present in many cases of arthritis, and for which no treatment is of any avail, might be entirely removed by operation. For these and other reasons it has been decided to build an operating theatre as soon as funds can be obtained. This urgently needed line of work will be begun the moment the theatre is built.

The following table gives details of our annual expenditure since the opening of the hospital.

	Hospital.	Research.	Bulletin, etc.	Total.	Annual Subscriptions.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1906 ...	336 16 8	189 16 2	14 2 6	540 15 4	—
1907 ...	256 2 8	158 5 10	91 11 3	506 0 2	—
1908 ...	177 4 11	141 18 2	23 2 9	510 12 7	—
1909 ...	192 8 6	197 10 7	106 7 0	496 16 1	192 19 0
1910 ...	250 10 10	173 6 0	19 3 2	526 0 0	206 16 6
1911 ...	102 12 9	82 2 7	61 18 6	246 13 10	192 18 0
1912 ...	395 14 1	134 14 4	29 19 0	560 7 5	212 0 3

It will be seen that the annual expenditure averages £500 yearly, a small sum compared with the sums spent by many other research committees, especially if we take into consideration the additional expense involved by the

up-keep of the hospital and nursing staff, and the feeding and treatment of patients. Our income from annual subscriptions averages £200 yearly.

Medical men are beginning to make special journeys to Cambridge in order to see the hospital and something of our work and methods. I extend a cordial invitation to any medical man who is interested in the subject to come and see the hospital, and will do my best to make his visit pleasant and interesting. I should, however, be glad if any intending visitor would make an appointment before coming to the hospital.

THE SIGNIFICANCE OF PHLEBOLITHS.

BY

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SOME few months back I was asked by an insurance company to make an x-ray examination of the kidneys, ureters, and bladder of a gentleman who had applied to them for a policy upon his life.

It transpired that in the course of an examination undertaken by the medical referee to the insurance company the patient had stated that two or three years previously he had had an attack of abdominal pain which lasted for several hours. In his description of the attack he related all the classical symptoms usually attributed to the passage of a calculus from the kidney to the bladder, but as far as he was aware no stone had passed through the urethra, and since the attack he had enjoyed perfect health and had experienced no further trouble.

The patient, a well-built man, without an ounce of superfluous fat, had at my instructions been prepared for the examination by the taking of an aperient on the night previous, and the administration of an enema on the morning of the examination. The radiographs were excellent, and on careful examination there was no shadow to indicate the presence of a calculus. The radiograph of the pelvis showed a line of phleboliths in the usual position, namely, half an inch above the upper edge of the pubis on the left side. It was in the left flank that the patient experienced the afore-mentioned attack of pain. On the right side, in a corresponding position, there were two small and similar shadows.

I was asked by the insurance company to furnish them with a report as to the man's fitness. This I avoided, but I furnished them with a copy of the radiograph together with a description of it, and suggested that they should send it to their medical referee, who was a specialist in diseases of the urinary tract. Whether or not the life was accepted as a first-class one I do not know, but the case deeply interested and impressed me, and was the indirect cause of my writing this article.

During the last ten years I have radiographed hundreds of cases in which the presence of calculi was suspected, and, whilst in many instances no stone has been found, in a large number phleboliths were clearly defined in the pelvis, and were always most numerous on the side in which the patient complained of pain or discomfort.

I have recently been greatly impressed by the large number of cases which have been sent to me, in which all the classical symptoms of stone were present yet in which no shadow was found, with the exception of phleboliths. In some of these cases the phlebolith shadows were only found on the side in which pain had been experienced, and in all cases where phleboliths were present they were always more abundant on the affected side than upon the opposite one.

I may say that all the cases I refer to were specially sent for examination as having symptoms which at least pointed to the possibility of a calculus, and that in my experience of these cases, both in hospital and private practice, lasting over a period of six years, the percentage of stones found varies between 17 and 20.

In *Quain's Dictionary of Medicine*, 1885 edition, the following sentence occurs: "Phleboliths are harmless, and they require no treatment." Whether this be true or no I am not in a position to say, but there cannot be the slightest doubt that phleboliths are of far greater significance than is usually admitted.

What are phleboliths? Makins in *Heath's Dictionary of Practical Surgery* says:

A phlebolith is a calcareous concretion developed within a vein. Phleboliths are the result of calcareous degeneration of laminated thrombi; they are met with chiefly in the veins of the lower extremity and pelvis, most commonly lying loose in ampullae, behind the valves. They are usually rounded or oval in shape, and are constituted of phosphate of lime, with 20 per cent. of protein matter, and a little sulphate of lime and potash. (Frankland.)

During the last eighteen years I have taken, or superintended the taking of, over 20,000 radiographs, and so far have failed to obtain the image of a phlebolith outside the pelvic area; whilst in a number of instances I have detected the presence of calcareous deposits in the walls of the arteries in all parts of the body.

Phleboliths are rarely seen in patients under 40 years of age, but above that age they are said to be fairly common. Hurry Fenwick examined 30 bodies by means of the *x* rays in the *post-mortem* room, and found phleboliths in seven instances, four being males and three females. The ages of the patients varied between 43 and 47 years. The phleboliths were all found in the plexus of veins running along the side walls of the bladder, uterus, or rectum. None of these phlebolithic patients had had any signs of calculus during their lifetime. He does not state, however, whether they were picked at random, or whether there were any signs of renal disease. He says:

Phlebolithic markings in the pelvic area are of frequent occurrence in cases with renal pain. There does not seem to be any correspondence between systemic disease, unless it be atheroma, and phlebolithic change; but there is no doubt in my mind that the varied inflammatory processes incidental to disease of the sexual organs in both sexes influence very materially the production of phlebolithic concretions.

In order to ascertain what amount of significance is given to the presence of phleboliths, I interviewed the pathologist of a large general hospital, who informed me that although he had performed over a thousand *post-mortem* examinations, his attention had so far never been drawn to their presence. I next talked the matter over with Professor Peter Thompson, who holds the Chair of Anatomy at the University of Birmingham. He was much interested in the subject, and promised to ask his students to look out for phleboliths in the dissecting-room. Within a week, he telephoned to me that they had been found in one of his subjects. On my visiting the dissecting-room I was shown the bladder and sexual organs of a man, aged 60, in which numerous phleboliths were present; these were chiefly found on the side walls of the bladder, and were much more numerous on the right side than on the left. There could also be felt numerous concretions in the seminal vesicles. I borrowed the specimen and submitted it to an *x*-ray examination. In the resulting radiograph all the concretions which could be felt were visible; the images of the phleboliths, however, were much more strongly marked and clearly defined than those of the concretions in the seminal vesicles. In the case of the latter I doubt whether a visible image would have been obtained in a radiograph taken under ordinary conditions through the living body.

In all cases in which phlebolithic images are found it must be assumed that a phlebitis has been present at some period of the patient's life, and that a dilated condition of the veins still exists. The significance of their presence, therefore, must vary inversely with the patient's age. In young subjects (under 40 years of age) their presence indicates early degenerative changes of a degree of importance nearly approaching that ascribed to the presence of atheroma.

There is plenty of evidence to prove that phleboliths do not exist in perfectly healthy and normal individuals—at any rate, until advanced age is reached—whilst there is little or no proof that they are the natural result of senility.

Granting that the latter assumption were proved, the early appearance of phleboliths should be of as great significance as if (as I venture to think) they are direct evidence of existing or pre-existing disease.

I submit this short and imperfect article simply in the spirit of inquiry, in the hope that others with greater experience may give us their views upon an interesting subject.

APPENDICECTOMY IN GENERAL PRACTICE.

BY
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EBBW VALE.

IN the JOURNAL for November 15th Dr. Robert Hutchison, in a letter headed "The Craze for Appendicectomy," asks for the testimony of the family doctor as to the condition of patients after the surgeon has done with them. To that request the following account of my own experiences in this connexion is a reply.

I have been in general practice in a small way for over seventeen years, yet can give little information owing to the small number of patients of mine that have required operation. Hospital surgeons are called in when the family doctor believes operation is necessary (and sometimes when he is not)—that is to say, in the worst cases; but they are hardly ever called in to see cases that do perfectly well without their assistance. Hence there is a considerable class of cases of appendicitis which they never see, and as to the treatment of which they have no experience. This leads them, I think, to take an erroneous view of the disease as a whole, for they seem to imagine that appendicitis is of necessity a very fatal disease unless the appendix is immediately removed. In my limited experience this is not in accord with the facts, and I am entirely unconvinced that operation is necessary in every case.

I will dismiss at once the comparatively large number of patients who come to the doctor and "think they have appendicitis," but merely have some pain and tenderness in the region of the appendix, which clears up in about ten days or a fortnight with medicine appropriate to the individual. I dismiss them because such cases do not amount to appendicitis. There is no rise of temperature, no enlargement of the appendix, no quickening of the pulse; and when they have recovered one does not hear anything more about their appendices.

In regard to cases of true appendicitis, I deal first with those in my practice which have required operation:

CASE I.

While in practice in North London for eight years I had only one case. The patient was a middle-aged lady, who had been treated by another practitioner for "gastric influenza." There was a large mass of plastic peritonitis around the appendix, and this suppurated. She was sent to hospital and an operation was performed. She recovered, but was not free from abdominal discomfort when I left London, and I do not know her after-history.

CASE II.

A young man said he had had influenza, and that for a week he had had pain in the abdomen. The appendix—not adherent—was enlarged, about the size of an elongated filbert. There was pain also in the epigastrium on pressure. Three days later the pulse was 92, temperature 98.4°. There was no pain on walking, but the abdomen was still tender, and there was some spasm of the muscles on pressure. Four days later he had severe pain in the night. Pulse 100, weak, and not quite regular; temperature 98.4°. The appendix was very tender, and the size of my thumb. He was sent to hospital and had it removed, after it had been found that it could be emptied by massage, but it filled up again. He is now (four years after) quite well.

CASE III.

This was a small boy, who got a tender enlarged appendix. I have not the notes now, but being satisfied that operation was required, I sent him to hospital and had the appendix removed. He is now (after over seven years) quite well.

CASE IV.

This was a boy who got measles, followed by bronchopneumonia and pleurisy. He began to complain of pain in the right iliac fossa, where some indefinite swelling was felt. The pulse was 100, respirations 44, temperature 100.2°. He had vomited. The symptoms gradually subsided, and the pulse was 80, and temperature 99°. Still a smouldering appendicitis was suspected, and a tender fluctuating swelling like an abscess was felt per rectum. The appendix was removed the next day. It appeared normal to the naked eye, and just above it was a small abscess containing from 1 to 2 drachms of pus. A week later he passed a shower of small uric acid calculi, some blood, albumin, and granular casts. I do not know whether the abscess was due to the appendix or to the right ureter. He made an uninterrupted recovery, and is now quite well, three years after.

CASE V.

This was a dustman of middle age who had previously been attended for appendicitis by another doctor. The abdomen was held tense, and was tender at McBurney's point; no dullness and no mass were found about the appendix; pulse 56,