

Pelvic Contraction.

Pelvic contraction appears to be uncommon in the indigenous Australian population and I have the impression that most of our patients are "imported." The chief use of instrumental pelvimetry is to cultivate and correct our conception of pelvic mensuration as gained by manual pelvimetry. In practice chief reliance will be placed upon manual methods in estimating the relative sizes of head and brim. Moreover, besides mensuration there are other clinical signs of disproportion, such as non-descent of the head in a *primiparæ* within a week or two of term.

In most cases of pelvic contraction detected not later than the thirty-sixth week the essentially British operation of induction with bougies should be feasible and give good results. We may well reserve Cæsarean section for gross cases and for those in which the head does not engage after trial labour of six to eight hours.

Breech Presentation.

It is especially important in *primiparæ* and advisable in *multiparæ* to endeavour by external version to correct a breech presentation in the last few weeks of pregnancy. I do not remember succeeding without the help of an anæsthetic and the Trendelenburg position. My best success was under spinal anæsthesia with the consequent flaccidity of abdominal muscles. After correction spontaneous recurrence is apt to occur so that a tight binder with quinine induction forthwith is good treatment. The likelihood of permanent correction varies inversely with the ease of performing the version.

Irving Potter's description of podalic version and breech extraction has considerably reduced my apprehension of breech deliveries. Nevertheless, I should always attempt antenatal correction.

Occipito-Posterior Positions of the Vertex.

Potter states that over 60% of vertex presentations are posterior in position at the onset of labour (and he should know!). In antenatal examinations at least 30% seem to be such. It follows that spontaneous rotation occurs in most cases, nevertheless it is a tedious business at best and a dangerous one too often. It might be said that a persistent posterior occipital position is the beginning of all evil in confinement cases.

As regards antenatal correction, Buist (1922) has given us a simple and eminently successful method of rotating with abdominal pads and binder. I strongly advise any of my hearers who are not familiar with this technique, to acquire and practise it forthwith.

PUERPERAL SEPSIS.

The reduction in the incidence of puerperal sepsis has been and still is a matter of intranatal technique. There is a good deal of evidence to show that even with the most perfect asepsis in the conduct of parturition a certain irreducible minimum of puerperal infections occur.

In any case the question arises to what extent may antenatal methods contribute towards the prevention of this malady. Already I have put forward certain suggestions regarding the antenatal management of intercurrent dental infections, pyelitis and endocervitis. Apart from these measures and general hygienic precautions, but little else is practicable.

Other suggestions include prophylactic vaccination against prevalent strains of pyogenic organisms and the prophylactic use of antisera when any operative interference is undertaken.

In conclusion allow me to thank you for your very kind attention to my remarks. From their substance I think it should be manifest that obstetricians are keenly alive to the preventive aspect of their art, more particularly as regards the antenatal department which the late J. W. Ballantyne did so much to originate and perfect.

I shall perorate in the words of Dame Janet Campbell, M.D.: "Until antenatal supervision is accepted by patients and their advisers as the invariable duty of the professional attendant engaged for the confinement, we shall never make substantial progress towards reduction of maternal death and injury. It is the key to success in any scheme of prevention and it must be insisted upon in season and out of season until it is recognized as a necessary part of the management of every confinement case."

Reports of Cases.

NOTES ON CASES OF FILARIASIS IN NORTH QUEENSLAND.

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The following cases of filariasis in Europeans who have come recently under the notice of the authors, are considered of sufficient importance in respect of the question of diagnosis and treatment in the tropics to justify publication. They are typical of many other cases. Their interest lies not only in their diversity, but also in the profound influence which a correct diagnosis has upon subsequent treatment.

J. W. W. Stephens and Warrington Yorke⁽¹⁾ write:

Little precise information is available regarding the frequency with which *Microfilaria bancrofti* is found in the blood of the various diseased conditions which are commonly supposed to be due to infection with *Filaria bancrofti*.

The essential morbid changes believed to be due to *Filaria bancrofti* are confined to the lymphatic system and are: (i.) Inflammation:—lymphangitis and adenitis; (ii.) dilatation with or without rupture:—lymphangiovarix and adenovarix with or without lymphor-

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rhagia and chylorrhagia; (iii.) hypertrophy:—hyperplasia and fibrosis, elephantiasis; (iv.) venous thrombosis; (v.) hæmorrhages; (vi.) synovitis.⁽⁹⁾

For the cases under review the following outline which actually is included in the above general classification, will be adopted:

- (i.) Filarial nodules in tissues and adult filariæ in lymphangiovarix.
- (ii.) Lymph scrotum;
- (iii.) Hydrocele:
 - (a) Simple;
 - (b) With venous thrombosis on spermatic cord;
 - (c) Double, with enlarged left inguinal lymph glands.
- (iv.) Filarial synovitis;
- (v.) Acute abdominal crises;
- (vi.) Conclusions.

In the summaries of the histories of the cases only the relevant facts have been noted.

Filarial Nodules in Tissues and Adult Filariæ in Lymphangiovarix.

Case I.—A female, aged eighteen years, was born in Ravenswood, North Queensland; she has spent holidays in Brisbane, has lived for the past ten years in Townsville and has never been out of Queensland. Seven years ago she was operated on for appendicitis. Five years ago microfilaria were found in her blood. During the last few years she has had several severe attacks of vomiting at intervals of three to four months for which she did not seek medical advice. At the end of October, 1924, she consulted one of us (E.H.) for a painful lump in the left breast which used to come and go. When at its largest it was about the size of a walnut. On examination a definite lump was found in the left breast with an area of redness over it. At the same time there was noticed a small swelling on the median side of the left arm about midway between the shoulder and the elbow practically on the line of the brachial artery. The patient stated that she had noticed it there for some time and that it used to come and go and on squeezing it the lump vanished, leaving to her examining fingers a feeling of sand or grit in the arm.

On November 16, 1924, the blood was examined and microfilaria were found to be present.

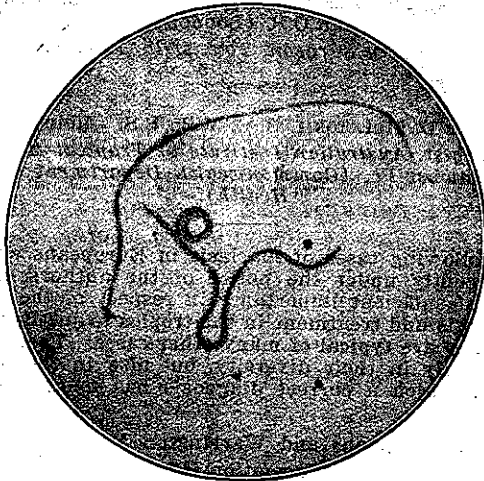


FIGURE I.

Reproduction of photomicrograph by P. H. Manson-Bahr illustrating *Microfilaria bancrofti* in hydrocele fluid. The embryo on the top of the photograph has escaped from its sheath. The appearance of the sheathed specimen is typical of those usually found in films of hydrocele fluid or in blood films. They are best demonstrated if the blood film is (a) dehaemoglobinized with 2% solution of acetic acid and 1% solution of formaldehyde and then (b) stained with methylene blue (watery solution).



FIGURE II.

Original photomicrographs of stained sections of the pathological tissue obtained from Case I. Note (a) transverse sections of filariae, (b) almost longitudinal section of a filarial worm lying near broken area across the centre of the field.

On November 17, 1924, a small lump on the left arm was removed and the tissue was forwarded to the Laboratory of the Department of Health, Townsville, for examination. It was not considered advisable to incise the breast tumour which disappeared without any surgical treatment.

On December 20, 1924, the patient noticed a lump in the right breast, but this also practically vanished without operation. The patient was quite healthy in appearance and of good colour. There was no abnormality in regard to bowel action, micturition or menstruation. The blood has been examined at monthly intervals since the operation. At the last examination in January, 1925, microfilaria were found. The small piece of tissue about the size of an almond nut excised from the left arm in November showed on one side a small sac, apparently a dilated lymphatic vessel, from which a coil of worms was obtained. These were found on being unraveled to be adult filariae, seven in number. Sections were cut of the remainder of the tissue and on examination nodules of filariae were found to be present; isolated worms were also found embedded in the tissue and cut through at various angles. The photomicrographs showed a transverse section of the worms while in the centre near the broken area a parasite appeared in longitudinal sections (see Figure III.). In Figure IV. the worm nodules in the tissue and the cellular reaction against the infection are well seen.

Lymph Scrotum.

Under the heading of lymph scrotum the following two cases are of interest.

Case II.—A male, aged fifty-one years, was feverish on admission to hospital and complained of pain and swelling in the scrotum and inguinal regions.

On examination of the affected part on October 4, 1924, there was a profound inflammatory reaction in the scrotal sac which was swollen to the size of a child's football, being red and shiny in appearance and firm and hot to the touch. The inflammatory reaction extended on to the lower part of the abdominal wall, chiefly in the left inguinal region. The left inguinal glands were somewhat swollen, the area of skin redness extending beyond the limit of the inguinal glands. Two other facts about the patient were that he was extremely deaf which made the

taking of a complete history difficult, and also that he had a chronic fibrotic arthritis of the left knee joint with much thickening of soft tissue and a very limited range of movements. The inflammation and swelling gradually subsided as the acute filarial crisis passed off and the patient was discharged five days after admission. Subsequently in January, 1925, he was readmitted for investigation of a renal complaint, but no finality was reached regarding it. On October 5, 1924, microfilaria were found present in the blood stream.

Case III.—A male, aged thirty-nine years, was born in North Queensland, where he has lived all his life except for occasional holidays spent in New South Wales. Ten years ago he was operated on for appendicitis by one of us (E.H.). Three weeks after he returned home, the patient had a feverish attack and on his blood being examined, microfilaria were found. He states that at intervals since then he has had slight swellings of the scrotum for which he has not consulted a doctor because of their fleeting character. Six years ago he had a severe attack of vomiting and abdominal pain when on a visit to the western area of North Queensland. This was coincident with a slight swelling of the scrotal sac. It was evidently a filarial attack and soon passed. Two years ago he was operated on for left inguinal hernia. In January, 1925, symptoms of recurrence took place and he consulted one of us (E.H.).

At examination on admission to hospital the temperature was 39.5° C. (103.2° F.); an inguinal hernia was present on the left side. On account of the feverish condition which the surgeon decided was of filarial origin, the operation was postponed for a couple of days, but it was then considered that further delay was inadvisable.

At operation when the skin incision was made, the skin was found to be swollen and exuded much lymph. The hernial sac contained some bowel, but chiefly omentum and all these abdominal contents were replaced. After the operation the scrotal sac swelled up to a very considerable size and on examination the swelling was found to be partly in the scrotal wall and partly in the coverings of the testis and cord. The skin was stretched smooth and was red and shiny in appearance, the whole picture suggesting an acute lymph scrotum of filarial origin. Later, when the swelling was subsiding, the upper layers of

the epithelium of the scrotal skin started to peel. The patient made a good recovery. During his stay in hospital it was noted that his left index finger became stiff and sore, suggesting to him a rheumatic arthritis.

At the first blood examination made after the operation no microfilaria were found, but at the second one, made on February 6, 1925, microfilaria were discovered.

These two cases of acute lymph scrotum apparently of filarial origin, both presented similar appearances and also resembled each other in that the blockage of the lymph return was only partial and the condition soon subsided. No dilated lymph nodules were observed and the skin was not punctured for outflow of lymph.

Hydrocele.

Simple Hydrocele.

There seems to be little doubt that many cases of hydrocele in the tropics are due to filarial infection. The following is a typical though not an isolated case:

Case IV.—A male, aged forty-four years, was born in Sydney, New South Wales. He has lived for thirty-four years in North Queensland, chiefly in Cairns and Townsville, and has not been out of Australia. On January 23, 1925, the patient felt ill and consulted one of us (E.H.), chiefly on account of a swelling of the scrotum. He had no previous history of proved filarial infection, but gave a history of periodical attacks of fever and shivers extending over about ten years. These he considered to be influenzal and accordingly did not seek medical advice. On another occasion he suffered with very severe synovitis of the right shoulder. He was an in-patient in the hospital for six weeks on this occasion.

On examination on January 23, 1925, his temperature was 39.4° C. (103° F.). He had double hydroceles, the epididymis on both sides was tender, the testes were apparently normal, no swelling of the cord was present, no lymph stasis was found on either side. The inguinal lymphatic glands were not enlarged. At operation on January 27, 1925, a hydrocele was found on the right side. It contained blood-stained fluid; the epididymis was inflamed, swollen and dark in colour; the testes were apparently normal; no swelling of the cord was found. The usual radical operation for hydrocele was performed. On the left spermatic cord just above the testis, was a dark tumour about the size of a walnut, evidently containing blood. This was removed from the cord and subsequently examined microscopically.

Microfilaria were found to be present in the blood stream. No parasites were found in the hydrocele fluid. The removed tissue proved to be a mass of fibrous tissue and thrombosed blood vessels. No embedded worms were found in this tissue.

Hydrocele (Double) with Enlarged Left Inguinal Lymphatic Glands.

The following case though not of so recent date as the others, is interesting from the point of view of the end result to be expected after surgical operation.

Case VI.—A male, aged forty-one years, was born at Rockhampton and has spent all his life in Queensland. When at school (at fifteen years of age) the patient was examined by one of us (E.H.) who found he had swollen axillary and inguinal glands. Later the swellings in axillae and right groin practically subsided and the condition was focused on the left inguinal region, where the glandular swellings became very pronounced (see Figure IV.). Microfilaria were discovered microscopically at this time.

About twenty years ago the patient had acute synovitis of the left knee joint. After the acute stage had passed, the left leg was splinted in almost full extension, but finally the synovitis cleared up without leaving any marked thickening or limitation of movement. About sixteen years ago the patient had a right hydrocele tapped; this condition had developed some time previously. About fourteen years ago the condition of the patient was as follows:

He had a double hydrocele and very marked enlargement of both the femoral and inguinal lymphatic glands on the



FIGURE III.

Original photomicrographs of stained section of the pathological tissue obtained from Case I. Note (a) rounded worm nodules in the tissue, (b) cellular reaction of the tissues against the infection appearing near the edge of the field.

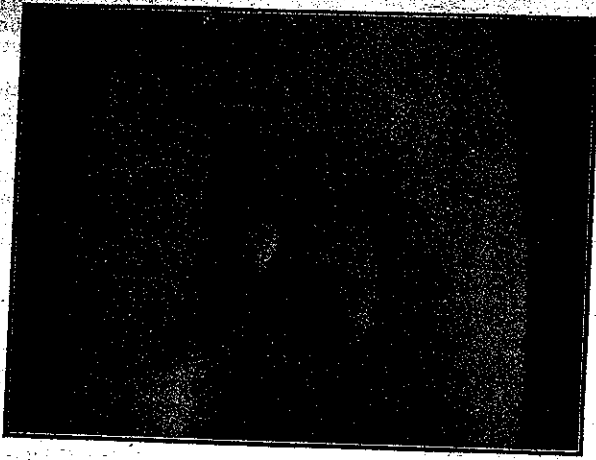


FIGURE IV.

Photograph of patient in Case VI. as he appeared before operation fourteen years ago showing swollen scrotum and an enlarged left inguinal and femoral lymphatic glands.

left side only. Radical operation for hydrocele was performed fourteen years ago on both sides. All the glands in the left groin were completely excised. At operation microfilariae were found to be present in the hydrocele fluid by Dr. Breinl.

An examination was made on February 23, 1925, at 9.30 o'clock p.m. The patient was a strong active man. No swelling of axillary glands was found. An operation scar was just visible in left groin. No sign of swelling was found in either inguinal or femoral regions. The scrotum and testes were normal. There was no limitation of movement in the left knee joint. The left leg just above the ankle joint was very slightly swollen and became pitted slightly on pressure.

The patient states he has no disability except that he gets this slight swelling just above the left ankle after a hot and tiring day, but after a night's rest it is completely relieved. No microfilariae were found on blood examination.

Filarial Synovitis.

The old chronic arthritis of the left knee joint of the patient in Case II. is probably an example of a chronic arthritis of the nature of Maitland's cases, while there is even less uncertainty that the acute arthritis of the index finger in Case III. following as it did immediately on an acute filarial attack, was due to the filarial infection. In addition the history of Case VI. suggests that here also we have an example of a synovitis due to the same cause.

Acute Abdominal Crises.

Under the heading of acute abdominal crises it is desired to mention the following case.

Case VII.—A male, aged twenty-one years, was born at Townsville and has lived all his life in North Queensland. He has spent holidays in southern Australia. One brother died suddenly of pneumonia. Recently his sister died suddenly. Microfilariae have been found present in other members of the family. Three and a half years ago the patient had a severe attack of pain in the back and lower part of the stomach and then became practically unconscious. Microfilariae were found present in the blood at that time and the patient recovered without operation. Three years ago he had a similar attack. On both these occasions the patient was desperately ill and an operation for an acute abdominal lesion was considered. Two years ago he had a hydrocele which was operated on by one of us (E.H.). At this time microfilariae were again found in the blood by Dr. Breinl. One year ago he had a fleeting attack of pain in the back and in the left testicle which was slightly swollen.

No filarial attacks have occurred since and no disturbance of bowel action or micturition has been noticed.

On examination on February 12, 1925, the patient had the appearance of a well grown youth and weighed 67.5 kilograms (ten stone ten pounds). He complained of abdominal pain not confined to any particular region and not of a colicky nature. His blood was examined at 9.30 p.m. on February 12, 1925, when microfilariae were found to be present. On returning home he had very severe abdominal pains, but the attack passed off and he was able to go to work in the morning.

While there is no actual proof that such abdominal crises are due to the presence of microfilariae, there is a strong probability that such attacks of abdominal pain in filarial patients may be due to some local upset either of a vascular or lymphatic character of filarial origin. In this connexion we have the same symptoms appearing in Case III. reported above, combined in Case VII. with a typical filarial fever and swelling of the scrotum. On this point more reported instances are necessary before any conclusions can be drawn.

In further confirmation of the hypothesis that acute abdominal crises can be produced by filarial infection with *Microfilaria bancrofti*, we have the classic record of the case of Doctors Breinl and Priestley. The case is of sufficient importance to justify excerpts in the actual words of the authors:—

Another case showing an unusual clinical picture due to filariasis came under observation. The patient, a very well-nourished man of about forty-seven years of age, was admitted to the hospital with a diagnosis of "acute abdomen." He was conscious and complained of severe pains in his abdomen. He was obviously very ill, his face was drawn, his tongue dry, his abdomen distended, rigid and tender on palpation. The groin glands of the right side were palpable and the groin, the seat of an extensive doughy swelling, extending about ten centimetres above Poupart's ligament and over the whole of Scarpa's triangle. The pulse was soft, fluttering, about one hundred and sixty beats to the minute, the temperature was subnormal and the extremities cold and clammy.

The examination of the peripheral blood after admission revealed one filarial larva in four drops of blood.

Post Mortem Examination.—The abdominal cavity contained about one pint of pinkish chylous fluid containing small flakes of fibrin.

The *post mortem* findings made it probable that the clinical symptoms—acute peritoneal irritation and collapse—were due to the rupture of a lymphatic varix and the effusion of chylous fluid into the peritoneal cavity.

Conclusions.

From Case III. we may draw the conclusions:

1. That surgical operations may help to light up a filarial attack, either general or local.
2. That operations should not be done during a filarial attack unless urgent. The difficulty here, of course, is to decide whether the fever is due to a filarial attack or to the condition requiring surgical operation. A due consideration of the various clinical signs and symptoms must here guide the surgeon.
3. That from the oedematous nature of the tissue near the operation site, the end result may not always be as successful as desired.

From Cases IV., V. and VI. we may conclude:

4. That many cases of hydrocele in the tropics are filarial in origin and that they are not necessarily complicated with lymph scrotum and enlarged inguinal glands, though possibly since the lymph return from the testes and cord is through the abdominal group of glands, those may be enlarged; also that the usual operation for the radical cure of hydrocele in those cases can be performed with a fair promise of a good permanent end result, even when complicated by involvement of inguinal glands.

From Cases II., III. and VI. we may conclude:

5. That in the tropics many patients complaining of rheumatic pains in various tissues and joints, may really be suffering from synovitis or arthritis of filarial origin,

so that in these cases a blood examination for microfilaria is called for and the ordinary rheumatic treatment may not be attended with great success.

From Case VII. and that of Drs. Breinl and Priestley we conclude:

6. That in all probability some of the apparently acute abdominal crises with pain and vomiting, found in the tropics, are filarial in origin and, if so, will apparently clear up without surgical interference. Indeed in such cases, provided we make sure of our diagnosis and keep a careful watch for any untoward symptoms, surgical interference is not justified.

In conclusion types of cases such as the above, while not very common in northern Australia, have their parallel in other countries more heavily infected with filaria than is Australia. Manson-Bahr during a survey of filariasis and elephantiasis in Fiji reports cases which are very similar in history to the above. Of the morbid conditions found during that investigation he accepts the filarial aetiology for all the conditions mentioned in the preliminary general classification, except with regard to thrombosis of large veins, synovitis and hæmorrhage. Concerning these he writes: "I am not so confident, however, that a filarial aetiology applies to these conditions; the evidence is not so complete, although one is inclined to think that their association with other forms of recognized filarial disease is of too frequent occurrence to be merely a chance coincidence."⁽⁶⁾

Also in his table of classification he lays stress on the fact that in many cases where signs of filarial disease as judged by clinical findings were present, no microfilaria could be detected either in the blood stream or in the lesion itself and no adult filaria were found.

The fact that we have here in Australia morbid conditions which according to accepted authorities may be filarial in origin and that in many of these cases, as in the above series, microfilaria or adult filaria can be detected, emphasizes the importance of preventive measures in Australia against the vector of this human parasite.

Acknowledgements.

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- ⁽²⁾ *Ibidem*, page 1919.
- ⁽³⁾ *Ibidem*, page 1937.
- ⁽⁴⁾ A. Breinl and H. Priestley: Collected Papers, Australian Institute of Tropical Medicine, Volume II., Article 23, page 3.
- ⁽⁵⁾ P. H. Manson-Bahr: "Filariasis and Elephantiasis in Fiji," page 60.

Reviews.

THERAPEUTICS.

THE nineteenth edition of Hare's "Textbook of Practical Therapeutics" is to hand. This work is a classic and the current edition fully maintains the highest standard of excellence exhibited by its predecessors. It is divided into four parts: (i.) General Therapeutical Considerations. (ii.) Drugs; arranged unscientifically in alphabetical order. (iii.) Remedial Measures other than Drugs. Foods for the Sick. Feeding the Sick. (iv.) Diseases, followed by an Index of Drugs and Remedial Measures and an Index

of Diseases and Remedies. There are some imperfections in the work. For instance, the dose of drugs administered by rectum is stated to be twice that by mouth. Some authorities, on the other hand, state that the rectal dose should be only three-fourths of the oral dose. *Kino eucalypti* is so placed as to make one think that it is a preparation of eucalyptus leaves. The gum of Australian species of *Acacia* has not been found to be a satisfactory substitute for that of *Acacia senegal*. On this point the author is in error. The tartar emetic treatment of bilharzia infections is not mentioned. It is stated that antipyrine in poisonous doses produces methæmoglobin. Pharmacologists generally believe that as it does not form para-amido-phenol, it does not produce methæmoglobin. It is further stated that more than one hundred and fifty grains of barbitone are necessary to cause death. This is surely wrong. In the account of plumbism no mention is made of the part which turpentine is now supposed to play in the production of punctate basophilla and painter's colic, both of which conditions were formerly attributed to lead alone. Further, the author wrongly considers that a blue line on the gums is "the most important confirmatory evidence of chronic lead poisoning." Treatment by colloidal metals is not mentioned. Possibly they possess no special virtues, but, considering their extensive use at the present time, one would have expected some authoritative opinion on the matter in a work of this magnitude. Of indigenous Australian vegetable preparations, mention is made of eucalyptus kino and oil. As a constituent of the latter, eucalyptol is mentioned instead of the more usual term, cineol. Cajuput is briefly mentioned; also jequirity, but surely that barbarous method of treating chronic granular conjunctivitis has passed into oblivion. Duboisine is described, but mention should have been made of the fact that it is not a single alkaloid, but a mixture of alkaloids. The Queensland asthma herb (*Euphorbia pilulifera*) is also dealt with, but the author is wisely cautious as to any opinion of its usefulness.

As regards quinidine, it is stated that: "Cases have been reported in which its use in the presence of fibrillation of the auricles has been followed by headache, faintness, vomiting and even convulsions; sudden death has ensued. It is contraindicated if there be myocardial degeneration." Digitalis is rightly said to be a cardiac stimulant and not a sedative. "High temperatures prevent digitalis from slowing the pulse, because fever depresses the vagus centres in the medulla and also in all probability when the temperature is very high the peripheral ends in the vagus." The virtue of ethylhydrocupreine in pneumococcal infections is extolled. No doubt *in vitro* pneumococci can be destroyed easily by this body, but clinically it has certainly been a failure. Glandular extracts are discussed temperately, but the warning is given: "Some persons have attempted to show that nearly all the organs of the body, be they glands or not, possess these functions until they have reached a *reductio ad absurdum*." "Insulin" is adequately treated and lactic acid bacillus therapy carefully detailed. As regards vaccine therapy the author takes exception to the term as being misleading and prefers "inoculation therapy" or "opsonotherapy." "At the best this plan of treatment is open to many chances of failure and it is also to be borne in mind that if the patient is in a state of very low vitality, because of the existing infection or because of an antecedent illness, he may be damaged by an injection, because the 'negative phase' or period of decreased phagocytic activity may be exaggerated and the 'positive phase' may never occur."

The administration of ether by intratracheal insufflation is briefly described. "Acriflavine," it is maintained, does not impair phagocytosis. It is stated that bismuth in syphilis is less active than "Neosalvarsan." Intraspinal injection of "Mercurialized Serum" is advocated in cerebrosyphilis, but it is not considered by the author as efficacious

¹ "A Textbook of Practical Therapeutics: With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis," by Hobart Amory Hare, B.Sc., M.D., LL.D. Nineteenth Edition, Enlarged. Thoroughly Revised and Largely Rewritten; 1925. London: Henry Kimpton. Royal 8vo., pp. x + 1,061, with illustrations. Price: 36s. net.