Vol. XXI, No. 11.

The Antiseptic

A Monthly Medical Journal

EDITED BY

U. RAMA RAU, M.L.C.

AND

U. KRISHNA RAU, M.B., B.S.

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Editorial and Publishing Offices: 323, Thambu Chetti St., G.T. Madras.

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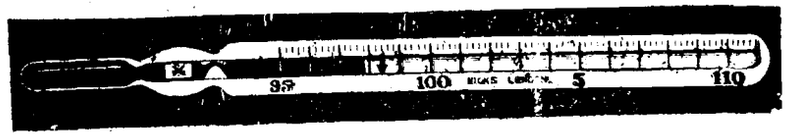

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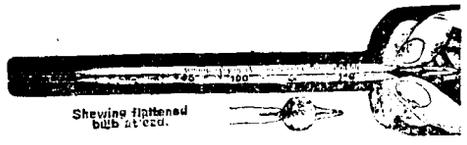

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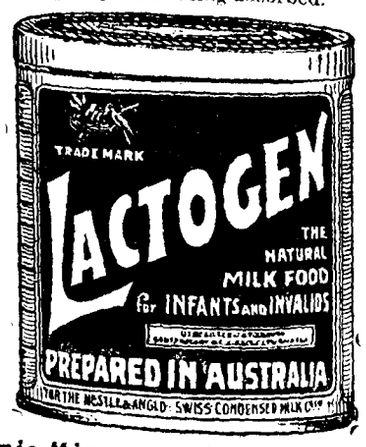

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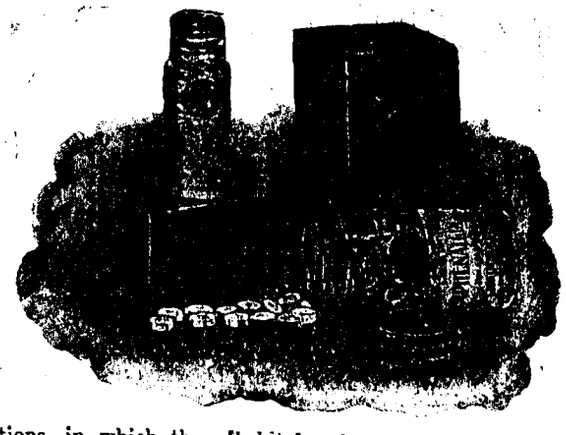

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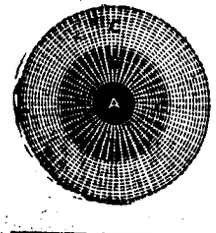

Diagram represents inflamed area. In zone "C" blood is flowing freely through underlying vessels. This forms a current away from the Antiphlogistine, whose liquid contents, therefore, follow the line of least resistance and enter the circulation through the physical process of endosmosis. In zone "A" there is stasis, no current tending to overcome Antiphlogistine's hygroscopic property. The line of least resistance for the liquid exudate is therefore, in the direction of the Antiphlogistine. In obedience to the same law exosmosis is going on in this zone, and the excess of moisture is thus accounted for.

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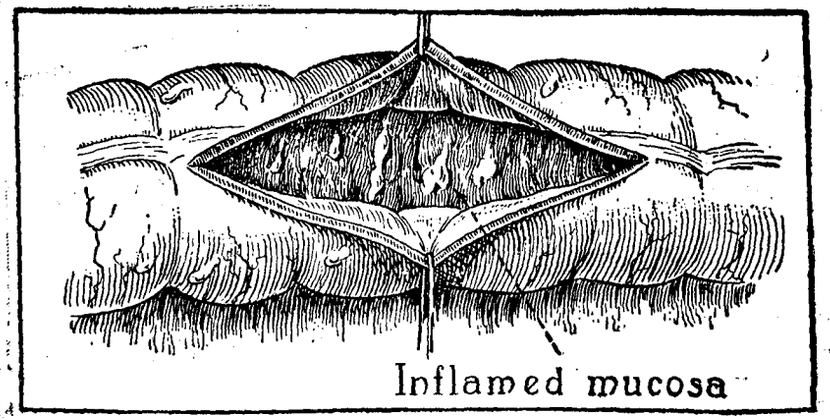

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ORIGINAL ARTICLES.

*EXCISION OF THE RECTAL FISTULA WITH PRESERVATION OF THE ANAL SPHINCTERS

By

CHARLES J. DRUECK, M.D., CHICAGO, PROFESSOR OF RECTAL DISEASES, POST GRADUATE HOSPITAL AND MEDICAL SCHOOL.

It is fortunate that the internal openings of rectal fistulae are usually situated in the free space between the external and internal sphincters, and the result which follows most methods of operation depends upon this fact, necessitating, as it does, damage to but the external sphincter. A considerable number of fistulae, however, have their internal opening above the internal sphincter or pierce the rectal wall by mulptiple openings and it is this variety which the surgeon finds most difficult to cure without more or less serious impairment of the rectal function. Many fistulae have a decided tendency to ramify in the loose fat and tissues about the rectum and buttock and thus contribute much to the difficulty of a satisfactory surgical treatment.

Finding the internal opening of the fistula is one of the most important steps in the treatment. It is this opening which constantly reinfects the sinus and unless it is completely eradicated our cure cannot be permanent. The internal openiug is frequently found in the posterior commissure, although it may be in the anterior. Generally it is above the external sphincter and yet below the internal sphincter. The opening may be in an indurated spot, perhaps somewhat raised, or in an ulcer with wide and gaping edges, or it may be in the base of a crypt. All ulcerated and even

*Specially contributed to "The Antiseptic"

congested spots must be carefully examined for possible internal opening of a complete fistula or the opening of an internal incomplete fistula.

Having found one internal opening a careful search must be continued for others perhaps higher up. A second opening may be found even above the internal sphincter. To carry the incision up to this second opening is a serious matter as it necessarily divides both sphincters and a part of the levator ani muscle. This causes incontinence which may be permanent. So lengthy an incision is difficult to heal and results in constriction of the bowel at this level thus further contributing to foecal incontinence.

Two cardinal principles underly the treatment of fistula in ano. First, the separation of the fistulous tract or tracts from the communication of the bowel, and second, the adequate closure of that communication together with the removal of all diseased tissues in the rectum. These measures having been employed there is no occasion for an extended and complicated dissection or removal of all ramifications of the fistula because with adequate drainage externally upon the skin these sinuses tend to heal. In this type of fistulae excision of the whole riddled mucosa is sometimes preferable.

An essential feature of this operation may be compared to an exaggerated, Whitehead hemorrhoidal operation, whereby a cuff of the rectal mucosa is dissected free and pulled down far enough that amputation may be performed above the fistulous opening.

TECHNIC OF OPERATION.

The preliminary preparation of the patient is routine as far as incision of the fistula, always observing the strictest antisepsis at every step.

The patient having been anesthetized is placed in the exaggerated lithotomy position. After the sphincters have been thoroughly dilated the general course of the sinuses is located with a probe and the communications with the bowel determined. An incision is now made encircling the anal opening at the muco-cutaneous junction (Fig. 1) A pair of blunt pointed dissecting scissors curved on the flat is now passed into the incision and by blunt dissection the mucous membrane is divided at its junction with the skin around the entire circumference of the bowel, every irregularity of the skin being carefully followed. The mucous membrane thus separated from the skin is held by means of four forceps.

The external sphincter and the lower edge of the internal sphincter are now exposed and carefully pushed upward and away from all possibility of injury. The dissection of the mucous membrane is continued upward until well above the level of the internal opening and the diseased mucosa, or to the attachment of the levator ani muscle if no internal opening can be determined, care being taken to keep as near the mucosa as possible.

Fig. 1 Separation of the mucosa from the underlying structures.
Upper insert indicates the line of separation.
Lower insert shows the freed mucosa held with forceps.

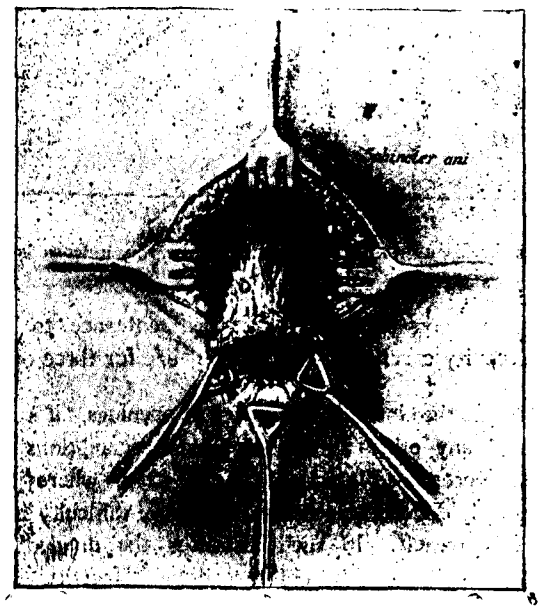

Fig. 2. Separated mucosa is drawn down until the diseased portion is below the level of the peri anal skin.

In this way complete separation of the fistulous tracts from all communication with the bowel is effected, the dissection must be carried sufficiently high to mobilize enough healthy tissue about the diseased area that all the affected tissues about the internal opening may be brought outside the anus and removed by amputation, thus leaving a normal rectal stump which may be sutured flush with the skin edge without tension. (Fig. 2).

The mucosa above the diseased level is now divided transversely in successive stages and the free margin of the severed mucous membrane above is attached, as soon as divided, to the free margin of the skin below by a suitable number of mattress silk sutures. These are placed in such a manner as to obliterate all dead space. (Fig. 3).

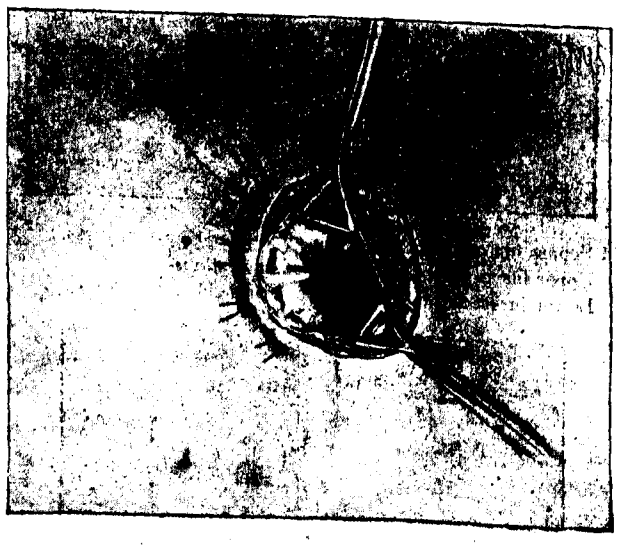

Fig. 3. As the diseased area is excised the healthy mucosa is attached to the skin with mattress sutures.

The sinuses are now excised up to their entrance to the sphincter muscle and the cavity carefully packed with gauze for three or four days.

By this technic the internal opening, or openings, if several co-exist, is obliterated and any other associated diseased conditions are removed. The sphincters are preserved intact. In those cases where the sphincters have been previously divided scar tissue may cause difficulty in the isolation and repair of this muscle. In such instances the divided ends of the sphincter should be well exposed and turned back free from the mucosa. Then after the fistula bearing cuff has been drawn down the cut edges of the sphincter ani are united.

This procedure eliminates the necessity of cutting through the perineum down to the fistula and thus conserves a large amount of important tissue while also lessening the post-operative disturbances of the patient.

---

* PAPERS ON HERNIA

By

L. F. WATSON, M. D., ASSOCIATE IN SURGERY, RUSH MEDICAL COLLEGE, CHICAGO.

Paraffinoma of the Vas Deferens.—The author reports an unusual complication following the paraffin injection of an inguinal hernia by a charlatan. The hernia promptly recurred and the cord and testicle on the side treated became swollen, painful and tender on pressure. At operation paraffin masses were removed from the internal oblique muscle, the conjoined tendon, and the vas deferens. The vas was occluded and it was necessary to resect it anastamose the ends.

Because of the high percentage of recurrence following operations for "paraffin hernia" the regular Bassini operation was combined with the author's method of *lateral displacement of the cord.* With the cord displaced on to the internal oblique, ½ inch to the inner side of the deep suture line, the overlapped fascial flaps were securely stitched to the deep suture line to re-enforce the weak spots, the usual points of recurrence—the internal ring, the lower end of the incision over the pubic bone, and the line of deep sutures.

The serious accidents that sometimes follow paraffin injections of hernia are: Gangrene of the skin; injection of cord structures; wounding of intestine, appendix, or bladder with the needle; injection into blood vessels, followed by pulmonary or cerebral embolism or sudden blindness from plugging of the artery of the retina, and occlusion of the iliac or femoral artery, with gangrene of the extremity necessitating amputation. Leigh F. Watson: Journal of the American Medical Association, 1924, lxxxii, June 14, p. 1935-1936.

Jack-knife Position after Hernia Operations.—The posture of the patient after an operation for hernia is usually neglected. If surgeons realized that they could reduce their recurrences materially besides adding to the comfort of their patients, the jack-knife position would become a matter of routine for inguinal, femoral, umbilical and ventral hernias which presented difficulties in closing the fascial layers.

In inguinal hernia operations the best exposure is obtained by keeping the thigh extended until the deep sutures are ready to be tied, when it

* Specially contributed to "The Antiseptic".

should be elevated, adducted and rotated inward. This reduces the distance between Poupart's ligament, the internal oblique and conjoined tendon from 25 to 50 per cent., depending on the size of the opening, the variety of hernia, and the development of the muscles. After the patient is returned to bed his knees and shoulders should be elevated 25 to 45 degrees by means of pillows and a back rest. This position takes the strain off of the stitches during the process of repair, permits a broad firm union of fascial flaps, and reduces the percentage of recurrences. The jack-knife posture should be maintained as long as the patient stays in bed.—Leigh F. Watson; Annals of Surgery, August, 1924, lxxx, p. 239-241.

Dangers of Taxis in Strangulated Hernia.—Taxis is little used at the present time because of its dangers and the fact that there is a much lower mortality rate if operation is performed as soon as the diagnosis is made and without attempts at manual reduction. Contrary to the general opinion, if the hernia cannot be reduced in five minutes by moderate pressure, it is inadvisable to continue taxis longer. Taxis is aided in infants, children and adults by suspending them by their feet, head downward.

Taxis is contra-indicated when the hernia has been down several hours; when the onset is acute and the symptoms severe; when previous attempts at taxis have failed; when the hernial coverings are œdematous; when there are symptoms of prostration and shock; and when there are signs of ulceration and gangrene.

If taxis is apparently successful the patient is not out of danger for several days and should be watched carefully for symptoms of reduction "en masse", hemorrhage, and delayed perforation of the intestine.—Leigh F. Watson: International Clinics, 1924, vol. 2, s. 34, P. 217-219.

Hernial Tuberculosis.—The diagnosis of hernial tuberculosis is seldom made except at operation unless lesions exist elsewhere, such as in the abdominal viscera, peritoneum, genital organs, spine, bones, joints, lungs, or meninges. The outlook is ordinarily grave because the patient often dies from the primary lesion. In children a congenital tuberculous hydrocele is often mistaken for a simple hydrocele. If the tuberculous hernial contents are thoroughly exposed to the air, improvement generally follows and sometimes healing of the local condition. Peritoneal tuberculosis is nearly always present also and should be dealt with through a second incision. In addition to the operative treatment, the usual measures employed to combat tuberculosis are necessary.—Leigh F. Watson: International Clinics, 1923, vol. 1, s. 33, p. 230-235.

Gastro-intestinal Symptoms and Epigastric Hernia.—Hernia in the linea alba has often been confused with gastric and duodenal ulcer, and

sometimes the two conditions exist at the same time. The presence of a tumor or slitlike opening in the linea alba, with or without the protrusion of a small mass on coughing, will help to establish a diagnosis of hernia.

In ulcer the symptoms come on at a certain interval after eating, while in hernia the paroxysmal attacks have no relation to meals but usually follow physical exertion, and the patient finds that most relief is secured by assuming a doubled up position, which relaxes the linea alba—when the omentum slips back into the abdominal cavity the pain disappears. Epigastric hernia must also be distinguished from cholelithiasis, cholecystitis, gastralgia, gastritis, carcinoma, sarcoma, appendicitis, nephrolithiasis, abscess or tumor of the abdominal wall, and the gastric crises of tabes.—Leigh F. Watson: New York Medical Journal and Record, April 16, 1924.

Strangulated Hernia Complicated by Perforation of Afferent Loop.—Delayed perforation of the intestine after an operation for strangulated hernia is more frequent than is generally supposed, and death from this cause is usually explained as being due to leakage around an anastamosis or to infection at the time of operation. The symptoms of perforation may not appear for several hours or days after operation. The only way to avoid this unfortunate complication is always to examine thoroughly the distended afferent loop for a distance of one to two feet beyond the point of strangulation for raw spots, ulcerated areas and minute perforations.

Suspicious patches of gut, if small, should be covered with an omental flap; if large and of doubtful viability, the loop can be brought out of the wound and treated expectantly. If the intestine is gangrenous it should be resected. When symptoms of peritonitis suddenly develop after an operation for strangulated hernia a prompt exploratory laparotomy is indicated. The rent in the intestine must be found and closed, the wound drained and the patient placed in the Fowler position and treated for peritonitis.—Leigh F. Watson: Southern Medical Journal, July, 1924, xvii, p. 531-532.

Prevention of Post-operative Hernia.—A muscle splitting incision should be used when possible. In long incisions muscle fibres must not be sacrificed needlessly, and the motor nerves must be saved. The fascia is the strongest structure in the abdominal wall and it is very essential to close it properly. It is frequently under tension and unites more slowly than muscle tissue; for this reason it is necessary to overlap each layer separately. When closure under tension is unavoidable, the patient's shoulders should be kept in a semi-reclining position and the knees elevated on pillows (the "jack-knife" position) for a week after operation. Tension or stay-sutures are valuable to prevent strain on the fascia stitches. A gain in weight after operation, especially in obese subjects, should be avoided because it increases intra-abdominal tension and weakens the abdominal

wall. The use of an elastic belt checks the tendency to rapid accumulation of fat.—Leigh F. Watson: Northwest Medicine, April, 1924.

Bladder Injury During Hernia Operations:—Large, irreducible, or strangulated hernias often present unusual difficulties, sometimes taxing the skill of the most experienced operators. The danger lies in accidental injury to the bladder, intestine, blood vessels or vas deferens. The bladder is involved in about 1 per cent. of all inguinal hernias in adults. In certain cases, it is only by a most careful examination of the sac that bladder injury can be avoided. Bladder wall should be suspected when the sac is thick, when it is covered by a quantity of lemon-colored pro-peritoneal fat, or when there are numerous blood vessels on its surface. When the bladder is in the sac wall, it is nearly always on the inner side, and for this reason the sac should always be opened at a thin white point on the outer side.—Leigh F. Watson: American Journal of Surgery, April, 1924.

Hernia following Appendectomy:—The usual causes of this hernia are post-operative suppuration in the abdominal wall; the use of drains that are larger than necessary; a faulty closure of the muscle and fascia layers; the division of nerves supplying the muscles; and the use of the wrong incision. The McBurney incision gives the lowest precentage of post-operative hernias.

An elliptical incision should be used if the sac is thin and adherent to the skin; if the sac is not adherent, a vertical incision saves time. Nothing is gained by opening the fundus—the adhesions here often make it difficult or impossible to reach the neck of sac—and time is saved by beginning the dissection at the neck and working inward. The author found that the simplest method of exposing the hernial opening is to invert the sac on one or two fingers, and feel the sharp fascial edge which is usually most distinct on the outer side of the hernia near Poupart's ligament. With the finger, as a guide, the incision is made directly down to the fascia. The abdominal wall should be reconstructed as well as possible; and the muscles and fascia used as a single flap which is brought down and broadly overlapped by a second flap secured below from the external oblique aponeurosis.—Leigh F. Watson: Chicago Medical Recorder, March, 1924.

*CHILD WELFARE

BY

CAPT. J. H. KIRPALANI.

"In the spring bud,
Is the awakening flower;
In the tiny child,
The coming man."

"Who loved and lost remembers and returneth.
Who love and hold most surely understand,
That joy so great ought else on earth can give it.
The small sweet mouth, the little roseleaf hand.
Not love they lack these mothers who are pleading
Teach them and train them, grant them and they ask.
To-day for them is India interceding.
Who seeks to serve her needs no nobler task."

Concealed in the darkness of germ laden alleys, lost in the despair of crushing poverty, what unbounded possibilities for good, what hungering ambition for opportunities, what limitless capacities for the very highest in the human soul may be lying idly dormant? Dwarfed only in some cases but thoroughly eradicated in most, through the pressure of increasing misery, there is nothing in the whole life of these unfortunate little mites (a position to the mighty scheme of humanity) to uplift or inspire with joy or even to simply please—no, not even the breath of God's Freest Gift-Fresh Air.

II. In these days all the demand is for results. Unless a scheme can justify itself by results it is condemned and, with certain limitations, rightly so. But it has always to be remembered that certain kinds of schemes can only be judged after a long period of experiment. This is true in many respects, of medical schemes for improving the welfare of the nation. Much that is heard of preventive medicine and modern medical progress seems to be dependant on the application of the principles of preventive medicine. But, is there anything to give confidence that the medical authorities are on the right lines, and hope that a serious contribution toward the nation's physical development has been made? The following figures, given by the Medical Officer of Health in Manchester, tell their own tale. The death rate in the period between 1850 and 1922 has fallen by 50 per cent. But this is not the true index of the value of preventive medicine, it is the increase of health and personal efficiency. The expectation of life about 1850 was less

* A Paper read before the Conference of Workers in India.

than 40 years, and that of every girl was only a little over 41. In 1922 the expectation of a boy had risen to 54·6 years and of a girl to 58·6 years. In the beginning of the twentieth century a definite attack was begun on certain diseases, especially those connected with child-life. At that time the infant death rate was 146 per thousand. 15 years later it had fallen to 77, a very striking result of the practice of preventive medicine. The people who lived in the latter part of the last century would have scorned the idea that such diseases as small-pox, typhus, and enteric fever would be practically out of the list of diseases causing havoc in England. There is no reason to doubt the efficacy of the campaign against other diseases, such as tuberculosis and measles. The whole tendency of preventive medicine is to safeguard the child and youth from those illnesses which may appear comparatively harmless, but which have a very vital influence on the system. Time and money spent on these problems of early days will make a great difference in the general physical condition of the nation. In India we have hardly touched the fringe of the subject, and much larger sums must be forthcoming, as well as a larger personnel, if the fight against these evils is to succeed. Fortunately, India can learn from the experiences of others, and will gladly take advantage of the experience of others in connection with the increasing number of welfare schemes being inaugurated.

III. To whom, of all people in the world, do you owe most? To your mother. Why? Because she has done so much for you in bringing you up as a child in health and in sickness, steadily working to pull you through. She has taught you and watched over you with anxious eyes. She has given up so much of her time and love to you. What do you suppose is the best way of repaying your mother for all she had done for you. By never letting her be disappointed or wounded by anything that you do. Make your career a success, whatever you take up, and you will rejoice her heart.

IV. No country could advance in civilisation and power which did not possess a cultured mother and it is very important that the ideal of motherhood should be held up constantly before women. Let them not forget that in the midst of their strides and struggles a woman's prerogative, was to be a mother. She is the guide and support to the coming generation, and therefore the best asset to the country, though unfortunately in some countries motherhood seems to her to have lost much of its sanctity. Amongst the millions of mothers particularly in the country, they suffer from the ignorance of woman as a class. No doubt the Indian mother along with many mothers in other countries is noted for the intensity of love and devotion for her children. Unless she is educated and there is general diffusion of education among women, nothing could be done to the advantage of the motherland. In bringing

her children a mother had not only to know the rules of hygiene and the laws of physical culture but she ought to have some knowledge of the qualities and traits of child nature—its propensities and its motives for action. She ought to be self-balanced and self-controlled. We should divert our thoughts and energies to the mental and moral development of women. And what is still of greater necessity is the formation of unions and associations, where mothers would discuss their defects, exchange their views—and profit by one another's experiences.

POVERTY.

In India poverty must be considered as the main factor that underlies many causes of death. In the villages the poor get at least light and air—the most important health-givers—in abundance, but in the cities like Bombay with its shortage of housing, mothers and babies of the poor have to live in dark rooms with practically no ventilation. The incidental overcrowding is directly responsible for filthy surroundings and a variety of infections. Add to this the chronic want of nourishing food due to poverty and we get an explanation of the undersized, deformed and degenerate progeny, many of whom leave this world and the rest remain to tell the tale. Though Welfare Work is not aiming at removing poverty it minimises the hardships on mothers and babies by providing facilities for medical relief and advice.

IGNORANCE—GENERAL AND SPECIAL.

Illiteracy among the Indian females is appalling, hardly about 2 per cent. being able to read and write. They are thus strangers to the civilising influence of modern thought and science. Hence they cling fast to superstitous beliefs and prejudices. But even the few that are literate and almost the whole of the educated male population are ignorant of the modern progress in preventive medicine and its practical application—the Welfare Work. I am sure that if they but realise the importance of this they will easily cast off the old methods and adopt the new ones. Happily the experience of welfare workers goes to show that the rapid improvement in the condition of mothers and babies under the care of welfare scheme is a potent demonstrable factor in breaking down the prejudices of the illiterate and the indifference of the educated.

POVERTY OF WELFARE SOCIETIES.

It appears to me that the lack of facilities for medical relief and advice on a wide scale is another factor that allows much preventable suffering to affect humanity. It is not possible for the guardian to pay for every minor complaint of mother and baby; yet this is what he will have to do if he follows the behests of preventive medicine, in the absence of sufficient number of well-conducted welfare centres. We all realise now the value

of primary education and are doing our best to bring it within the means of all, but fancy the waste of time and money that every guardian would have suffered had there been no net work of schools for this. In view of the fact that a public arrangement alone can satisfy the needs of our mothers and babies, I hold that the welfare work deserves to be ranked with primary education as it is essentially educational, only the kind and the recipients of this education being different.

LACK OF LEGISLATIVE MEASURES.

Experience of the welfare workers in Europe tells us that even good things have to be forced down the throat of the public. To quote an instance, when notification of births in Huddersfield, England, was optional only 20 per cent. of the guardians took the trouble to notify soon after delivery so that the rest could not be sent medical help and advice when it was most needed—but when it was made compulsory to notify within 36 hours under penalty for defaulters, 15 per cent. of the births were notified "in time" with the result that infant mortality next year came preceptably down by the instant application of welfare measures. Similarly lack of legislation for stopping the illiterate "Dai" from working havoc among the ignorant mothers by her dirty and meddle some methods and for supervising the trained "Dai" and "Midwife" in their practice is at the root of the large number of deaths and diseases of our mothers and babies.

IMMEDIATE CAUSES.

We can now proceed to discuss immediate causes of maternal and infant deaths. The deaths of mothers occur mostly as a result of profuse bleeding or exhaustion after delivery and of child-bed-fever. About 90 per cent. of these can be avoided by proper care during pregnancy at a Welfare Centre and by clean midwifery. Almost as many deaths are due to consumption. The old method of keeping mothers that are already exhausted by the strain of delivery in closed room, heated with coal fire for fear of chill and of feeding them with hot indigestible articles renders them readily susceptible to consumption; over and above this many a nursing mother has to pass sleepless nights in attending her sickly baby. This helps the progress of the disease and we find that many are carried off by this fell disease before very long. It is no wonder then that in India consumption in nursing mothers should be designated as mother's fever. Almost half of these deaths can be prevented, not cured, by timely help and advice through our Welfare Centres.

INFANT MORTALITY.

A few of these are due to inherent defects incompatible with life. Many of the babies born before full term are sure to die in spite of our best efforts. As the infection they get is through mother's blood, the only way

to prevent this is to treat the mother for her disease. In many places Malaria seems to account for a large number of premature births. Other well recognised causes are infective fevers, syphilis and drinking habit in the parents. Many of these mothers can be successfully treated during pregnancy and even the drinking habit can be broken if the damage caused by it to their person, purse and progeny is brought home to them by a vigorous and sustained campaign.

The rest of the premature babies can be saved if they are nursed and attended on proper lines. It is here that a lady health visitor is of great service. Main causes of death of full time babies in the first week are (1) injury during birth and (2) infection of the navel. This may be prevnted by examining the expectant mother in the 7th month and warning her to go to a Maternity Hospital for delivery. The second is entirely preventable by exercising a little care in tying and cutting the umbilical cord. The deaths by this cause are due to the uncleaned crude methods of the untrained "Dai" as they are almost unknown among deliveries conducted by midwives. Many of the deaths of babies, labelled convulsions, are undoubtedly due to Tetanus caused by Dais' hands.

Majority of deaths in the latter periods of infancy are due to bowel and respiratory troubles. Now bowel complaint is almost always due to faulty methods of feeding in hand-fed babies. Many of the respiratory diseases also are found mostly in this class of babies as the lower vitality caused by chronic indigestion prepares the baby, so to say, for pneumonia and other germs. And when the trouble is not treated in the early stages it proves usually incurable. Both these, however, can be prevented by the measures of welfare scheme. In factory towns female workers are in the habit of drugging their babies with opium and then leave them in the house. This kills appetite and eventually kills many babies.

I am putting together a few general suggestions in the case of mother and baby.

MOTHER DURING PREGNANCY.

Avoid constipation by regular habits, moderate work, and by eating fresh fruits according to your means. Clean your teeth thoroughly, first thing in the morning and last thing at night. Drink plenty of water especially between meals. For morning sickness eat some dry food, while in bed, and take small meals four times a day. Have ample sleep at night and at least an hour during day. Avoid heavy work. Make it a point to sit or walk in the open every day. Get yourself examined at a Welfare Centre at seventh month. If nothing abnormal, the doctor will ease your mind by predicting a safe delivery; if otherwise the warning in time may prove to be the saving of your life. If you must be delivered by a Dai attend

carefully the lectures at a Maternity Centre and insist at the time of delivery on thorough cleanliness and no active interference by the Dai. For swelling of face and limbs, repeated headaches and blurring of visions consult the doctor at the Centre. Do not make light of fever during pregnancy. Patent medicines do not tell you the cause of fever.

CHILDBIRTH AND TEN DAYS AFTER.

If the baby is born before full time follow the directions of the doctor or health visitor. See that the birth is notified within a day. Get the baby's eyes cleaned with boric lotion soon after birth. Insist on good light and ventilation, protecting yourself and your baby from chills by warm clothing. In the case of full time baby, for the first three days give nothing but boiled water and nurse the baby twice a day. When milk flow is established nurse the baby regularly at three-hourly intervals. If crying, before feeding time, give boiled water only. Clean your nipples and the baby's mouth after every feed. Do not go to sleep with the baby by your side. If you develop fever inform the Centre. Do not waste valuable time in taking patent medicines. Eat nourishing food but not very spicy or fried one. Get the baby weighed every week.

LATER INFANCY.

Try to teach regular habits to your baby from the very first. For any digestive or respiratory trouble seek the advice of the Centre. Save it from the sweets etc. in the bazaar exposed to dust and flies. Give it the benefit of fresh air and sunshine. Wean your baby when 9 months old, a month or two earlier or later, so as to avoid weaning in summer. Do not let it go near a case of infectious fever.

INSTRUCTIVE DATA.

I propose to offer some interesting figures for careful study by you. The condition of our mothers and babies considered (a) as a whole, and (b) as under the supervision of some Welfare Scheme is compared with the condition of those in the European cities with a view to show the true state of affairs.

Figures are always boring, but it is only through them that we get an accurate idea of the subject and I feel sure that if these are carefully gone into you will be far better convinced of the necessity for Welfare work than a number of vague assertions. The figures for 1921 or 1922 as were available are as follows:—The word nil signifies that no data were available.

Death rate of mothers.—Per thousand due to diseases of pregnancy labour or child-bed-fever was 11 in Bombay, 13 in Madras, 7 in Rangoon, nil in Calcutta, 2·7 in London, 3·7 in Liverpool, 7 in Glasgow and 5·3 in New York, while under the care of Welfare workers the rate was respectively nil, 3·7, nil, 2·8, nil, nil, nil, and 3·7. The death rate of infants under one year per thousand births was respectively in the aforesaid cities 343, 308, 327, 330, 75, 107, 120 and 74·8; while the rate under the care of Welfare workers was nil, 227, 54, 100, nil, nil, nil. and 34 5.

The figures show clearly that the total number of deaths of mothers and babies in Indian cities is from 3 to 4 times the corresponding numbers in European countries, but that Welfare workers wherever they have worked and tabulated their results in India have brought down the death rate considerably. Unfortunately in the reports of the Bombay Welfare Society there are no similar statistical results so far shown, though undoubtedly good results have been obtained.

HIGH CHILD-DEATH-RATE.

High infant death-rate means high child-death-rate also. The following figures will amply bear out the statement. The percentage of still-births (which really means deaths of viable babies before they breathe) is also high as the same causes are at work:—

The number of still-births, per 100 births, was 8·5 in Bombay, 5·7 in Madras, 0·7 in London, 3·5 in Liverpool, 3·7 in New York. The number of deaths per 100 of total mortality under one year and under five years, respectively, was 24 and 12·8 in Bombay, 29 and 18 in Madras 11·5 and 8·5 in London, 20 and 12 in Liverpool, and 16 and 7 in New York.

These figures suggest that high infant mortality is partly due to causes that operated before the baby was born with the result that some babies, when born, did not breathe at all (still birth) and many more barely lived for a week or so. This is borne out by the fact that from 25 to 40 per cent. of the total infant deaths occur during the first week of their life.

The following figures are given to show the amount of reduction the Western cities have brought about during the last ten or twenty years, in the infant death rate:—

Infant death rate, per thousand births, was 240 in Bombay City in 1908 and 403 in 1922; 187 in Bombay Presidency as a whole in 1911 and 180 in 1921; 340 in Calcutta in 1906 and 330 in 1921; 110 in London in 1911 and 75 in 1922; 117 in England and Wales in 1906 and 80 in 1920; and 162 in Liverpool in 1902 and 107 in 1921.

These figures are sufficient to show that while Indian cities are at a standstill as regards their rate of infant mortality, Western cities have brought about reduction varying from 30% to 50%. I may note here that European cities during the period 1860—1900 did not show any appreciably steady decline in the infant death-rate so that the recent fall must be

due, in a large measure, to the various activities of the various Welfare Societies in those countries.

The fact that poverty is not the only factor is clearly shown by the very favourable results obtained by Welfare Societies in India so that we can confidently hope to reduce the infant death-rate and incidentally maternal and child death rate and damage rate by at least 30 per cent. if we set ourselves to the Welfare work in the proper way. The history of the efforts made by the Western countries in this connection is very fascinating and will help us to solve this problem in India.

PHILANTHROPIC PHASE.

All the attempts in Welfare work made during the last quarter of the nineteenth century were directed towards the poor and needy section of the society. The efforts, therefore, were at first voluntary and actuated by philanthropic motives. Thus some provision for factory-women during and after confinement was found necessary with the growth of factory life. The mother was either given cash payment at the time of delivery or given free medical aid at the time, or both. This pecuniary help is called "Maternity Benefit" the mother herself or her husband contributed partly to this and the rest was made up by the employer or the State. Nursing mother was allowed rest for a month or so on half or full pay after her confinement. For the babies and young children of factory women "day nurseries" or "Creches" were opened. In these babies are admitted every morning, examined for any infectious disease and if no such is present, are bathed, fed and generally cared for during the day. To provide for pure and cheap milk for babies "Infant Milk Depots" are opened. In France M. and Mme. Coulleth were the first to open cheap "restaurants for mothers". They discovered that it is possible to feed mothers at less cost than providing sterilised milk to hand-fed babies. The mothers then secreted sufficient milk to nurse their babies. This arrangement feeds two needy souls and does away with the disease common in hand-fed babies.

Even in these early days a marked reduction in maternal and infantile deaths was noted. A brilliant record of vigorous and comprehensive measures in this line comes to us from a small French village or Commune-Villers-de-Lue. The Mayor of this village, M. Morel, adopted measures for medical aid to mothers during and after confinement and advice and treatment to babies free of charge with the remarkable result that during his tenure of office 1854-63 the deaths of infants per thousand born was reduced by 35%. He died soon after and his successors did not interest themselves in his measures. The infant mortality rose up again to 300 per thousand born

In 1884 M. Morel's son was appointed Mayor. He reintroduced all the measures adopted by his father and the infant mortality dropped down to 150 and continued to this limit till 1893. M. Morel, the Junior, was so impressed with this clock-work regularity in the mortality that he cherished the ambition of improving on the methods and commenced studying medicine. After qualifying himself he introduced other additional measures and supervised their systematic application. And such was the effect on the health of mothers and babies of Villiers-de-Lue that there was not a "single" infant death in the next "ten years" and only one still birth. The measures he introduced are worthy of brief illustration. They included care of expectant mother from the 7th month, provision of midwife and when necessary Doctor at the time of her confinement, weighing of hand-fed infants every fortnight, early notification for treatment of respiratory and diarrhoeal troubles in the babies, strict supervision over midwives, sterilization of milk at cheap rates and finally a "cash payment" to mother or nurse in charge of the baby, on its first birth-day provided it is healthy. Though this village was small in extent we get an idea of the measure of success attainable in preventive work, if a vigorous and well-thought out propaganda is undertaken.

EDUCATIVE PHASE.

But before the beginning of this century the problem remained, as I said before, a philanthropic one and was mainly directed to the poor and needy. The credit of raising this question of Welfare work to the level of an imperatively "necessary education in public health" and of bringing this necessity home to the public, especially the females, must be given to Dr. F. Truby King of Dunedin, New Zealand. This Doctor enlisted the active sympathy of Lady Plunkett, wife of a former Governor of New Zealand and appealed to all classes to join "for the sake of women and children etc". The response was immediate and universal and a society largely officered by women was started in 1907 with its branches now spread all over the group of islands. The Society has engaged highly trained nurses called "Plunkett Nurses" whose duty is mainly to educate the public by "lectures" and "Home visits." The noteworthy feature of this campaign was a whole-hearted co-operation between Government, local bodies, newspapers and social oraganizations. The result was that within six years of its inception the infant mortality was reduced to 50 per thousand births. When it is remembered that before 1907 the mortality was only 83 per thousand born we realise what could be done still by an intense educative propaganda and facilities for advice and medical relief.

The measures at present to be adopted may be classified into (1) educational, (2) legislative and (3) preventive.

1. *Educational*:—This is achieved by holding conferences and arranging lectures, exhibitions, cinema shows and competitions. All this is to stimulate the interest of the public and to gain the experience of other workers. Such activities help to attract new workers in this line. Instructive data is printed on big posters with brief obvious deductions from the same, all the literature in connection with maternity and child-welfare is exhibited and sometimes distributed gratis. Newspapers usually publish the account in detail and thus help to spread the special education.

2. *Legislative*.—The Conference created sufficiently strong public opinion for the Government to enact certain laws. Midwives' Act of 1902 provided for the supervision of trained midwives in their practice by lady inspectors and no woman was allowed to conduct labour "habitually and for gain" after 1910. The Notification of Births Act of 1907 and 1915 allowed local bodies to issue orders in their localities for the compulsory registration of births within 36 hours of delivery. This enabled the Health Department to send instructions for the care of mother and baby and send health visitors. This Act had a great deal to do in reducing the infant mortality as preventive methods could be used when they were most needed.

The National Insurance Act of 1911 provided maternity benefits for all working women and finally the Maternity and Child Welfare Act of 1918 provided for 50 per cent of the salaries of Inspectors, Health Visitors, Doctors and Nurses engaged in this line by local bodies or voluntary organizations.

3. *Preventive*.—This included opening of the Maternity and Infant Welfare Centres and Clinics and District Maternity and Health Visitors' Service, Maternity Homes etc. Mothers are respected all over the world above everything else. Babies are variously looked upon as the emblem of God in their innocence and simplicity, as the one function of undiluted happiness available to all, as the rare treasure of life and as the fittest object of spontaneous and universal care and sympathy. Yet when we ponder over the present condition of Indian mothers and infants we see a very dark picture indeed when it is found that out of the total mortality of any one of the three chief towns of India in a normal year, about 34 per cent. is due to children under 3 years of age and 1·6 per cent, is due to mothers in their various capacities as prospective lying in and lactating and when it is further remembered that about double the number of deaths must have been, for weeks incapacitated through sickness and quite a number totally disabled for life, the picture becomes truly alarming. The first year of the life of a new born babe and two months preceding and two following the child-birth in the life of mother are of vital importance to them and proper care bestowed on them during the critical period will

render them far more better physically and morally than attempts to cure them made later on. The picture of this heavy death-rate and damage rate should make us understand plainly the greater factor that contributes to the lowered locality of an average citizen of any of the above three towns rendering him an easy prey to infections, his deplorable physical condition and his low expectations of life. It is an admitted fact that a healthy body is the first necessity of a healthy mind and the large percentage of healthy minds in a community or nation is the backbone of all healthy, social, political and moral progress. If this be so the plight of our mothers and babies ought to arrest our attention and make us look at the problem from all points of view.

So far no Tangible Success.

Attempts have been made and are being made to remedy this evil and it has been shown statistically that material improvement is possible but they do not seem so far to have achieved tangible success mainly because of the vastness of the problem and the almost culpable ignorance among the public of its gravity and its far-reaching consequences. Every social as political movement to be successful has to permeate a central start of the population namely the middle classes. From this class we expect to get large number of workers to educate the lower strata. The necessary intelligence, public spirit and spare time is available in the middle classes and they serve admirably as the connecting link between the upper and lower classes. It is well-known that lower classes always take their ideas and habits from the middle classes and so a social activity successfully launched in the middle classes materially simplifies the problem of welfare work among the lower classes,

Need for more work.

This need for the welfare of the mothers and babies exists at present all the year round in every household. Political or industrial convulsions, famines or pestilences serve to aggravate rather than minimise its gravity. Even prosperous countries like England and America have realised this ever present problem and measures to cope with it were not slackened even during the disturbing years of the Great War. As an universal question, political, industrial or religious differences need not and ought not to be a ground for keeping aloof from the activities for doing our duties to our mothers and babies. Religious and Humanitarian Societies should realise by taking up this problem 'conditions in some of the chief towns of India', and they will be serving true God and the largest portion of dying humanity. This problem is particularly pressing in some of the large towns as here the extreme shortage of housing acts fatally on the health of mothers and babies. The other evils of crowded cities such as employment of female

labour with consequent negligence of babies, temptation to drinking and loose living etc., further undermine their health.

In Bombay infant mortality per thousand infants born registered and un-registered in 1922, was about 350 in Hindus, 370 in Mohammadans, 325 in Anglo-Indians and 400 in Indian Christians, in Parsees and Europeans only the infant death-rate was comparatively low being about 140 and 145, respectively. In London, in 1922, infant mortality per thousand births was 76 only. This throws a flood of light on the universality of the problem and the smallness of the measures so far adopted.

How is it that infants and mothers die in such large numbers if they were taken care of in every household? Was this heavy mortality present in older generations too or is this a product of modern times, largely due to over-crowding and its concomittant evils in cities and other industrial centres? Various causes suggest themselves of which poverty is easily the first. But on further thought it will be found that death-rate and damage rate is heavy even where poverty could not be the cause. Ignorance, superstition, lack of facilities for medical relief and other factors have a share in the causation of this appalling death-rate.

Before 1915, there was little activity specially directed to maternity and child welfare. It is true that the Countess of Dufferin Fund was started as long ago as 1888 for imparting medical education to and affording medical relief for Indian women, but it was not utilised for medical advice and relief to mothers and children exclusively as is done by the Welfare Centres. In 1915, we had in Bombay a scheme named after Lady Willingdon to provide lady health visitors and maternity homes. The scheme was later replaced by the more ambitious Bombay Presidency Infant Welfare Society for establishing ten Welfare Centres and twenty Health Visitors. Eight of these are already opened. In Delhi, European Lady Health Visitors were appointed to do the house visiting and to advise mothers regarding general hygienic principles applicable in every day life and special instructions in the welfare of expectant and nursing mothers and babies. They were also required to train the indigenous "Dai" class and supervise them in their practice. Similar work was later on undertaken in Madras, Calcutta and Rangoon and I have already quoted their statistical figures showing the good results they have obtained. In 1920 Lady Chelmsford opened a Maternity and Child Welfare Exhibition in Delhi, the first of its kind in India. This exhibition and the number of lectures delivered at that time gave a fair idea of the work ahead and the general lines of action. In 1921, an All-India League for Maternity and Child Welfare was founded under the presidentship of Lady Chelmsford "to co-ordinate and assist the existing associations for child welfare and to

encourage new efforts." At the first annual meeting of this League in 1922, Lady Reading, the President, indicated certain avenues along which the work should be developed; one is the creation and development of a model scheme of Welfare work and the other is the encouragement of the principle of voluntary help.

It is clear that so far most of the work done is achieved by the active sympathy and initiative of the wives of the heads of the Presidencies of India with the co-operation of other ladies and gentlemen of rank and position. It has to be admitted that the good work has not yet caught the imagination of the public at large for whom it is meant. The tale of death and disability of mothers and babies is getting daily mightier, and it behoves us all to make amends though late for our faults. Forgetting them in the difference of opinion we must acknowledge the good that is already done by the Welfare Societies and co-operate and intensify the work of these Societies. Criticisms appear in the press regarding the rather wasteful working of some of the Societies, but that is, I believe, primarily our fault in so far as we have shown very little active sympathy with this work. When once this movement becomes widespread, the army of voluntary public workers will see to it that there is no wastage or overlapping.

I propose to give here the nature and scope of various agencies that come under the Welfare work.

Infant Welfare centre.

The main feature of this is the baby consultations. A doctor attends twice a week and examines the babies and treats them for minor ailments—usually of bowels. A trained and experienced nurse is in attendance every day and carries out the instructions of the doctor. She does the weighing of the babies every week, distributes milk, Cod liver oil etc. to the babies as per instructions and gives general advice to mothers as to the proper method of bringing up a baby. The value of the centre lies in the practical education to mothers and in the prevention of more serious ailments in children by promptly attending to their minor complaints. But for these Centres, many babies would have been left untreated till diseases assumed serious proportion. It is not called "dispensary" because no serious disease is tackled here.

Maternity Centre.

This usually means advice to, and, if necessary, examination of expectant mothers. Here also minor complaints of pregnancy are treated and if any abnormality is detected they are warned in time so that proper medical help could be obtained. The importance of proper arrangements for delivery and after is impressed on their minds. Magic

Lantern lectures are sometimes given to mothers, illustrating the points in the care of themselves and their babies. Sewing classes are sometimes held here. The idea is to make them feel that it is a social centre for a friendly and a healthy talk and not a dispensary.

LADY HEALTH VISITORS.

This is a most important agency in the welfare scheme. These ladies are certified midwives of experience and understanding. They are trained in the management of normal pregnant women and babies in the early signs of disease in them, and the general principles of their treatment, and it is their duty to visit the houses and advise the mothers as to the clean methods of household work and their importance in a friendly way. They inspect the arrangements for expected delivery. The health visitor visits the house as soon as a birth is notified as she can then give valuable advice in time. She does the work of the health department also as she reports births, deaths and diseases. It is found that unless the members of a *family* are advised repeatedly about the same thing, they do not derive much benefit. She keeps under observation the mothers and babies and gives timely advice during her visits. She also incidentally supervises the midwives or trained "Dais" who may have attended the labour. Thus it will be seen that the health visitor is the one person who spreads the knowledge of sanitation and maternity and child welfare from house to house, who sees that it is followed up, who warns, treats and notifies the earliest deviation from the normal and thus prevents, or nips in the bud the diseases of accidents that are usually the results of ignorance and negligence.

DISTRICT MATERNITY SERVICE.

A number of trained midwives are engaged who are generally attached to a Maternity Home or hospital. They are sent to the houses of the poor as soon as the Home gets a call for a midwife to attend impending delivery. The midwife then usually attends the mother and baby, morning and evening, for days. This arrangement does away with the expense of establishing a Maternity Home but in many ways this system is wasteful, as a large amount of time and money is spent in coming and going to the houses of the poor at odd times. Besides, patients have to spend a lot in keeping other servants to do the washing etc., and then ideal conditions for clean delivery could not be secured at home. But so long as patients prefer to get delivered in their own houses, this district service is a necessity.

MATERNITY HOME.

The word "Home" is meant to convey the idea that the patient is not admitted for any serious illness and so need not expect any untoward results. The patients have been generally examined before in a Maternity Centre and assured of an easy and safe delivery. No abnormal case is admitted. Maternity Homes are essential in cities where large numbers of poor people have to live in one room tenements. It is cheap even when the patient pays for her delivery but, if a system could be evolved by which the mother has to pay a portion and the rest is paid by the State or local bodies, confinement at Maternity Home will be cheaper than that done in their home.

It is clear that all these agencies for welfare work are interdependant for their smooth working and success and so they should be co-ordinated under a central organization which includes State, Municipal and public representation.

CONFERENCES.

And lastly Conferences should be held all over India (a) expressing great apprehension about the frightful mortality among mothers and infants in India, particularly in big towns and cities, and noting with satisfaction the strenuous efforts that are being made by various agencies to reduce it and urging the public further to extend such efforts in both rural and urban areas, (b) advocating that maternity benefits be made obligatory on all employers of labour in a manner suited to meet the requirements of women working in large industrial concerns and here I may draw your attention to the growth of the Mill area round about you with all its concomittant evils associated with factory life as you see in Bombay which are now costing her millions of rupees to remedy—I mean congestion, lack of house accommodation, breaking up of happy family life, growth of immorality and acquiring by simple village folk of the evils of drinking, smoking etc. on their transfer from rural to such urban areas and further recommending the necessity of appointing women insprectresses for factories, (c) and urging that the training of the medical students, nurses and midwives *should* include the practical study of preventive methods and of subjects relating to public health (well! this is a partiality to my subject) and (d) recognising that while trained nurses and midwives are essential still as for a long time to come it would be impossible to replace the indigenous "Dais" therefore suggesting that attempts should be made by Government and recognised bodies to give "Dais" some training to improve their efficiency and suggesting (with due regard to the great dearth of competent medical aid in rural areas) that a special class of rural workers *some* of whom should be women should be created who *shall* be trained by Government to render first aid and simple medical relief to help, to treat and combat the common epidemics and who may be employed by local bodies, co-operative societies and village unions and further suggesting that legislation should be introduced for registration of trained nurses and midwives and for the supervision of their work.

CASES AND COMMENTS.

A CASE OF TAPE WORMS

By

J. C. BAGCHI, L. M. F., DURGAGANJ.

On the 14th of March, 1924, I went to Kumri a neighbouring village to see a male patient named Shyam Dhan Hari (Hanri) 34 years of age.

I am mentioning here the conditions of the patient in which I found him.

(1) He was fully unconscious,

(2) He was moving his head always hither and thither.

Symptoms.—From his mother I got the following—He was ill of fever for a few days. She told me that he was unconscious on the 13th of March 1924. He was placed under me on the 14th of March, for treatment. I found the following after examining the patient.

(*a*) Temperature was 101°F in the morning and rose up to 103°F in the noon.

(*b*) Pulse was full and bounding.

(*c*) Spleen was signally enlarged.

(*d*) There was no enlargement of liver.

(*e*) Eyes were red.

(*f*) His bowels had not moved for the last 8 days.

(*g*) The patient was restless. His mother told me that he became more restless in the noon.

I found no other complaints.

Treatment:—(*i*) Saturated solution of mag. Sulph. 3IV was administered at a time with great difficulty.

(*ii*) Diaphoretic mixture was given and his mother was advised to administer it every 3 hrs.

(*iii*) Cold application was given to his head.

On the 14th evening his bowels were moved twice. The temperature came to 99·F and the patient was slightly improved. The cold application was continued till he spoke. On the 15th morning,—he was able to speak very slowly, when he said that he felt severe pain in the head and abdomen. In the midday of the 15th he became delirious. This time, cold application gave me no good result. In the evening, I injected 1/100 gr. of Hyoscine Hydrobrom subcutaneously, which caused him to sleep.

16—3—24. Having found no improvement in the patient I suspected it might be a case of intestinal worms. Then I administered the following:—

Santonin gr. iii.
Sodii Bicarb gr. x.
Pulv. Rheii Co. gr. xxx. One powder. It was given in the night.

17—3—24. There was no improvement in the patient. The patient was placed on liquid diet only so long. I enquired whether he ate pig's meat as the Hari caste generally eat that meat.

Same medicine was continued on the 17th of March.

18—3—24. I gave—Ext. Filicis Liq—mxx with mucilage.

19—3—24. His mother came to me and said that this morning her son moved his bowels once. I asked her whether she saw or found anything in the stools. She told me something like Tape ¼ inch broad was seen and that she pulled out but it was torn. The torn piece was measured and it was about 10 cubits long and she threw it away.

In the same night I administered full dose of Ext. Filicis Liq—m. 90 with mucilage. This medicine was administered at about 10 P.M. and he moved his bowels at 1 A. M. when a ball like substance was expelled. As soon as this substance was expelled he became conscious and wanted to eat rice.

20—3—24. At the news of this I went there and saw the patient and he was all right. This morning I did not give any saline purgative. He was advised to take rice to-day. The worm was brought to the dispensary and measured. It was about 25 cubits long altogether. I have preserved the worm in spirit.

Another case of Tape worm came to my notice. Ext. Filicis Liq with mucilage was given followed by saline purgatives. About 500 segments he expelled. The man is still all right.

Though I have seen 8 or 9 cases of Tape worms, yet such symptoms did not come to my notice. So I am writing this small article to draw the attention of medical men.

AN INTERESTING CASE

By

DR. J. C. BAGCHI, L.M.P. DURGAGANJ.

What I am writing may or may not be interesting to other medical men but I am much satisfied in curing the case. I hope my request, which will be mentioned in the last part of the article will be fulfilled by them in the next issue of "The Antiseptic."

A man of 20 came to me for treatment from Mohendrapur, 10 miles from Durgaganj, in the month of August 1924.

He mentioned the following complaints:—

A few months ago he was attacked with fever. He felt frequently itching all over the body since one month but no eruptions appeared. After half an hour, his fingers began to swell at the end. The swollen part became black and hard and gave him much trouble. The swelling subsided after pricking with needle. This caused the flow or evacuation of some blood. After expulsion of the blood he felt much comfort. Then he was all right for a few days. He did give me no other complaint.

Symptoms:—(1) Bowels were constipated.

(2) Countenance was pale.

(3) Pulse was weak and rapid.

(4) He was slightly emaciated.

(5) Spleen was slightly enlarged.

(6) There was no enlargement of liver.

Treatment:—(1) First, I administered Saline mist oz i to be taken thrice daily. This helped him to evacuate his bowels regularly. The following mixture was continued for one month and it helped to cure him from this troublesome disease.—

Re.

Quinine Sulph. gr. iii.
Acid n. m. Dil m. vi.
Ammon chloride gr. viii.
Spt. Chlorofom m. iii.
Tr. Nux. Vom. m. iii.
Aqua—ad. ozi.

This medicine was given thrice daily.

Opinion—Though I have been successful in curing the man from such a troublesome disease I am still in the dark in diagnosing the case accurately.

I am writing some points about the case:—*(1)* Had it been a case of liver disease there might be eruptions due to itching all over the body. There might be an enlargement of liver. There was neither of the two.

(2) Why did his fingers swell?

(3) Why did such blood cause him much trouble?

Though there might be some toxins produced in his blood yet I could not come to any right conclusion.

So I request all my fellow medical men to express their views about this case.

SUCCESSFUL RESULT OF APHONIA BY STRYCHNINE HYDROCHLOR INJECTION

By

DR. J. C. BAGCHI, L.M.F. DURGAGANJ.

A man of 38, named Brajamohon Shaha of Khempur, who had been suffering from Splenitis for the last six months, was placed under me for treatment in the 1st week of October 1924. I was treating him according to the symptoms of the disease. Splenitis, which caused him much trouble, was almost cured by the treatment.

On the 11th he slept for a few hours after taking his midday meal, when he awoke from sleep, he became voiceless—he could not utter a single word—he could hear everything but could not express by word. His memory was not lost. What he had to do, was done only by a sign. So long he had no other complaints except slight Splenitis.

On the 12th morning he came to the dispensary for treatment. I did nothing this day with this case.

Treatment.—*13—10—24.* This day I only gave him Saline purgative 3 iv at a time to evacuate his bowels.

14—10—24. The following medicine which I continued till he spoke distinctly, made him free from disease on the 19th.

I injected 1/60 gr. of Strychnine Hydrochlor subcutaneously and the following simple mixture I prescribed for internal use.

Re.—

Liq Strychnine Hydrochlor m. ii.
Spt. Chloroform m. v.
Aqua ad. 3i.

M. Ft. mist. One Send 4 such. Sig. One to be taken twice daily.

16—10—24. This day I continued the same injection and the mixture which I prescribed on the 14th.

18—10—24. Same injection and mixture.

19—10—24. This morning, the patient told me that he was able to speak the previous evening and he came to me to give this good news. I was extremely pleased in curing him from such disease.

Lastly I mention that he was strongly directed to take nutritious diet, *viz.*,—cow's milk, small fish, Etc.

CONDYLOMATOUS TUMOUR IN THE TONGUE.

By

DR. ABANI MOHON DAS., L. M. F., THE ANNA-PURNA PHARMACY, NABABGUNGE ROAD, DACCA.

On the 20th of July of this year, Indra Mohon Saha, a Bengalee male of about 30 years, from Narayanganj, came to me for the treatment of a cauliflower-like ulcer just in the middle of the anterior surface of his tongue, with the following complaints :—

Pain, headache, difficulty in chewing and swallowing.

On the first day I could not see the conditions of the ulcer fully and clearly, as it was covered with mucopurulent secretions; over and above he was not in a position to open his mouth wide. Sol. Hydrogen Peroxide was prescribed for his gargle.

The next day, on the 21st July, by a mouth gag, I discovered the cauliflower-like ulcer, which appeared with a round circumference, bulging with a projection (nipple-like) at the centre. The tonsils and the sub-maxillary glands of both the sides were inflamed.

Present History :—Some 2 months back he felt something uneasy in his tongue. At first a macule appeared which afterwards burst and gradually became larger.

He could not take his usual meals of rice etc. for a month and had to depend on liquid food, though with horrible pain. Sub-maxillary and epitroclear glands of both the sides, also the glands of the posterior triangle of the neck were inflamed; marks of chancre in his genital organ were detected. The examination of the rest of his body did not reveal any thing abnormal.

Family History :—In his infancy he lost his father. His mother was still living. His wife aborted a still-born child in the month of May 1924.

Diagnosis :—The chancre marks of the penis, the inflamed glands already mentioned and the still-born child aborted by his wife, lead me to diagnose it as a secordary Syphilitic Condyloma.

Treatment :—I then began by simply putting in the intravenous injection of "NOVARSENO BILLON" on 25-7-24, 3-8-24 and 13-8-24 and he was completely cured of his ulcer and its troubles. No complaint has reached me these two months.

EFFECT OF ELECTRIC HIGH-FREQUENCY CURRENTS ON THE HUMAN BODY.

Skin :—The first effect upon the skin is one of vaso-constriction followed by dilatation of the capillaries with little consequent hyperemia. A limited superficial anesthesia is produced. Activity of sweat glands is visibly increased. Repeated applications will tan the skin. Heavy sparks are highly counter-irritant, the effect varying in intensity from a blister to necrosis. If the current be condensed upon a needle point the effect will be one of dehydration. In prolonged application of heavy sparks the small arterioles are plugged with gas products thus destroying the hair follicles with consequent falling of hair. Skin bacteria are destroyed. The effects of the application of a vacuum electrode through very thin clothing are practically the same as when applied to the skin. The effects through heavy clothing are repulsive and irritating and should not be employed except when intense counter-irritant effects are desired.

Tissue Cells :—Local application of high-frequency currents produce an increased activity of cellular protoplasm and increases the resisting power towards pathological processes.

Blood :—High-frequency currents cause chemical and physical changes of the protoplasm of the red and white cells. The red cells are increased in number and the percentage of hemoglobin is also increased. Phagocytosis increased. Nitrogen content reduced.

Liver :—Activity of liver cells increased and drainage promoted. Relaxed common bile duct. Increased defence to bacterial invasion.

Bone :—Bone offers material resistance to the passage of high-frequency currents, consequently is last to be heated. The heat is retained for hours and is slowly given up to the surrounding tissues. Activity of bone marrow is increased, resulting in an increase of hemoglobin content.

Nerves :—High-frequency currents, depending upon the method of application, have profound stimulating or inhibitory effects upon the autonomic nervous system. Trophic effects are increased. Pain is relieved through circulatory and reflex effects. Electric excitability is lessened. Visceral reflexes are incited by application to certain spinal nerves. A current from a multiple-point electrode held away from sparking distance from the skin (effluve) produces a sensation of a mild breeze and is sedative to tired nerves.

Glands.—High-frequency currents penetrate more deeply than other electric currents and have a more profound effect upon lymphatic and other glands. Secretory function is increased by local application and inhibited through incitation of reflexes.

Blood Vessels.—The first effect is one of vaso-constriction followed by dilatation of capillaries. There is a marked increase in the activity of the arterial circulation which mechanically relieves venous congestion. Splanchic stasis is relieved through a general stabilization of the circulation. Large blood vessels may be dilated or contracted by stimulation of certain spinal nerves. Arterial tension is lowered or raised in accordance with the method of application. Indurated arterial walls are softened.

Stomach.—Direct application increases gastric secretion and muscular activity. Pyloric dilatation may be secured through incitation of spinal reflexes. Intestinal peristalsis is increased by local application and may be inhibited through spinal reflex.

Heart.—Increase of diastolic pause allowing fresh oxygenated blood to enter heart muscle, thus promoting nutritive effects. Direct application to the heart increases cellular activity which proves a factor in the restoration of weakened muscles. Vertebral application influences vagus control which regulates the heart rythm.

Kidney.—General application of the high-frequency current increases the function of the kidney, evidenced by increased urinary output. The kidney pelvis may be contracted or dilated through proper application to the vertebral interspaces.

Pancreas.—The secretion of this gland is influenced in some unknown manner which results in decreased output of sugar in the urine.

Eye.—High-frequency currents dilate the blood vessels and promote drainage. The reflex of contraction and dilation may be incited through application of the current to certain spinal nerves.

Lungs.—Output of carbon-di-oxide increased. Drainage promoted through circulatory effects.

Brain.—Direct application, induced cerebral hyperemia. Cerebral congestion may be dissipated through excitation of spinal reflexes.

Bronchi.—Effects of contraction and dilatation may be obtained by incitation of certain nerve reflexes.

Spleen.—The reflex of contraction and dilatation may be incited through spinal application, thus in a limited manner controlling certain infections. Direct application favours the freeing of specific bacteria which enter the circulation causing a recurrence of the malady.

Uterus.—Intra uterine application induces vaso-constriction. Direct application promotes drainage through thermic and vaso-motor effects.

Rectum and Bladder.—Direct application stimulates secretion and has a general tonic effect upon all structures. Sphincters may be dilated through incitation of spinal reflex.

Organs of Generation.—Increased activity of ovaries and testicles results from direct and vertebral stimulation. Power of erection is increased.

Mucous Surfaces.—The effects upon mucous surfaces are similar to those upon the skin—stimulation of secretion, transitory hyperemia and vaso-motor vitalizing effects.

Muscles.—Electric excitability lessened in close proximity to electrode. Upon ordinary application high-frequency currents do not cause muscles to contract, but they may be made to contract by the introduction of an air gap in the circuit. Muscles deprived of nervous control may have their nutrition sustained by proper application of diathermy.

THE MANAGEMENT AND FEEDING OF THE INFANT.

By

(ANAND SWAROOP SHARMA, GHARWAL.

Treatment after birth :—Due care should be paid to the child immediately after it is born and attention should at once be directed to remove any froth or mucus which might be seen hanging about in the child's mouth and the head placed in a convenient position so that it might be covered with any cloth, etc. Then see if the child cries or not (which he will do unless still-born *i.e.*, born apparently dead). Then the cord should be attended to and should not be cut in a hurry. Wait until it has ceased beating, which can be easily tested by holding the cord between the fingers of the hand, (this beating means that the child is still receiving blood from the placenta). When the cord has ceased beating two ligatures should be tied tightly round the cord, one one and a half inches above the child's navel and the other about 3½ inches above the navel and then divided between these two ligatures by means of a pair of blunt scissors. Thus when the child has been separated from the mother put him in a piece of flannel or blanket so that it might not slip from the hands on account of the greasy matter with which the child's body is covered. After this, warmth is necessary as the child has passed from a higher temperature of the mother's body about 100° F. to a colder atmosphere and for this warm water should be kept ready beforehand for use. The eyes should also be taken care of and washed with warm boracic lotion (20 grs. to the pint); otherwise there is danger of the child getting ophthalmia. Then the child should be immersed in warm water, not very hot, at a temperature of 97° F. and wash off the greasy substance adhering to the body of the child, especially the armpits, groins, eyebrows and other places where the skin is loose. If at hand,

glycerine, Castile soap or a soft sponge should be used to remove this greasy matter but care should be taken that water does not enter the child's eyes and do harm. The child should not be kept more than four or five minutes in the bath whether the body is free from greasy matter or not, any remaining deposits being removed at future washings. The child should not be held up by one arm but allowed to rest on the bath as the bones at this time are too soft and elastic and unable to sustain the body weight. After the bath is over put the child on a soft pillow on the nurse's knee and dry very gently with a soft warm towel and put him in a flannel wrapper.

Treatment of the Navel (Umbilical cord):—Cut the material with which the navel cord is tied near the knot and examine the knot to ascertain if the knot has slipped (on account of contraction of the cord) and that there is no oozing of blood, and in either case another ligature should be applied. Then a piece of soft boracic lint or soft linen should be doubled and cut in a circular shape four or five inches in diameter In the centre of this piece a circular hole should be made through which the 'cord' is to be drawn. The latter should then be folded in the cloth, and the mass laid against the child's body, in which position it should be secured by a bandage tied round the child's back, the bandange should not be too tight to impede breathing, the only object being to maintain a slight pressure over the navel, which, at this time, is the weakest part of the infant's body. The bandage should be used for four months in order to provide against rupture of the navel. The 'dressing' above mentioned should he changed daily and renewed. In five or six days the end of the 'navel—string' will come off, leaving a depressed sore below, which heals quickly and if it does not drop by this time, do not pull but allow it to drop off by natural processes.

Medicine for New Born Infants:—It is a general practice with many nurses to give to the new born castor oil, treacle or some other substance, but it is not always necessary and may be injurious. If the child sleeps (which it most usually will do) let it sleep and protect its eyes from strong light and body from cold draughts. In five or six hours the child will probably awake crying and may be put to the breast, which will encourage the flow of milk and tend to secure contraction of the womb. If the child does not sleep due to some cause it may be put to the breast at any earlier period. The milk first secreted contains natural aperient qualities and the child should take this milk instead of the medicines etc. referred to. It is only advisable in cases where the first milk of the mother is not obtained, owing to the child being put to a wet nurse or in case of premature birth when no milk is secreted or from the first milk

failing to be sufficiently purgative. In such cases half a tea-spoonful of castor oil is the best aperient. A few hours after birth the child passes a yellow secretion 'meconium' from the bowels generally with the first flow of urine; and which, unless removed, may cause diarrhœa. In most cases the first milk is quite sufficient to effect this and medicine may do harm by exciting artificial appetite or diarrhœa. On the third day, if the stools are black instead of yellow, half a tea-spoonful of castor oil may be given.

Food for the New born:—The practice of feeding an infant immediately after birth is not advisable. Very little nourishment is required for an infant up to ten or twelve hours after birth, the secretion from the mother's breast being sufficient to serve the scanty wants of the child. In second confinements the mother will often supply milk within 12 hours. If not, or in first confinements, when the milk is later on coming, the child may be fed with **Milk and Water* sweetend every 3 hours. When the mother's milk appears the child should be nourished from this source alone. When suckling, the mother should lean over and support the breast so that the nipple may fall into the child's mouth. For the first ten days it is better to suckle the infant when it awakes; for the next twenty days every 2 hours by day and every 3 hours by night. Frequent suckling is also better for the mother's breasts as it maintains them constantly relieved during the first month, the distension of the breast from retained milk being a cause of inflammation or abscess. After the first month the interval between suckling should be gradually extended to 4 hours. It will be of great comfort to the mother if she acquires the habit of *not* suckling the baby from 10 p. m. to 5 a. m. Generally when an infant cries it is from thirst and not hunger and it may be soothed by a tea-spoonful of boiled and cooled water. Apply the child alternately to each breast. Often a child, from some inexplicable reason, prefers one breast and the mother to avoid contention, concedes or on account of a sore or cracked nipple the mother herself puts the child more to one breast, the result being distension by retained milk and often abscess.

Clothing:—It should be light, loose, and warm. Thin flannel or silk and wool will do better than other textures. The sleeves and arm holes should be so made that twisting the child's arm into unnatural positions may not be necessitated. The garments should fasten in front and the skirt should be attached to the bodice. Pins should be avoided, only safety pins should be used.

*Fresh cow's milk 1 pint, cream 1 ounce, sugar 1 ounce, water (boiled) 10 ounces

N.B.—In hot season and rainy places in wide mouth bottle closed with cotton wool; stand in a pan of water boiling for 25 minutes.

Warmth :—For this it is desirable that the child should lie with the mother or nurse at first taking care that it is not overlain or smothered with pillows. After the first three weeks it should sleep alone.

Cleanliness :—It is of utmost importance. A warm bath at bed time is most useful as a percursor of repose and equaliser of circulation. The discharge feaces and urine so often passed should not be allowed to remain in contact with the child as they irritate and inflame the skin. Napkins which should never be of waterproof material, should be changed whenever soiled and should be fastened with a safety pin or with broad tapes stitched to the corners.

Dryness :—For this 'Cimolite' or white fuller's earth, is the best application for chafing. Wet bibs are likely to give the infant cold on the chest and a sore neck. No soiled clothes and no wet clothes should be allowed to remain in the nursery.

There are some occasional maladies such as 'still-born' swollen breasts, cleft palate cynosis, alteration of shape of head, bleeding from navel string, tongue tie, retention of urine, red gum and jaundice, vomiting, pemphigus, ophthalmia and rupture of the navel etc., etc., with which a child is born or attacked immediately after birth and for this the advice of a physician or surgeon is quite necessary and should be promptly obtained.

The Antiseptic

NOVEMBER, 1924.

A REVIEW OF WORK OF THE MINISTRY OF MEDICINE AND PUBLIC HEALTH IN MADRAS.

The Reform Scheme has opened a new chapter in the administration of two of the most important departments of Government, *viz.*, Medicine and Public Health.

The Minister of Public Health appointed under the Scheme owes a duty to the public and the Legislature and is not generally expected to play the second fiddle to the Government in matters opposed to popular views and detrimental to the people's interests.

We propose in this article to recapitulate, though we may be open to the charge of repetition in so doing, the work of the Minister during the first three years' tenure of his office, and as his failings and shortcomings outweigh his achievements, we are constrained to enumerate what all he has not done or failed to do rather than what he has.

The extension of medical relief in this Presidency is the first and foremost cry of the people. In our own Presidency, there is only one medical institution for every 55,904 of population, serving on an average an area of 187·66 sq. miles each. Naturally, all eyes were turned to the Minister who was expected to come out with his scheme for extension of medical relief by opening more medical institutions and strengthening the existing ones. But alas! It was not to be. "The Retrenchment Axe" was then doing havoc in all Government Departments and was ruthlessly cutting down expenditure. *Retrenchment in the Medical Department* should under no circumstances have been permitted but still the Honourable the Minister, without even raising his little finger against it by way of

protest, meekly submmitted to the "axe" and allowed it full play and to have its own way. As a result, a number of dispensaries were closed, many hospitals were converted into dispensaries, medical men already in service were asked to retire and newly passed out Sub-Assistant Surgeons were told to go home. This is really playing to the tune of the bureaucracy and not helping to the relief of the sick and the suffering.

The Supplies and Services in the Hospitals were also cut down and there was a great hue and cry raised against this measure of retrenchment in the General Hospital at Madras. Though it was explained that retrenchment was aimed at only *luxury and extravagance*, still, the public are dissatisfied. In moffusil hospitals and dispensaries, there is a bare minimum of medicines provided and year after year, one sees more provision made in the Hospital Budgets for salaries of establishment and allowances than for diet and medicines. This brings us on to the subject of *Indianization of Services.*

The Indianization of Services:—This is, no doubt, said to be the watchword of the Ministry. But no real attempt has been made during all these three years towards the realization of this end. The preference given to European I. M. S. Officers in filling up important positions such as the appointment of the Principal of the Medical College, the importation of English Sisters from home to occupy the places of matrons in the General Hospital and the *carte blanche* given to the head of the Medical Department in the matter of appointments and promotions, all go to show that a strong hand and a firm will were wanting in the person of the Minister. The watchword of "Indianization of Services" remained only in name and with a meek Ministry bowing before the bureaucracy at every turn, it is impossible of attainment now or in the near future.

Honorary Physicians and Surgeons:—The first step in the direction of "The Indianization of Services" is the adoption on an extensive scale of the honorary system of staffing the Civil Hospitals with private medical practitioners, as in the United Kingdom. This suggestion wasurged strongly both in the press and in the platform ever since the creation of the Ministry but it was not until a few months ago that it was acted upon. The experiment is being tried in a light, half-hearted manner so much so, not only the pick of the profession are indifferent and do not care to serve as Honorary Physicians and

Surgeons but even the few who have consented to serve as such, feel tired of their position and are anxious to be divested of their honorary duties. What is faulty with the scheme is the position of subordination and dependence to which these Honorary Physicians and Surgeons have been relegated and which is resented. The Ministry is evidently powerless to tackle this question and though it was urged that a single Hospital in Madras should be chosen and manned completely by honorary men vested with professional and administrative duties for purposes of experimentation, nothing has been done in the matter. The Ministry evidently moves with the same proverbial bureaucratic sloth and it is needless to dilate upon it. When the time comes, however, for the selection of a Hospital in Madras for being placed in independent charge of Honorary Physicians and Surgeons, we consider the Royapuram and not the Royapettah Hospital to be more suitable. For, there is a medical school attached to the institution and there will be ample opportunity for these honorary men, in preparing the subjects for teaching, to study the latest advancements in medical science and be up-to-date in their knowledge of the healing art. All the world over there is always a medical school or college attached to Hospitals and the Honorary Physicians and Surgeons have professorial duties also assigned to them side by side with their professional work. By deputing the Honorary Physicians and Surgeons to work in a Hospital like Royapettah, to which no medical school is attached, there is every possibility of these Honorary men getting into the background and being ultimately dumped as hopeless failures. We trust the Honorable the Minister will not give room for any such deplorable contingency to arise out of any ill-considered move on his part.

Opening of more Medical Institutions:—As matters stand at present, there are only 2,272 medical practitioners in the whole Presidency to serve a population of 42 and odd millions while the United Kingdom of Great Britain and Ireland can boast of 40,000 medical practitioners for the same population. To increase the output of medical practitioners is therefore necessary and imperative. But, this will certainly lead to unemployment and starvation if side by side with the scheme of turning out more medical men by opening more medical institutions, more hospitals and dispensaries are not provided. Medical education has become very costly and students as soon as they come out of the College

look to Government for their sustenance, for they have spent their all for their education and there is nothing left for them to start private practice—nay, even to keep their bodies and souls together. So, the opening of medical institutions and the opening of hospitals and dispensaries are inter-dependent and while the Minister has sought to increase the medical institutions by two during his tenure has reduced the number of hospitals and dispensaries and has thus driven these medical men to the verge of starvation and despair. In one of his speeches delivered on the occasion of the opening ceremony of the Vizag College last year, he said his object was to create the formation of an independent medical profession. His aim may have been laudable but the pangs of hunger as a result of unemployment are unbearable! This is really a grand achievement of the Ministry aiming at one thing and hitting at another!

The Indigenous Systems of Medicine :—This is another matter to which the Minister has not paid the attention which it deserves. Most of the people of the Presidency are poor and illiterate and their leanings are still towards their indigenous systems of medicine—the Ayurvedic and the Unani. Beyond appointing a Committee and gathering some valuable literature on the subject of Ayurveda, nothing appreciable has been done. As a bait to public clamour, the device of trying "simple remedies" was suggested. The establishment of an Indigenous College is still in the embryonic stage and no one knows when it will come to fruition and perfection. While a few earnest municipalities have opened Ayurvedic Dispensaries, the Honourable Minister says, beware! Beware of what? Of the Bureaucracy?

Compounders and Nurses :—The training given to Compounders and Nurses at present is most unsatistactory. A separate school for Nurses and Midwives and another for Compounders are a great desiderata. The Honourable the Minister is yet to tackle this question.

We have stated what all the Honourable the Minister had failed to do during his tenure of office and if he had done anything at all, it is really not worth mentioning. It is needless for us to iterate once again that "Failure is writ large on the Ministry".

THE XIX ALL INDIA MEDICAL LICENTIATES CONFERENCE.

We are asked to announce the following :—

The XIX All-India Medical Licentiates' Conference comes off in December next at Agra along with which will be held the All-India Maternity, Child Welfare, Sanitary, Scientific and Indigenous Drugs Exhibition. A strong Reception Committee has also been formed with Lt. Col. W. Lapsley, O.B.K., I.M.S., Civil Surgeon, Agra, and Major M. A. Rahman, I.M.S., Principal Medical School, Agra, as Patrons and Rai Sahib Dr. Ram Narain Lal, Mussoorie, as Chairman and Rai Sahib Dr. Hari Sinha Bisht, Agra Medical School, as General Secretary. It is hoped that the Exhibition will be opened by His Excellency in the presence of Rajas, Maharajas, popular leaders, prominent doctors, sympathetic Hon. Members and high Government Officials. Medical practitioners will muster strong at the Conference and leave no stone unturned to make it success. They are also requested to send in scientific papers and exhibits for the exibition.

It is also a very favourable opportunity for the Chemists and Druggists to exhibit their indigenous drugs and modern apparatuses both for sale and show. In this way that they will advertise their best and latest goods.

CURRENT TOPICS.

SURGERY.

Injections of Defibrinated Blood in Surgical Tuberculosis.—E. Kisch (*Deut. Med. Woch.* May 23rd, 1924, P. 668) reviews the experiences of the 250-bed hospital at Hohenlychen, near Berlin, during the first ten years of its existence. This hospital was established in the lowlands by Professor Bier, who, in addition to practising passive congestion, immobilization, actinotherapy, and other well-known procedures in surgical tuberculosis, has found the intravenous injection of defibrinated blood remarkably beneficial. The author, who is in charge of this hospital, states that the donors of this blood were sheep, cattle, horses, and pigs, the blood of the last named provoking the severest reaction, and that of sheep the mildest. This consisted of fever up to 40° C., rigors, pain in the back and head, prostration, flushing of the face, nausea, vomiting, cyanosis, and a rash. Collapse rarely occurred and was never alarming. The dose varied from 1 to 5 c. cm. Six injections were given to each

patient, who, in the course of this treatment, received blood from several different animals. Altogether 47 patients were thus treated, the indications for the treatment being great and persistent loss of weight and other signs of severe tuberculosis. Except in the most hopeless cases this treatment not only arrested the loss of weight, but turned the scales so much in the patient's favour that the average gain of weight was between 11 and 12 lbs.

Traumatic Gastric Ulcer.—K. Mattisson (Hygiea, May 31st, 1924, p. 321) has investigated the records of two Swedish hospitals and has found 25 cases, or 1·5 per cent· of all the cases of gastric ulcer, with a history of injury occurring directly or a few days before the first appearance of symptoms of gastric ulcer. In as many as 12 of these cases the interval between the injury and the symptoms was less than two days, and in most of these cases there was hardly any interval between the two events. A classification of the injuries inflicted showed that 6 consisted of blows on the epigastrin, and as many as 14 were straining injuries such as might be caused by lifting or extreme positions of extension or flexion.

In one case the development of a gastric ulcer was traced to a fish bone. The author discusses the possibility of a gastric ulcer having existed in such cases without giving rise to symptoms before an injury, but he does not consider that this explanation is sufficient altogether to discredit the view that an injury may give rise to a gastric ulcer.

Statistics of Strangulated Hernia. G. W. Alipow (Zentrabl. f. Chir., May 17th, 1924, p. 1090) states that from January 1st, 1905, to January 1st, 1924, 1,231 cases of hernia, of which 174 were strangulated, were treated in the hospital at Penza (Russia). In 172 cases the strangulation was unilateral, in one it was bilateral and in one it occurred first on the right side and a fortnight later on the left side. Among 176 cases 131 were inguinal, 33 femoral, 11 umbilical, and one was a ventral hernia following operation. In 22 the hernia was congenital. The ages of the patients ranged from 1 to 45; six were under 10. Peritonitis occurred in 12, usually four or more days after strangulation; in one case peritonitis developed as early as twelve hours after operation. 138 patients submitted to operation; the remainder were admitted to hospital moribund or refused operation; and all but one died. The results of operation were as follows: The mortality in strangulated hernia of twelve hours' duration was 4.9 per cent., of nine days' duration, 40 per cent., and of longer duration 30 per cent. Attempts at taxis before admission to hospital led to the following complications; extra and retro-peritoneal reduction in 3 cases, reduction of la gangrenous

gut in 3, partial reduction with perforation in 2, and damage to the bowel in 2. The author urges that attempts at taxis in strangulated hernia should therefore be avoided except when operation is refused and the strangulation is of recent occurrence. Among 138 cases the gut was unaffected in 87, necrosed and grey in places, without thrombosis of the mesenteric vessels in 20, while changes in the gut and mesenteric thrombosis were found in 27. Post-operative complications were as follows: suppuration of ligatures in 10 cases, cellulitis in one case, bloody stools in one case, abortion fourteen days after operation in one case, and broncho-pneumonia in one case. Damage to the vas defferens occurred in two cases, and wounding of the bladder in another two. Out of 87 cases in which no special changes in the gut were found at the operation 8 ended fatally, the causes of death being broncho-pneumonia, embolism, cardiac failure, or peritonitis. Of 16 cases in which intestinal resection was performed 6 were fatal—3 from peritonitis and 3 from progressive cardiac failure. In 7 neglected cases of gangrenous hernia and cellulitis of the abdominal wall, of which 5 were fatal, the hernia and gut were merely incised.

Modern Treatment of Bone and Joint Tuberculosis.—G.R. Girdlestone (Joun. Bone and Joint Surg., July, 1924, p. 519) discussing the modern treatment of tuberculosis of the bones and joints, points out that while a tuberculous focus in a bone or joint is part of a deeply rooted disease and evidence of a pre-existing infection of the body, which is advancing and gaining the upper hand, modern treatment by rest, diet, open air, and sunshine, if continued for a sufficient length of time, will almost always effect a cure, which after-care measures can render permanent. The necessity for such skilled after-care is shown by the frequency of relapses when the patient is discharged from hospital to unsatisfactory home surroundings unless continuous after-care supervision is maintained, with prompt readmission when necessary. Treatment aims at raising the patient's general vitality, health, and powers of resistance, the elimination of any factors harmful to the diseased part, the avoidance of septic infection, and the restoration of function, all of which require rest, good feeding, open air, and sufficient time. In the application of heliotherapy the gradual exposure of the body is important in order to develop pigment which by protecting the deeper layers of the skin and underlying tissue from the photo-chemical effect of sunlight, allows the patient to respond better to treatment. While the sun heats and the wind cools, active hyperaemia of the skin is promoted and metabolism stimulated—the wind causing a reflex stimulation of the deep organs from the skin. In providing rest splintage should hold the parts accurately and comfortably

in position without constricting the circulation or interfering with respiration, while allowing exposure of the affected part to the sun and air together with as much exposure of the rest of the body as possible. During active disease perfect uninterrupted surgical rest is indicated, but with the cessation of all pain and spasm comparative immobilization permitting of minor movements should be adopted. A cold abscess, the fluid of which is harmless, should only be aspirated if the skin is threatened; it should never be opened and drained.

Late Rickets and Osteomalacia.—H. S. Hutchison and G. Stapleton (Brit. Journ. Child. Dis., January March, 1924, p. 18, and April-June, p. 96) review the literature and record their own observations on the late rickets and osteomalacia in India, their conclusions being as follows:—(1) In osteomalacia the existence of pregnancy does not produce symptoms differing in any essential way from those occurring in non-puerperal cases. The presence of pregnancy, therefore, does not entitle osteomalacia to be regarded as a separate clinical entity. (2) The existing differentiation of early rickets and osteomalacia, according to age incidence, does not appear to be justifiable. The evidence points to the conclusion that these conditions are identical and represent rickets at different ages. (3) The primary causal factor of early rickets, late rickets, and osteomalacia is environmental. While lack of sunlight may be regarded as an important factor, life in purdah, which entails a diminution in muscular activity, is of predominating importance. (4) Pregnancy is of subsidiary importance in the causation of osteomalacia.—*B. M. J.*

Combined Syphilis and Chancroid.—L. Perin (Paris Med., March 1st, 1924, P. 292) recalls that the term "mixed chancre" was introduced by Rollet in 1858 to denote the co-existence of hard chancre and chancroid in the same ulcer. In 1920 Milian showed that soft chancre might also be associated with syphilis in the secondary or tertiary stage, or in the inherited disease, and that these hybrid forms were curable by antisyphilitic treatment. The following varieties of the symbiosis of syphilis and chancroid may be defined: (1) Primary mixed chancre. (2) Secondary or secundo-tertiary mixed chancre, including (a) papular soft-chancre (Milian), (b) secondary chancroid changes in syphilitic lesions. (3) Tertiary mixed chancre, including (a) tertiary ulcerative chancre, (b) mixed phagedaenic ulcerative chancre. In primary mixed-chancre there is a direct inoculation of *Treponema pallidum* and Ducrey's bacillus in the same spot. The inculation occurs simultaneously, or the two organisms may be inoculated one after the other. As a rule the subject has been hitherto free from syphilis. For a long time primary mixed chancre was

regarded as rare, its frequency being estimated from 2 per cent. (Puche and Fournier) to 6 per cent (Rollet). At present it appears to be much commoner than is generally supposed, its frequency having increased considerably during the war and since. It is seen in both sexes and in all grades of society. It may be situated in all parts of the body, but an extra-genital site is frenum. It is seldom present on the meatus or glans but is found more often in the balano preputial groove and skin of the penis or scrotum. In women it is situated on the labia majoria, nymphae, entrance of the vagina, anus, and occasionally the cervix. In secondary, secundo-tertiary, or tertiary mixed chancre syphilitic changes take place in the soft chancre in a manner similar to what is seen in injuries of wounds in a syphilitic subject. Treatment of mixed chancre includes treatment both of syphilis and of chancroid. In primary mixed chancre the treatment should be begun as soon as possible, but not until an absolutely certain diagnosis has been made by finding *Treponema pallidum*, a positive Wassermann reaction, or the development of secondary symptoms. Intravenous injections of arsenobenzol should then be given without delay. In mixed secondary or secondo tertiary chancre arsenobenzol may also be used, but it is advisable at the outset to substitute mercury salts, especially the cyanide in intravenous injections. Bismuth salts and potassium iodide are also indicated. As regards the treatment of chancroid, no cauterization should be employed since it is likely to produce artificial induration, and no method should be used which would interfere with examination for treponemata. Local applications such as iodoform powder or boracic baths are best, but should be stopped three days before ultra-microscopic examination. In secondary or secundo-tertiary chancre, zinc chloride, hot air, or iodoform powder may be employed. In cases of phagedaenic chancre local hydrogen peroxide or potassium permanganate baths for an hour or more are required.

Acute Appendicitis in Childhood.—F. Beekman (Annals of Surgery, April, 1924, p. 538), in analysing the results of 145 cases of acute appendicitis in childhood, states that in 113 cases the rectus splitting incision was used and in 32 the McBurney incision was employed. The appendix was usually removed with the cautery, and the stump inverted into the caecum. Drainage was usually employed, and blood transfusion was found very beneficial in long-drawn-out cases of sepsis. Eleven patients died, and with the exception of children under 5 years of age, in whom it is extremely high, the mortality is about the same as among young adults. It occurs more commonly in boys, but the mortality is twice as high in girls as boys. Incisional hernia follows operation in children more often than in adults. Stoughing of muscles and apoeurosis, secondary

abscess, and partial eviscoration of portions of the abdominal contents appear to be the causative factors. There were sixteen incisional herniæ in the series, and all the cases had been drained; eleven of these have subsequently been cured by operation. The earlier the diagnosis is made and operation performed, the lower is the mortality and fewer the complications. In the very young the disease is comparatively rare and its frequency increases up to adolescence. The onset in childhood is usually abrupt, with acute abdominal pain and vomiting. The temperature is usually under 103° F. Some mistakes in diagnosis would seem to be inevitable, but it appears better to err by operating when in doubt.

MEDICINE.

The Leprosy Problem and its Bearing on Tuberculosis.—

AN ABSTRACT OF A POSTGRADUATE LECTURE AT THE UNIVERSITY OF BRISTOL, BY SIR LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S. (Ret.) The ancient problem of leprosy has entered on a new era as the result of recent advances in its treatment, which is not without some bearing on the still more important subject of tuberculosis, so some account of the present position may be of interest.

Communicability:—It is now generally recognised that leprosy in an infectious disease, although it is usually necessary to live for some time in close association with a leper before contracting the disease, which is probably less infectious than tubercle. I recently analysed 700 cases I collected from the literature of the past five decades, in which the probable source of infection was traced, and concluded that in at least 70 per cent. it was derived while living in the same house, and in not less than 30 per cent. through sleeping in the same bed with a leper; 95 per cent. of the infective cases having been of the nodular-type and only 5 per cent. anæsthetic cases, which are far less infective owing to the lepra bacilli being confined to the nerve trunks and rarely escaping from the body. I also recorded strong evidence in favour of the usually accepted view that the infective organism enters by inoculation through slight abrasions of the skin. For example, two doctors have wounded their fingers while operating on lepers, and in both cases the disease began in the wounded finger. Dr. E. Muir, Leprosy Research Worker in the Calcutta School of Tropical Medicine, found the earliest lesions to be located principally on exposed extensor surfaces, while the high incidence of the disease in damp hot countries I suggested might be due to the longer live outside that human body of this delicate and uncultable bacillus under such conditions, and to the number of insect bites in such climates affording points of entrance for the bacilli into the sub-epithelial layers of the skin, where they best flourish. Another important point is the much greater susceptibility of children and young adults to infection, as data of over 4,000 cases indicated that 50 per cent. of the infections occurred during the first two decades of life, and 75 per cent. in the first three; the frequency of tuberculous infections of children being of interest in this connection.

Prophylaxis—Hitherto we have been dependent on life-long segregation of lepers, which has produced a slow decline of the disease in Norway, Sweden, Iceland, Hawaii and recently in Cyprus, Jamaica and British Guiana; but it is impracticable in most backward, highly-infected, tropical countries on account of its cost. Moreover, this policy is greatly handicapped by the inevitable hiding of the earlier stages of the disease as long as no effective treatment is known, resulting in the cases not being isolated until they have had numerous opportunities of infecting others of their household, thus maintaining the disease.

Recent advances in Treatment:—In leprosy there is a very nicely balanced struggle between the bacilli and the invaded tissues, with a tendency, especially in the nerve form, for the infection to die out, but not before it has produced serious and crippling mutilations of the hands and feet. Numerous remedies, such as iodides, tuberculin, leprolin, nastin, *etc.*, produced only temporary improvement, while the old Indian drug, chaulmoogra oil, retards the progress, but fails to clear up any but a few incipient cases in oral doses which can be tolerated. In 1913 Dr. Heiser, in the Philippines, obtained 11 per cent. of apparent cures, with long series of painful intramuscular injections of the oil, which Indian patients would not tolerate.

In 1916, having previously obtained greater benefit from gynocardio acid by the mouth, I made some sodium gynocardate, which, although painful, was more effective by injection. Further research showed that this preparation could be safely injected intravenously with even far better results, and in some cases it produced local softening and inflammation of the nodules with extensive breaking up of the bacilli in the body, followed by great improvement. However, sodium hydrocarpate, prepared from higher melting-point acids of chaulmorogra and hydnocarpate oil, proved still more effective, and a number of cases lost all signs of the disease and became uninfective owing to disppearance of the lepra bacilli.

Next I obtained similar results with sodium morrhuate made from cod liver oil on the same lines, and with sodium soyate from soya bean oil, thus establishing the important principle that effective preparations can be obtained by making soluble preparation of the unsaturated fatty acids of several oils, which have since been added to by Muir and others.

A further important practical advance was made when Dean and Hollmann in Hawaii showed that ethyl ester chaulmoograte prepared from chaulmoogra oil was effective by intramuscular injection, which is a more convenient mode of administration than giving the sodium salts intravenously, and is now in very general use in leprosy in many parts of the world, with results far superior to former methods of treatment.

To quote only the latest and most conclusive figures which have been just sent to me by Dr. Wade, and from the Cullion Leper Settlement in the Philippines of a trial in over 4,000 lepers, cases treated for 6 to 9 months showed improvement in 74 per cent., and those with over one year's treatment in no less than 93 per cent., while a number had completely cleared up.

Prophylactic Value of the Improved Treatment:—In addition to the curative effects—for a few of my first cases have remained well for six to eight years—the fact that in many countries lepers are coming forward in

the early stages of the disease in large numbers has enormously simplified the whole problem, for such early cases can be treated as outpatients hospital clinics, as in Calcutta, and cleared up before they have infected their households, thus cutting off the sources of infection, and at last we are in a position to reduce the incidence of leprosy far more rapidly than hitherto.

Mode of Action of the Drugs:—Various explanations have been put forward to explain the essential action of these preparations in gradually destroying the acid-fast bacillus of leprosy, which have an obvious bearing on their use in tuberculosis, as proposed by me some six years ago. Thus, Walker and Sweeney found that 1 in 100,000 strength of sodium hydrocarpate killed acid fast bacilli in avian tubercle, and suggested a direct action on the lepra bacilli; but the fact that sodium morrhuate, with which they could get no action in vitro on acid-fast bacilli, is undoubtedly effective in leprosy, is much against this theory, although recent work of Campbell and Kieffer appears to show some direct bactericidal effect of codliver oil on tubercle cultures; so more research is required on this point. Shaw-Mackenzie showed that sodium gynocardate and morrhuate doubled the digestive action of pancreatic lipase on fats, which led me to estimate the lipase in the sera of lepers kindly sent me by Dr. Muir, with the result that untreated nodular cases showed very low lipase content, while it was far higher in treated cases, except one who had just had a severe reaction, during which the ferment may have been used up in dissolving the fatty coating of the lipra bacilli, and Muir has confirmed my observations, which afford a possible clue to the action of these remedies.

Sodium Morrhuate in Tuberculosis.—In 1919, I published the reports of several workers, who kindly tried injections of sodium morrhuate for me in tuberculous diseases of various kinds, with promising results; and it has been found that given by the intravenous method, as in leprosy, it has a specific action on tuberculous lesions, but may be too active, as in the case of tuberculin, although beneficial results have been reported in South Africa, Brazil, etc. Dr. Boelke of Sydney has just reported excellent results from a four years' trial of small subcutaneous doses of solutions freshly prepared on the days of injection, and he has shown that a local reaction, which may occur at the site of injection very similar to one due to tuberculin, is specific for tuberculous disease, and also a sign that the dose should be slightly reduced, and this method appears to safeguard the use of the drug against severe and possibly harmful general reactions. If his results are confirmed by extensive trials now being carried out by several experts, it may prove possible to use sodium morrhuate with advantage in tuberculosis clinics. In cases of surgical tuberculosis, swelling up of enlarged glands or increased discharge from tuberculous sinuses is followed by decrease of the glands or the discharge, while in pulmonary cases decrease of fever, expectoration and in the number of the bacilli in the sputum are all favourable signs which may follow its use.

Thus the recent advances in the treatment of leprosy afford hope of being applicable, in some degree at any rate, to tuberculous disease due to closely allied acid fast bacilli and so are of general interest.—*The Bristol Clinical Journal.*

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BOOK REVIEWS.

ANÆSTHESIA IN DENTAL SURGERY.

By T. D. Luke, M. D., F.R. C. S., and T. S. Ross, M.B., F.R.C.S. 5th Edition 238 pages, 1924, illustrated (William Heinemann) Ltd., Price 10/6 net.

From the time Humphry Davy first inhaled nitrous oxide to relieve the pain "when cutting one of the unlucky dentes Sapientiæ" to the most modern times, the act of Anæsthesia, for such it has now become, has undergone very many changes, not the least important of which have occurred in the branch of Dental Surgery. The authors have in the book before us endeavoured to put before the student and the practitioner a comprehensive account of the history of anaesthesia and the technique of anæsthesia by Nitrous oxide; Ethyl chloride; Ether and its combinations; chloroform and Nitrous oxide and oxygen with particular reference to Dental Surgery. The chapter on Local anaesthesia has been specially written by Major Finlayson in an admirable way. It is very profusely illustrated. This is a book which can safely be recommended to the student and practitioner of Dental Surgery.

ORATIONS AND ADDRESSES.

By Sir John Bland-Sutton (Consulting Surgeon to the Middlesex Hospital) 1924, 161 pages, illustrated. Price 10-6 net (William Heinemann Ltd).

This book is a collection of various papers and lectures by Sir John Bland Sutton either published in Journals or delivered in various places. It is a book which will appeal only to a select few. Commencing, with a chapter on John Hunter, his affairs, habits and opinions (being an oration delivered before the Royal College of Surgeons) the author gives a bundle of articles widely differing in their nature among the most interesting of which are those on "Surgery of the 18th century" "Surgeons of the future" "Chloroide flexers and Ventricles of the brain as a secreting organ". In this last chapter Sir John Bland Sutton draws a parallel between the two pathological conditions—Hydrocephalus and Hydronefarious. The chapter on "The Habits (ecology) of Thmows" being an address to the Cambridge University Medical Society is also worth reading. All these essays are worth reading not only for their intrinsic value but also for the very interesting and original manner in which they are written.

RHUS DERMATITIS (POISON. IVY.)

Its pathology and chemotherapy by James M O. Nair; pages: 298, 18 illustrations. Published by the University of Chicago Press, Chicago, Illinois.

This book consists of sixteen interesting chapters dealing in a very detailed fashion, about the morphology and anatomy of Rhus Diversiloba, origin and occurrence of the poison, theories about the non-poisonous nature of the Dermatitant, chemistry of the poison, mode of transmission of the poison from plant to person; Pathology, diagnosis and treatment of Rhus Dermatitis. The appendix deals with several interesting and typical cases of Rhus Dermatitis from medical literature. The illustrations are very educative. *B.G. R.A.*

MEDICAL GUIDE FOR INDIA AND BOOK OF PRESCRIPTIONS.

By Lt. Col. E. G. O'Meara, O.B.E., F.R.C.S. (Eng.) D.P.H., Late Civil Surgeon and Principal of the Medical School, Agra. Second Edition Revised and enlarged throughout. Pages 695. Published by Butterworth and Co., Ltd., 6, Hastings St. Calcutta.

This book consists of a large collection of prescriptions of proved value and the recognised procedures of treatment of the various ailings of men, women and children. This includes not only medical treatment, but also first aid, maternity, surgical and dietetic treatments as well as Electro-Therapy, Radio-Therapy and other most uptodate methods of treatment. Many of the articles on various subjects have been written by the foremost men of the medical profession in India. The book also deals briefly with the Sanitary, Medico-legal and Insurance topics. The section on clinical methods deals with the technique of the various tests for urine, blood, etc. On the whole it is a good book in a brief and compact form, which will be of great help to the general practitioner during his daily work. We commend this book to our readers.

BOOKS RECEIVED.

The following books have been received and the courtesy of the Publishers in sending them is acknowledged. Reviews will be published from time to time. [ED. ANTISEPTIC.]

Condensed Differential Diagnostics and Urine Examination. By Gurdit Singh, L.M.F., (Bengal). With a foreward by Major J. S. McCombe, D.S.O., M.B. First Edition, 1924. Price Rs. 4. Pages 141. Publishers Dr. Balwant Singh Mailk & Sons, Chemists & Druggists, Ferozepore City, the Punjab.

Ultra Violet-Rays in the Treatment and Cure of Disease. By Percy Hall M.R.C.S., L.R.C.P. price 7/6 net. Published by W.m. Heinemann (Medical Books) Ltd. 20, Bedford St. London, W. C. 2.

On the Breast:—By Duncan C. L. Fitz Williams, C.M.G., M.D., C.H.M., F.R.C.S. Edi. and Eng. Surgeon in charge of out Patients and Lecturer on Operative Surgery to St. Mary's Hospital; Surgeon to Paddington Green Children's Hospital and to Mount Vernan Hospital for Tuberculosis. Published by Wm. Heinemann (Medical Books) Ltd. 20, Bedford St. London, W. C. 2. Price 30 net.

Lunacy in India:—By A. W. Overbeck Wright M.D. (Pysch. Med.) M.S., C.H.B., M.P.C.. D.P.H., Major I.M.S, member of the Medico-Psychological Association of Great Britain and Ireland. Supdt., Lunatic Asylum Agra; Lecturer on Mental Diseases to King George's Medical College, Lucknow and to Agra Medical School, Agra. Price 21 net. Published by Bailliere, Tindall and Cox, 8, Henrietta St. Covent Garden, London.

Therapeutic Immunization in Asylum and General Practice:—By W. Ford Robertson M.D. Pathologist to the Scottish Asylums.—Published by E. S. Livingstone, 17, Teviot Place Edinburg. Price 15 net.

Incompatability in Prescriptions and How to Avoid it. By Thomas Stephenson D.S.C. P.H.C. F.R.S. Edin. F.C.S, Editor of the Prescriber. Published by "The Prescriber Office, 6, South Charlotte Street, Edinburg. Price 1-6 net.

Organotherapy in General Practice. Published by Messrs G. W. Carnrick & Co, 417-421 Canal Street, New York City.

Rubber and Guttapercha Injections. By Charles Conrad Miller, M.D. Printed by Oak Printing and Publishing Co. Chicago.

A Manual of Diseases of the Eye. By Charles H. May, M.D., New York and Claud Worth F.R.C.S. Eng. Published by Baillere, Tindal and Cox. 8 Henrietta St, Covent Garden 1924, London.

Aids to Surgery. By Joseph Cumming M. B. B.S.F. R.C.S. Eng. and Cecil A. Joll, M.S. Lon. F.R C.S. Eng. Published by Baillere, Tindal and Fox, 8 Henreitta St, Covent Garden W. C. S., London.

A Manual of Pluriglandular Therapy. By Henry R. Harrower, M.D. Published by the Endocrines Ltd, 72, Wigmore St. W. 1, London.

Ophthalmo Optical Manual. By William Swaine, B.S.C. Published by the Hatton Press Ltd. 175-5, Fleet St. E. C. London, England.

The Rockfeller Foundation Annual Report 1923. Published by the Rockfeller Foundation 61, Broadway, N York.

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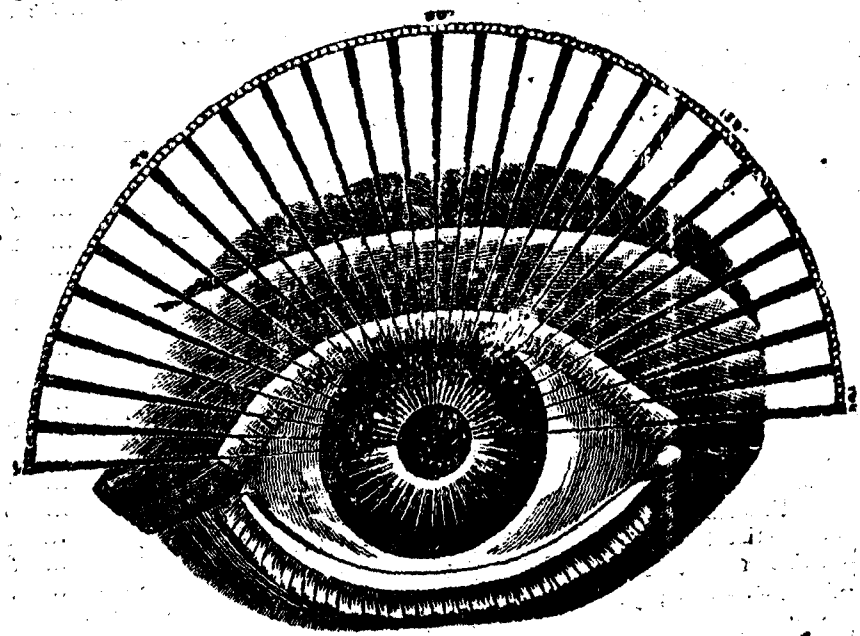

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The Antiseptic

A Monthly Medical Journal

EDITED BY
U. RAMA RAU, M. L. C.
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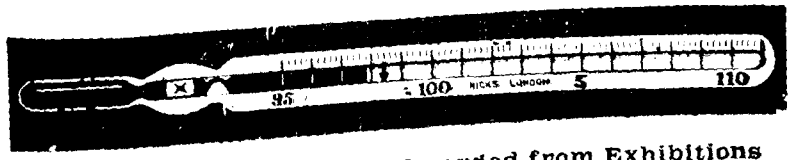

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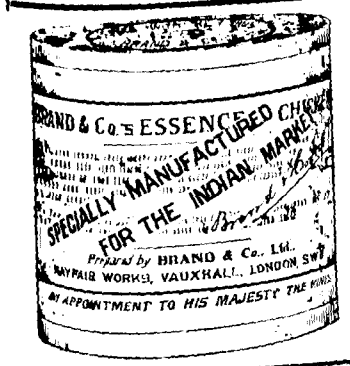

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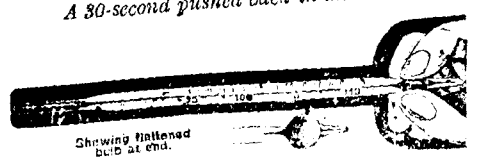

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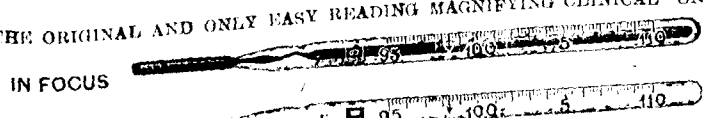

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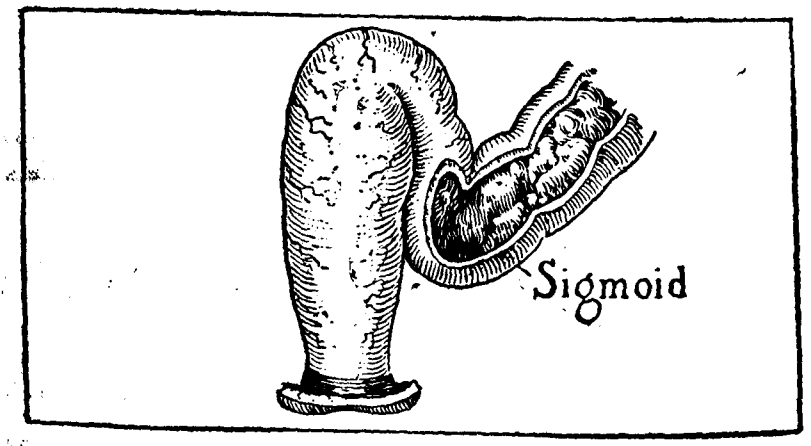

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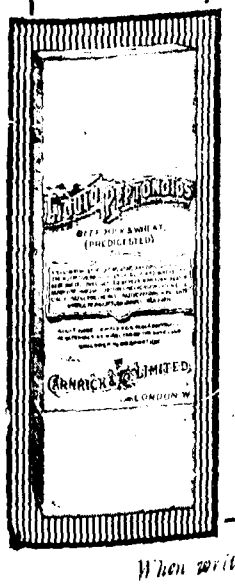

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The Antiseptic

VOL. XXI No. 12. DECEMBER, 1924. ANNUAL SUBSCRIPTION Rs. 5

ORIGINAL ARTICLES

CHRONIC ENDOCERVICITIS AND ITS TREATMENT

By

J. W. BURNS M. D., F. R. C. S.

From a close study of 84 cases of uncomplicated endocervicitis, its bacteriology, pathology, and treatment, I am convinced that the condition as a distinct pathological entity is worthy of more scientific attention than is accorded it in most modern text-books. The condition is probably responsible for many cases of sterility; it is infective, and a certain amount of absorption of poisonous bodies from the infected area must take place, accounting for the anæmia and debility from which the patients usually suffer.

Chronic endocervicitis, an inflammatory process involving the cervical tissues—particularly the lining membrane of the cervical canal—is due to the presence of bacteria, and forms a distinct pathological entity apart from endometritis. According to Curtis 1 the cervical mucosa is very susceptible to infection, while the corporeal endometrium is practically immune. De Lee 2affirms that the closed cervix is infected in its lower third, the signs of infection disappearing as the upper third is reached. The work of Sturmdorf 3 and Curtis confirms this. In the majority of cases which I have investigated, signs and symptoms referable to the body of the uterus—such as tenderness, enlargement of the body, or changes in the menstrual function, as menorrhagia or metrorrhagia—have been completely absent. Also eradication of the infected area of the cervical canal without interference with the interior of the uterus leads to complete restoration of the patient's health.

ÆTIOLOGY,

The condition is common to all women, the incidence in my series being highest in multiparæ between 30 and 40 years, next in those between 20 and 30 years, and least in young unmarried girls. The disease arises as a result of infection from without—direct, as infection of the cervical canal in gonorrhœa, or of cervical wounds received during labour or operation, or, as in the case of the young girl with intact hymen, infection spreading upwards from the external genitals. This latter mode of infection may be denied by those who hold that vaginal secretion prevents infection travelling upwards. Under certain abnormal conditions I have reason to believe this mode of infection possible.

Normally the vaginal secretion is acid, and the cervical secretion alkaline. The amount of cervical secretion is, as a rule, small, apart from menstruation; consequently its neutralising action upon the vaginal secretion only extends to the vicinity of the os and the posterior fornix in a normally situated uterus. If from any cause the cervical secretion is greatly increased, as in endocervicitis, the acidity of the vaginal secretion is reduced almost to the point of neutrality throughout the vagina. As a result of this the bacteria, which are usually numerous in the lower portion of the vagina, have little difficulty in spreading up along the warm column of fluid, which is, as a rule, only faintly acid in these cases. In those cases of endocervicitis in the virgo intacta investigated by me, five showed certain stigmata usually associated with masturbation, and three admitted the fact. Sexual excitation is accompanied by congestion of the pelvic organs and, if frequently indulged in, brings about a condition approaching chronic congestion. This congestion induces hypersecretion of the cervical glands—in other words, leucorrhœa. The external genitals become bathed on this vaginal discharge, the bacteria which are always present spread up to the cervix, and the glands become infected. Once the glands are infected the presence of the organisms and their toxins keep up the hypersecretion, and so the condition of endocervicitis is established.

SYMPTOMATOLOGY.

The predominant symptom in all cases is the vaginal discharge and the discomfort arising therefrom. This discharge varies greatly in colour, consistence, and quantity; the most usual type is the thick white mucoid, but it may be thin, white, yellow, or green. It is extremely difficult to gauge the amount of discharge, but an idea may be arrived at from the number of diapers used by a patient of cleanly habit in a certain time. The discharge is usually more profuse in the morning and just before and after menstruation. In those cases in which there has been a preceding

history of gonorrhœal infection the discharge has a tendency to retain the yellow colour and is usually muco-purulent. The other symptoms are general debility, lassitude, anaemia, backache, and constipation. It would seem that the general ill-health is due in no small measure to the absorption of poisonous bodies from the infected cervical canal. In about 95 per cent. of these cases chronic constipation is also present. If these two conditions are dealt with the patient usually makes a rapid recovery. The menstrual function does not seem to be influenced to any marked extent in these cases of endocervicitis, and only a small proportion of my series complained of dysmenorrhœa. About one-third of the cases complained of pain in the left side—possibly due to the loaded condition of the lower bowel or to a varicose condition of the veins of the left broad ligament.

PRURITUS.

This distressing condition is not infrequently complained of. According to Dr. Leslie Roberts, it may be followed by a dry, scaly, patchiform eruption, probably due to the growth of the *Staphylococcus albus*. In 11 of my cases complaining of irritation I have been able to demonstrate an adherent præputium clitoridis—a condition very similar to that found on young boys with long tight foreskins. Beneath the prepuce one can usually find small sago-grain-like particles of inspissated smegma. That the pruritus may be produced by this condition is proved by the fact that a cure is at once brought about by freeing the prepuce and clearing away the granules. I regard this condition as a very potent factor in the production of "bad habits" in young girls at puberty; as already pointed out above, it may be the primary factor in giving rise to the type of endocervicitis found in the virgo intacta.

STERILITY.

Knowing the disease to be an infective one, it might be expected that sterility would play a large part in the symptomatology. In my series the analysis is as follows:—

Percentage.

37 sterile though exposed to conception.

39 one or more children, no miscarriages.

25 " " " one or more miscarriages.

2 miscarriages only.

While these figures are interesting, the number of cases examined is too small to base any definite conclusions upon. At the same time, it is only reasonable to expect that an infective condition such as this is would present a definite bar to normal conception.

PATHOLOGY.

Endocervicitis may be divided into two forms, acute and chronic. The acute form, usually found in gonorrhœa and following infection of cervical wounds due to labour or operation, is seldom recognised as a separate pathological entity. The chronic form may follow the acute or may arise as a chronic condition per se. The naked-eye appearances vary considerably. The cervix may appear quite *normal* except for the thick tenacious yellowish mucus issuing from the os, and may or may not be hypertrophied; in long-standing cases it is usually hypertrophied and harder than normal. The same holds good with regard to erosion; the longer the condition has existed the bigger the erosion. In some cases the erosion is confined to the posterior lip. This is usually found in association with retroversion. The size of the erosion depends largely upon the area of the cervix which is constantly bathed in the pathological fluid which collects in the posterior fornix. Old lacerations may also be seen. Microscopical sections taken vertically through the cervix so as to include the canal, the erosion, and the healthy portion of the vaginal surface show: 1. Glands hypertrophied, epithelium well formed and showing goblet cell formation. 2. Blocked gland ducts. 3. Small dilated cysts lined by low cubical epithelium. 4. Areas in which the pavement epithelium has been shed. 5. Small round cell infiltration around the basement membrane of the glands. Scattered areas of small round cells throughout the cervical tissues and particularly well marked beneath the eroded area. 6. A varying degree of fibrosis.

A few or all of these characteristics can be seen in any section. In some cases the eroded area appears to be composed of hypertrophied and dilated gland tissue—*i.e.*, papillary erosion. In others the eroded area presents the appearance of a healthy granulating surface—granular erosion. Both these forms are apt to bleed easily on touching and so are liable to be mistaken for early malignancy, especially in elderly women.

BACTERIOLOGY.

A bacteriological examination of the cervical canal is not simple; unless very great care is exercised contamination of the swab is likely to take place by touching the vaginal wall, vaginal surface of the cervix, or the speculum, thus rendering the examination useless. The routine method I have found easiest, which at the same time minimises the risks of contamination, is as follows: The patient is placed in the dorsal position with the knees drawn up. A sterilised glass Ferguson speculum is passed and manœuvred until the cervix fits snugly into its upper end. Sometimes there is difficulty in getting a good view of the os owing to the backward projection of the cervix into the posterior fornix.

This can be obviated by pulling on the anterior lip with a sharp hook. The cervix having been thoroughly exposed is wiped dry and clean with sterilised gauze swabs, and a sterile throat swab is pushed into the cervical canal and rotated. The swab is replaced in a sterile test-tube and conveyed to the laboratory and several media inoculated. These media are examined in 24 hours and 48 hours. Out of 66 cases of chronic endocervicitis investigated in this way three had a definite clinical history of gonorrhœal infection one to two years previously.

Results of bacteriological investigation of cases:—

Total cases *examined*	66
Percentage of positive growths in 24 hrs.	92·43
„ „ negative „ in 24 and 48 hrs.	7·57

Types of organisms found:—	Percentage.
Staphylococcus albus	48·48
„ „ and *B. coli*	7·57
„ „ „ *Streptococcus*	6·06
„ „ „ *Gonococcus*	3·93
„ „ „ *M. catarrhalis*	1·51
„ „ „ *Tetragenus*	1·51
Staphylococcus aureus	1·51
„ „ and *Streptococcus*	1·51
Streptococcus	6·06
B. coli	13·63
„ and *Tetragenus*	1·51

It will be seen from this that staphylococcus, either alone or in association with some other organism, is by far the commonest inhabitant of this region. In 18 per cent. of the cases investigated, dermatitis was present, causing intense irritation. This dermatitis varies considerably in extent; in most cases confined to the vulva, in one of them it had spread extensively over the thighs, and in another practically all over the body. This dermatitis is probably caused by the staphylococcus, whose increased virulence is due to its sojourn in the cervical canal.

TREATMENT.

From a study of the microscopical sections and from the fact that the condition is infective, with bacteria in the glands, treatment, to be of any avail, must obviously remove the causal agent. Most of the methods advocated do not achieve this removal, and thereby either fail to bring about a cure or give only temporary relief. Some of these methods are caustic, curetting, douching tampons of various makes and ingredients, and some forms of trachelorrhaphy. To deal with these seriatim:—

Drugs and Caustics.—Most of these only bring about a temporary cure, killing off bacteria on the surface of the canal, but not reaching those deep in the lumen of the glands. In fact, many of them form with the mucus present a protective covering for the bacteria in the deep tissues. As soon as the antiseptic effect has worn off the bacteria come out and reinfect the surface again.

Curetting.—It is impossible to remove either the gland tissue of the lower two-thirds of the canal or the bacteria with any curette. Moreover, a raw surface is left to heal as best it can in doubtful surroundings.

Douching.—This type of treatment is still largely used; many women are condemned to douche two or three times daily in order to gain a little comfort. To my mind douching is a confession of failure on the part of the doctor who orders it; it cannot possibly cure, and it tends to keep up the discharge by inducing congestion and so hypersecretion of the cervical glands. There is also the danger of introducing bacteria from the outside into the upper portion of the vagina.

Trachelorrhaphy.—Most operations on the cervix, it seems to me, were devised without due regard to the bacteriology of the cervical canal. One is advised in almost all these operations to leave the mucous membrane of the canal intact in order to prevent stenosis, and because of this infected mucous membrane many of these operations prove failures.

Vaccines.—During 1914 and the early part of 1915 I treated, along with Dr. John E. Gemmell, some 33 cases of chronic endocervicitis with vaccines. Autogenous vaccines were used in each case, the injections being given weekly in increasing doses until a good local reaction was obtained. No vaginal treatment was adopted in the majority of cases. While many of the cases admitted "feeling better in themselves" during the period of the injections, so far as the vaginal condition was concerned the treatment was disappointing. Having given an extensive trial to all the above methods, and finding them unsatisfactory, I determined to seek "fresh fields and pastures new." Sloan[4] and Somerville[5] reported very good results in the treatment of endometritis with ionisation. It was from reading their articles that I conceived the idea of applying ionisation to the cervix alone in these cases of endocervicitis.

IONISATION.

On theoretical grounds at least ionisation seems to be the only scientific method of applying antiseptics to the cervical canal. In endocervicitis the bacteria are in the gland lumen, and for a cure the antiseptic must be brought into contact with them. It is thus necessary to increase the penetrative power of the drug used, and for this purpose electricity appears to be the only means at our disposal. Gautier,[6] experimenting on the uterus of a rabbit, found he got penetration through the entire uterine wall by using a copper electrode with an electric current of 20 milliamperes for 10 minutes. The thickness of the rabbit's uterus is about one millimetre; the thickness of the lining of the human cervical canal is seldom as much as one millimetre. If penetration of our antiseptics to the depth of one millimetre all round the cervical canal is possible, there is a reasonable hope that the bacteria in the lumen of the glands will be reached.

METHOD OF APPLICATION.

The patient is placed in the dorsal position with the knees drawn up. A medium-sized glass Ferguson speculum is passed until the cervix fits into the upper end. The os is dried and cleaned by means of small sterilised gauze swabs. A swab for bacteriological purposes is then taken from the cervical canal. The reaction of the cervical canal is then taken by means of a roll of litmus paper. A malleable zinc sound is passed into the cervical canal for about one inch or one and a half inches, the speculum is half filled with 0.5 per cent. zinc sulphate solution. The zinc rod is connected with the positive pole of the galvanoset, the negative pole of which is applied to the patient's thigh by means of a metal plate superimposed upon two or three pads of gauze and lint wrung out of warm water. The current is slowly switched on and raised until the milliamperemeter reads 20 milliamperes. It is allowed to run 10 or 15 minutes, the os and cervical canal will then be seen to be coated with a thick white deposit. At the end of the requisite period the current is cut off and the sound removed. The zinc sulphate is mopped out, and a strip of gauze soaked in acriflavine (1 : 1000) is introduced into the vagina and removed at the end of 24 hours. This treatment is repeated weekly for three weeks, during which no douching or intercourse is permitted. The external genitals are washed with warm soap and water night and morning and kept quite dry. Three applications are usually sufficient to render the cervical canal sterile.

I selected 13 cases in which the first swab proved positive. Ionic applications of 20 milliamperes for 10 minutes were made every seven days and a swab taken before each application.

Beyond some slight backache for 48 hours following the application, the patients seldom complain of any discomfort. In one case in which there was a history of gonorrhœa 18 months previously a very acute attack of pelvic inflammation was set aright within 48 hours. In another case the uterus was retroflexed and the menorrhagia from which the patient complained was made very much worse by the applications. The majority of the patients treated in this way had been complaining of the vaginal discharge for years, and had experienced practically every type of treat-

ment without relief. Coincident with the sterilising of the cervical canal a great improvement takes place in the general health of the patient.

The following is an analysis of the cases treated by ionisation. The cases with erosion numbered 16, the cases without erosion 20, making a total of 36.

Cases with Erosion:—Two were definitely cured—*i.e.*, erosion healed, no discharge for a period of three to four months following treatment. One case which had been under treatment for 12 months for gonorrhœa developed symptoms of acute pelvic inflammation following the second application. Eight cases showed improvement in so far as the amount of discharge was concerned; the erosion remained in statu quo ante even after six applications. Two cases were not improved at all. Three did not carry out the full course of treatment.

Cases without Erosion:—Thirteen were cured—i.e., no discharge and no discomfort for a period of one to four months following treatment. One case, in which a supravaginal hysterectomy had been performed some years previously, was not improved even after seven applications. One case, in which post-climacteric changes in the uterus and vagina were marked, resisted all treatment. One case, associated with retroflexion of the uterus, seemed to be aggravated by the applications. Four cases did not carry out the full course of treatment.

It would appear from a study of these results that (*a*) in cases of endocervicitis associated with erosion ionisation will improve matters in so far as the amount of discharge is concerned, but is not of much value in expediting the healing of the erosion; (*b*) in cases of endocervicitis not associated with erosion or with any intra-pelvic abnormality ionisation is of great value; (*c*) cases with some intra-pelvic complication, such as inflammation of the tubes or displacement of the uterus, are not suitable for ionic treatment.

For cases associated with erosion the only treatment which I have found satisfactory is the removal of the erosion and the lower two-thirds of the cervical canal. The operation which I adopted was that devised by Sturmdorf of New York which has been beautifully described by Matthews.[1] The operation consists in coning out the lower two-thirds of the cervical canal and covering in the raw area with healthy flaps from the vaginal surface of the cervix. The part removed consists of a cone which has for its base the eroded area, its apex the upper third of the cervical canal. By this operation the whole infected portion of the canal is removed. Healing, as a rule, takes place rapidly and the patient can return home after eight or ten days. I use 20 day catgut sterilised in iodine, and allow the sutures to come away. I operated upon 14 cases of chronic endo-

cervicitis, associated with erosion, which had resisted all forms of palliative treatment including ionisation. The majority of these patients had been under treatment for periods varying from six to 18 months. Without exception these patients, within a period of three weeks to a month from the date of their operation, had quite recovered their normal health; all discomfort, including discharge and backache, had dissappeared. Sufficient time has not yet elapsed to enable me to express an opinion as to the effect this operation has on conception, pregnancy, or parturition. Magid,[2] in dealing with the obstetrical end-results of this operation, states: "The operation has no unfavourable effect on the possibility of future conception, pregnancy, or delivery." For my own part I see no reason why it should give rise to trouble.

SUMMARY.

1. Chronic endocervicitis should be recognised as a distinct pathological entity, apart from endometritis.

2. Any discharge from the vagina which induces discomfort in the patient is pathological and is usually due to chronic infection of the cervical canal.

3. That the condition is an infective one is proved by the fact that a positive culture can be obtained in 62 per cent. of cases. In 50 per cent. of cases the staphylococcus either alone or in association with some other organism is present.

4. Applications of various drugs, douching, tamponage, &c,, only give temporary relief because the antiseptics do not reach the infecting agent deep in the lumen of the glands.

5. Ionisation will bring about marked improvement in those cases in which erosion is not present.

6. For those cases associated with erosion the only method which will bring about a cure is the removal of the lower two-thirds of the cervical canal including the erosion.

I would like to tender my sincere thanks to Dr. John E. Gemmell for his kindness in allowing me to try the effect of vaccines on cases of chronic endocervicitis selected from his out-patients; to Dr. Leslie Roberts for his kindly help and interest, particularly in those cases in which certain skin lesions were associated with the vaginal discharge; and to Dr. L. S. Ashcroft for his help in working out the bacteriology and pathology of the condition.

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*ALCOHOL AND PUBLIC HEALTH

By

J. S. PURDY, D.S.O., M.D., C.M., (ABERD.), D.P.H. (CAMB.), F.R.S.E., METROPOLITAN M. O. H., SYDNEY.

The importance of the study of Alcohol and its effects from an economic, social and public health point of view cannot be exaggerated. In both the great English speaking countries, Great Britain and the United States, valuable data have recently been collected and recommendations made with regard to the Alcohol problem. Thus we have the valuable report of the President's Homes Commission issued by President Roosevelt in 1909 and the report of the Inter-Departmental Committee on Physical Deterioration presented to the English Parliament in 1904.

Dealing with the economic point of view the American report quoting from an article in the American Grocer, May, 1908, states under the heading 'The Nation's Drink Bill," "As the nation grows in population and wealth, so does its expenditure for stimulating beverages. This is the more surprising in view of the warfare waged against the saloon and the milder beverages. The per capita consumpation of spirituous liquors for the year ending June 30, 1907, is the highest on record, reaching 3·53 gallons per capita, an increase over 1906 of 1·27 gallons.

"The year was one of phenomenal prosperity, and this may account for the increase in expenditure for stimulants, which was quite as marked for coffee and cocoa as for alcoholic drinks."

"A gain of 1,600,806 in population will not account for the increased use of stimulating beverages. Possibly extensive advertising is responsible for no small share of the increase, which seemingly goes forward in spite of all efforts to check the sale of intoxicating beverages and to hill the demand for coffee. "There's a reason," but it baffles solution. There are many theories or opinions, but the finding of a reasonable check to the use of spirituous beverages seems as far away as ever. Legislation does not seem to curb the curse of drink."

In conclusion on the economic aspect the report states :—"We must leave to students of social economy the question of a great nation spending an average of over one and one-half billions annually for stimulating beverages; a sum about as great as the appropriations of the Congress for a session. It is double the amount of the public debt. Nearly

* Specially contributed to "The Antiseptic".

double as much per capita is spent for drink as is spent on the maintenance of public schools. The indirect cost is beyond estimate, and so great is the waste and misery created that States are fighting the evil and endeavouring to banish the saloon as a distributing factor. It is easily the foremost question of the day, and places the support of a big navy or an army in the shade."

ALCOHOL AS A FOOD.

Over the question of Alcohol as a Food there has been and still is a conflict of opinion. As Dr. Burney Yeo in his standard work on "Food in Health and Disease" points out, "this is, indeed, likely to be the case so long as prejudice and dogmatic enthusiasm are allowed to take so large a part in the discussion of a scientific question."

Dr. Hutchison one of our great English authorities on Food and Dietetics defines "A food as anything which when taken into the body, is capable of either repairing its waste or of furnishing it with material from which to produce heat or nervous and muscular work." Whilst physiologists cannot deny that alcohol comes within the scientific definition of a food and that a certain amount of alcohol is burnt or transformed within the body in the same manner as any other food of similar chemical composition, yet as Professor Lieby, the first to declare that alcohol stands only second to fat as a respiratory material, wisely added, "the same effect could be produced in the body by means of saccharine and farinaceous articles of food at one-fourth or one-fifth the cost."

Professor Atwater whilst maintaining that Alcohol is a food also with wisdom adds that it should be remembered that the physiological action of alcohol involves much besides its nutritive effect. The same author states that "the most healthful food is that which is best fitted to the wants of the user; the cheapest food is that which furnishes the largest amount of nutriment at the least cost, and the best food is that which is both healthful and cheapest." Thus Alcohol although scientifically a food can be practically ruled out of court as being both dear and dangerous as such owing to the other attributes which unfortunately it possesses.

ALCOHOL AS A STIMULANT.

A stimulant is anything capable of spurring on an organ to the performance of more work.

Stimulants act either upon the nervous system or the heart. Professor Hutchison doubts whether Alcohol can properly be regarded as a nervous stimulant at all. Its apparent action as such is claimed to be due to an increased flow of blood through the brain rather than as a result of any direct action upon the cerebral cells.

All authorities apparently agree that temporary benefits obtained from its stimulating action have to be paid for by subsequent cardiac depression, for alcohol is not, apparently a food for the heart, but merely a means of enabling that organ to draw for the time being on its reserve of strength.

One of the chief physiological effects of Alcohol is that it dilates the peripheral blood vessels, which explains its somewhat paradoxidal action. Alcohol really tends to anæsthetise rather than stimulate the brain.

By dilating the blood vessels of the brain it may so flush the brain that intellectual activity is temporarily increased before the anaesthetic effects manifest themselves. Thackeray remarked that he got some of his best thoughts " when driving home from dining out with his skin full of wine." This embodied a physiological truth. It was his skin which was full of wine, for alcohol dilates the surface blood vessels and those of the brain, but by the time he arrived home it is probable that the anaesthetic effects of the alcohol would have begun to exert themselves and the thoughts would have fled. Prof. Hutchison states " by flushing the brain with blood alcohol may produce temporary excitement and aid the imagination, but it ends by dulling the edge of the intellect, and is unfavourable to sustained mental work."

Alcohol is sometimes taken to " keep out the cold." Never was there a greater mistake from a physiological point of view. The flushing of the skin with blood produces a feeling of warmth but more heat is given off by radiation than alcohol produces so that the net result is to lower the temperature. Artic explorers found this out years ago.

This effect of alcohol is sometimes used in the treatment of fevers. In health the paralysis of the heat-regulating mechanism which alcohol induces may be fatal, persons who are frozen to death are frequently found to have been intoxicated when overtaken by cold. Alcohol is a poison whenever the preparation of alcohol circulating in the blood is greater than the cells can decompose. Intoxication is really a condition of cell paralysis. The expression ' paralytic drunk ' is physiologically or pathologically a correct one.

The brain cells are peculiarly sensitive to the paralysing action of alcohol and the brain speedily shows the effect of an overdose. It is paralysed from above downwards, the higher centres being affected first. The highest centres are the controlling centres of the brain and hence loss of control, intellectual, emotional and muscular are the earliest evidences of intoxication. In the extreme degrees of alcoholism the centres of organic life which maintain the action of the heart become involved in the paralysis and we have not only to deal with intoxication but a condition of coma and possibly death.

The habitual consumption of alcohol in quantities though insufficient to produce evident intoxication may be beyond the oxidizing power of the cells and may play havoc with the health and constitution of an individual. As a result of chronic alcoholism the brain undergoes degenerative changes. It is recognised that the habitual alcoholic undergoes a paralysis of the moral perceptions more especially, a loss of the sense of truth.

Alcoholism is a common cause of fatty degeneration as well as moral atrophy. It conduces to certain forms of Diabetes and frequently is the basis of Gout by iterference with metabolism.

Chronic Kidney and Liver Disease is sometimes due to the irritant action of undecomposed alcohol bringing about changes in structure.

Experiments have been made to show how much alcohol can be oxidized in the body so that none is left to exercise injury on the tissues.

It is claimed that 1 to 1½ fluid ounces of absolute alcohol is about the amount completely oxidizable in one day.

Thus Brandy or Whisky (50 per cent. alcohol) 2 fluid ounces or 1 glass.

Port, Sherry and other strong wines (20 per cent alcohol) 5 oz. or 2½ glasses.

Claret, Hock, Champagne and other weaker wines (10 per cent alcohol) 10 oz. or 1 tumblerful.

Bottled Beer (5 per cent alcohol) 20 oz or 1 pint.

The question of personal peculiarity or idiosyncrasy, however, must be considered. Some people burn up alcohol quicker than others. Another point is the form in which alcohol is taken. It is less dangerous in a diluted than in a concentrated form. The danger is inthe flooding of the system with an amount at one time beyond the capacity of the cells to oxidize.

Prof. Hutchison concludes his thesis on Alcohol in Health thus:—

" Alcohol is an unnecessary article of diet in complete health, although, if used within the limits already indicated, it cannot be said to be harmful, and may even, indeed, be beneficial; for, as Matthew Arnold said " wine used in moderation seems to add to the agreeableness of life—for adults, at any rate—and whatever adds to the agreeableness of life adds to its resources and power."

The following is claimed to fairly represent contemporary medical opinion

1. A man in good health does not require alcohol, and is probably better without it. Its occasional use will do him no harm; its habitual use, even in moderation, may, and often does, induce disease gradually.

2. There are a large number of persons in modern society to whom alcohol, even in moderate quantity, is a positive poison.

3. In all conditions of the system characterized by weakness of the circulation, the daily use of alcohol in small quantity is likely to be beneficial, at all events for a time.

In conditions just short of health—in old age, overwork and fatigue, any beneficial effects of alcohol are traced entirely to its influence on digestion and hence it should, if taken at all, only be taken at meals.

IN DISEASE.

In fever it is claimed that Alcohol is of use in lowering temperature and calming the brain. It may also check somewhat tissue waste. Of recent years, however, Alcohol is being less and less prescribed. In the London Temperance Hospital where in 1904 I was House Surgeon under Sir Wm. Collins and Dr. Solten Fenwick it was never prescribed at all except in certain cases of Typhoid and Pneumonia when in extremes and then only in the form of rectified spirit. The results at the London Temperance Hospital are as good as at any Hospital in London and better than in some.

ALCOHOL AS A CAUSITIVE FACTOR IN DISEASE.

Whilst the mortality from so-called preventable diseases has markedly declined in the last two decades, the death rate from Bright's Disease, Heart Disease, Apoplexy and Pneumonia have increased in most English speaking countries. It is believed that the increasing consumption of alcohol may be a factor in the prevalence of these diseases as also in the increase of insanity and nervous diseases.

Alcohol increases the susceptibility to disease. Prof. Metchnikoff has shown that alcohol lowers the resistance of the white corpuscles of the blood, the natural defenders of the body.

Every physician knows that alcohol not only predisposes to tuberculosis, pneumonia, Typhoid and other infectious diseases. but also that these diseases are more fatal or run a more severe course in alcoholic subjects.

It is also claimed that there is a distinct relationship between the incidence of alcoholism, insanity, venereal disease and crime.

VITAL STATISTICS.

Dr. Tatham's reports to the Registrar-General in England for the years 1900-02 shew that taking the same population which gave 100 deaths from alcoholism among occupied males (25—65 years of age), gave 137 among coachmen, 222 among castermongers, 280 among brewers and 724 among inn-keepers.

Of 61,215 men between 25 and 65 in England, 1,000 die in one year but of 61,215 publicans, 1,642 die in one year, while of 61,215 Rechabites (abstainers) 560 die in one year. (From the Inter-Departmental Committee on Physical Deterioration).

The general policy among Insurance Offices is to give more favourable erms to total abstainers.

Conversely the Prudential Life Company in 1874 added 15 per cent. to the premium on the lives of "beershop keepers, licensed victuallers. Certain Insurance Companies allow a reduction on premium to tota abstainers, varying from 5 to 10 per cent.

CAUSES OF INTEMPERANCE.

Prof. Kraeplin, one of the first European authorities on Insanity, in discussing this question states in his work "Alcohol and Youth:" "The blacksmith offers as an excuse exposure to heat, the liveryman exposure to cold, the masons and bricklayers plead outdoor exposure, the miller blames the dust, the sailor the fog, another his wife, and still others business reverses."

He concludes that the very diversity of causes assigned show that none will stand the test of scrutiny. It is admitted, however, that dust producing occupations are predisposing factors. It is also pointed out that the lack of suitable conveniences for workmen on construction work drives some of them to the public houses where the social element is conducive to excesses.

Among the causes stated by 171 prisoners in the Washington workhouse were "Bad companions, dusty employments, long hours of work, especially at night, exposure to cold and wet, work in hotels and bottling establishments; given toddy, beer, &c., as children 4 years old and upwards; death of relatives and troubles.

POVERTY AND DRINK.

There is some diversity of opinion as to whether Poverty causes Drink. Thus Prof. Lieby in 1860 declared "Alcoholism is not the cause, but the result of distress. It is the exception to the rule for a well nourished individual to become a drunkard."

Friedsich Engel states:—"Seduction and every possible temptation combine to produce the drink habit. Ardent spirits at present constitute the working man's only source of pleasure. He returns weary and exhausted from his work to a damp, gloomy and unattractive home, devoid of all the ordinary comforts of life. He is sadly in need of good cheer and encouragement; his body weakened by improper food and exposure to bad air demands some form of stimulant. He wants to meet his friends and resorts to the saloon as the only place to gratify his longings. Under such circumstances drunkenness ceases to be a vice." On the other hand you have the Hon. John Burns speaking of "Poverty and Drink" saying:—"The theory, dogmatically asserted, that poverty causes drink is rudely shaken by the fact that the drink expenditure per middle and

upper class family who have the means, is two and a half times greater than that of the working class family, although the effect is less apparent. But the strongest answer is the statistical fact that as wages rise general drunkenness follows, insanity increases, and criminal disorder due to drink keeps pace with all these. In Germany, Warm maintains that higher wages have created a greater demand for the less harmful but more expensive beverages, like wine and beer. In all trades where there has been a reduction in the working hours alcoholism has diminished, because the men have an opportunity to enjoy nobler pursuits than to sit around in common saloons.

REMEDIAL MEASURES.

The Homes Commission in discussing this subject states :—"The remedy is difficult to suggest." Prohibition does not prohibit, and all such attempts are repugnant to the masses and lead to the substitution of even greater evils, such as the drug and other morbid habits. The following substitutes for alcoholic beverages were found to be in use. Alcohol diluted with water hot water and sugar, soda water, sarsaparilla. Wood alcohol was stated to be used in the U. S. A. Navy obtained from shellac varnish stolen from the paint room. Peruna, renewed prescriptions and forged prescriptions were also used. Essence of ginger, lemon, vanilla, Bay Rum, patent and proprietary medicines were found to be used in Army stations in U. S. A. It was not until the establishment of the canteen system that better conditions offered. It was the creation of the Soldiers' Club, with the sale of light wines, beers and nonalcoholic beverages which reduced drinking to a minimum and promoted not only temperance and contentment but also lessened immorality and crime.

To quote from this report, "In spite of the fact that beer and wine drinking, viewed in the abstract, is unproductive of good, quite a number of friends of temperance believe that saloons dispensing light wines and beer should pay a very much lower license tax than those selling alcoholic beverages."

When we turn to the report of the Inter-Departmental Committee on Physical Deterioration we find in the summary of recommendations under Alcoholism :—"The Committee believe that more may be done to check the degeneration resulting from "drink" by bringing home to men and women the fatal effects of alcohol on physical efficiency than by expatiating on the moral wickedness of drinking. To this end they advocate the systematic, practical training of teachers to enable them to give rational instruction in schools on the laws of health, including the demonstration of the physical evils caused by drinking. At the same time, the Committee cannot lose sight of the enormous improvement which has been effected in

some countries, and might be effected in this country, by wise legislation. The evidence given before the Committee was of great interest. Mr. McAdam Eccles and Dr. Robert Jones were witnesses selected by a Conference of different Temperance Societies. Reference was made to an increase of drinking among women :—"It is true, as was pointed out, that history affords instances of drunken nations whose vitality does not seem to have been greatly interfered with, but this is assumed to have been the case because mothers of the race were sober and the conclusion is stated that, "If the mother as well as the father is given to drink, the progeny will deteriorate in every way and the future of the race is imperilled."

Dr. Jones stated, "Alcohol perverts the moral nature, affects the judgment and impairs the memory; it moreover especially affects the motor system and creates an enormous loss to the community through destroying the productiveness of the skilled craftsman."

In regard to the effects of alcohol upon the descendants, anything which devitalizes the parent unfavourably affects the offspring, and clinical experience supports this in the lowered height, weight and impaired general physique of the issue of intemperate parents. It also records the fact that no less than 42 per cent. of all periodic inclinates relate a history of drink, insanity or epilipsy in their ancestors."

Both Mr. Eccles and Dr. Jones testified to the vulnerability of alcoholic persons to Syphilis and Tuberculosis and to their general liability to all forms of what in common parlance are called inflammatory disorders. Such persons also suffer much longer from the effects of any malady, thus involving their dependents in prolonged privation.

As a result of the evidence laid before them, the Committee were convinced that the abuse of alcoholic stimulants is a most potent and deadly agent of physical deterioration.

Every step gained towards the solution of the housing problem is something won for sobriety.

Direct proof was forthcoming of men, who had been addicted to alcohol, passing into better surroundings, with the result that they realized the fact and, found it a help to them in struggling against their weakness.

The provision of properly selected and carefully prepard food ranks next in value, and, to this end, there is much room for training of a socially educative character among girls and the younger generation of women.

The committee was favourably impressed with the operations of such associations as Lord Grey's in transforming the public house into a place where suitable food is as readily procurable as beer.

The effects of physical training on young men show that such convince them that in abstinence is to be sought the source of muscular vigour and dexterity.

The systematic training of teachers in the laws of health, and rational instruction in schools, embracing, but not confined to, an explanation of the effects of alcohol on the system, would do much to prepare the way for the comprehension and appreciation of more direct temperance instruction which to be effective must be given at a later age.

Tables were placed before the Committee showing the increase of consumption of spirits in France and Belgium since 1830 and coincidently deaths and suicides, lunacy and common crimes and, notably, as for France, a definite increase of the percentage of conscripts refused as unfit for service. Thus whilst in 1830 the consumption of proof spirits containing 50 % of alcohol was 2·2 litres per head, in 1895 it had risen to 32%.

Diagrams were also given illustrating the reverse in Norway and Sweden where, owing to wise legislation, the consumption of drink has steadily decreased. Besides a diminution in crimes, suicides and deaths from alcoholism and syphilitic diseases, the percentage of conscripts refused has steadily been reduced, showing an elevation in the standard constitution of the people.

Thus in Sweden the consumption of spirits containing 50% of alcohol in 1830 was 46 litres and in 1890, 6 litres per head. The percentage of rejection of conscripts in 1845 was 34·46, and in 1885, 19·61.

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*THE DIAGNOSTIC AND PROGNOSTIC SIGNIFICANCE OF SPECIAL FORMS OF THE ELECTRO-CARDIOGRAM ESPECIALLY OF THE PROLONGED AS VS INTERVAL.

By

DR. HELLMUTH DEIST, CHIEF PHYSICIAN FOR INTERNAL DISEASES AT ST. CATHERINE'S HOSPITAL, STUTTGART, TEACHER OF THE AGRICULTURAL ACADEMY, WENHEIN-STUTTAGART.

Electro-cardiography, since its introduction into the internal medicine by Einthoven now about 20 years ago, has been perfected to an irreplacable part of clinics by investigators from all parts of the world. In England

* Specially contributed to "The Antiseptic".

it was very essentially promoted especially by Lewis, above all in respect to the aetiology of Arhythmia perpetua (A. P.). In the great questions of single problems, on the whole agreement has been obtained. It remains now our task to fill up still existing gaps and above all to reduce exaggerated expectations of diagnostic and prognostic knowledge connected with Electro-cardiography to the firm ground of facts. With such thoughts our present treatise is to occupy itself. For a better mutual understanding we must remind you, how we name the different phases of the Electro-cardiogram (E. K. G.) in Germany.

The notion of the time of transmission (=ubeeleitungs Feit) is even now not estimated in the same way by all authors. The conception prevalent in Germany corresponds among others also to that adopted by Lewis. As, time of transmission or P. R. or with the expression of Lewis's As Vs—Interval we denote the time lying in the course of the E. K. G. between the beginning of the auricular and the beginning of the ventricular contraction. In this time the stimulation giving the heart muscle the impulse to its action passes from the auricle to the ventricle. In other words, we may denote this extent P. R. in the E.K.G. as the sum of the auricular systole + conduct through Aschoff-Tawara's system of conducting stimulation especially Hiss's fascicle + latency of the heart muscle. If we calculate in this way in the E. K. G. the time of transmission, *i.e.* from the beginning of the P. bend to the beginning of the R. bend in an evidently sound heart is a normal time of 0·075—at most 0·15 second. All numbers lying above 0·15 must already be considered as pathological.

If I now report chiefly about the question of the prolongation of the time of transmission, I do so firstly, because the rich material of my department just directs me to the importance of this problem, and secondly because exceedingly little just about this most simple form of the disturbance of transmission, of prolongation of P.R, without irregularity of the heart, without omission of ventricular systole, is reported in international literatures. If disturbances of transmission are spoken of in literature, in the great majority the grave disturbances with pronounced interruptions of the conduct between auricle and ventricle *i.e.*, the partial or complete block are prevalent.

This treatise is founded on the E. K. G.—material of my department since the beginning of the year 1921-altogether 150 single cases. In the rich material of heart patients of our department it had struck me for a long time that to my knowledge with unexpected frequency a prolongation of the As Vs—Interval was established with the most various heart-diseases. All doubts arising from this striking result being founded

on some derangement of our apparatus could be entirely dispersed, as persons evidently sound of heart at all events showed the normal times of transmission and also the examination of our apparatus could in no way be objected to. Since that time I have got accustomed to take the E. K. G. not only at its proper indication *i.e.*, at evident irregularities of the heart, but I have mostly subjected to this examination every patient who showed any abnormal or suspected state of the heart or respective difficulties. With this proceeding most interesting results have been obtained.

Let us turn first of all to the valvular trouble with normal sequence of beats, altogether 35 cases. 12 of them have normal size of indent and are perfectly sufficient, the other 23 concern enlarged and partly insufficient hearts. Of the first 12, five have a normal P.R., 7 a prolongation above 0.15—0.21. Here must be mentioned, what later in the transaction will figure more prominently, that in some cases already with quite short curves there exist oscillations in the P.R. in the same case, *i.e.* in the limits of 0.18—0.21. On this occasion it must be emphasised—so to say technically—that in the interest of really quite exhaustive results it is absolutely necessary to calculate the As Vs—Interval not only on some parts, but on every possible part of the curve, because otherwise many an important point, *i.e.* the just mentioned oscillation in the time of transmission, may escape the investigator.

With grave valvular trouble, with enlarged hearts and partly diminished power, the values of the time of transmission are such that only one single case has a P.R. of normal length and all the other 22 a partly essentially prolonged one to 0·225 inclusively. Also here considerable oscillations in the time of transmission, *i.e.* of 0·135—0·2 could be observed. Of the mentioned altogether 35 valvular troubles—this be interpolated—27 had as surely polyarthritic ætiology.

If with these heart derangements at the same time an endocarditis is combined, as it was the case in 6 of the above mentioned cases, as a rule the As Vs—Interval is prolonged, P. R. oscillates here too. Quite similar it is in cases, in which without further finding endocarditis exists alone, respectively exists quite in prominence. Here too prolonged and oscillating numbers for P. R.

What part to take as to the question of the ætiology of this prolongation of the conduct of stimulation? I think there can be no doubt that under these circumstances a disease of the myocardium in the region of the system of the conduct of stimulation (= Reifleilungs system) must be presumed. What the literature says about that, moves in the same groove. But it must expressly be emphasised that in these cases named in the literature, in the greatest number grave dissociations between auricle and ventricle are in question.

In this respect it has always been recognised that disturbances of the conduct between auricle and ventricle are to be brought into ætiological connection with a disease of the heart muscle in the region of Hiss's fascicle. But to this group of disturbances of conduct belongs without question, besides the partial and complete block with the same right, the prolongation of the As Vs—Interval permanently existing beyond the normal time in the cases hitherto mentioned. For this is merely by degree distinguished from the grave disturbances. If this view expressed here is right, viz., the described disturbance actually rests on a preceding myocarditis, then the heart derangements described by me hitherto and endocarditis prove already, how exceedingly frequent myocarditis is in these diseases. With valvular troubles which, as has been said, rested in the majority on a polyarthritis which had been got over, the way in which this came to pass, I suppose, must be explained thus, that at the time of the polyarthritic endocarditis also a myocarditis existed in the vicinity of the conduct of stimulation which now after having passed, proves its then existence yet by the disturbance of the conduct of stimulation. The endocarditis by itself will never lead to a disturbance of the conduct of stimulation. It can do so only when the myocardium partakes of the disease at the same time. How exceedingly often this is the case, is likewise proved by the cases mentioned. These views have already been in the possession of the old clinics. Lewis *i.e.* in his clinics of the irregular activity of the heart, in speaking of the heart block in its relation to acute articular rheumatism, says the following: "It is improbable that the infections of the heart remain limited to the inner and outer layer of it, that there exists only a endocarditis or a pericarditis. The presumption, on the contrary, gains ground that the middle layer, the myocardium, is likewise frequently affected." It is seen, what I have said above by no means makes claim to a new discovery. New, however, seems to me the objective-diagnostic enrichment fitting to this doctrine brought about by the E. K. G. which by means of calculating P. R. allows to obtain an objective judgment, whether the myocardium in the region of Hiss's fascicle is diseased or not.

Moreover there result in my opinion from this way of looking at the matter new points of view, which will still further take effect especially with the question of the ætiology of the A. P.—see below.

There remains to be said, how the partly considerable oscillations of the time of transmission observed in my cases are best to be explained. Lately again and again relative to the conduct of stimulation the importance of the time of latency of the ventricular muscles has been hinted at. I think that these oscillations of the time of transmission are a new proof of the importance of this question. The oscillations, however, must be so

conceived that by the injured system of the conduct of stimulation variously strong *i.e.* partly diminished stimulations get to the ventricular muscles, that consequently the transmission becomes quicker or slower according to the strength of the stimulation entering or better let through by the fascicle.

In the following now, in the first instance, in single diseases of the heart well to be understood electro-cardiographically, the importance of a regular control of the time of transmission is to be shown.

With the syphilis of the heart it has always been hinted at that it would especially easily lead to disturbances of transmission in the atrioventricular system of the conduct of stimulation. I find this confirmed with my material in the manner that in such hearts without regard to coarser dissociations—exceedingly frequently the simple prolongation of P. R. with otherwise rhythmical sequence of beats could be established. All the cases belonging here—15—show enhanced values for P. R. from 0·15—0·26.

When up to now with extrasystole we have applied ourselves to the question of the time of transmission, the question mostly turned upon this, how just with extrasystole itself *i.e.*, with a single contraction of the muscle, the transmission is doing. I started with this question from another point of view and have calculated P. R. with extrasystoles not only during the extrasystole, but also in the whole course of the curves. One third of the extrasystoles observed by me, in which not any otherwise deviating pathological state of the heart could be discovered, had a prolonged time of transmission of 0·18—0·22. Three of these, altogether five hearts, could clinically in no way be objected to, the two others are hearts of old men on the border of sufficiency. All five show in the E. K. G. ventricular extrasystoles and complain about disorders not more accurately to be differenced as palpitation of the heart and a disagreeable feeling in the region of the heart. I can also in these cases conceive the observed prolongation of the time of transmission not otherwise than the expression of a preceding injury of the myocardium in the region of the conduct of stimulation. With this statement the question may justly be raised for discussion, whether in examining the time of transmission a clinical distinction is not possible between functional and organically more important extrasystoles.

What inferences can be drawn from this in respect of the A. P.? The aetiology of the A. P. is still enveloped in a certain mystery. But in the last few years the opinion has repeatedly been expressed, that two things are necessary for its origin, namely, firstly the auricular tachysystole and then secondly either a deteriorated capacity of the ventricular muscles of absorbing the auricular stimulations or a

deterioration in the system of transmission against the frequent auricular stimulations. I have now had occasion to observe the following in 8 cases with my A. P.—material. There came persons with a diseased heart to the hospital, with whom besides some other defect—to enumerate the different cases would lead too far—an essential prolongation of the time of transmission could be establised. Therewith, however, existed a perfectly rhythmical sequence of beats. With the general "decursus morbi" either only after some years or yet during their treatment in the hospital a decisive change took place, an arhythmia was to be noted. As the E. K. G. was now again drawn up, we had all at once an A. P. before us. To my knowledge the transition of the rhythmical sequence of beats into an A. P. with the same person has with unobjectionable electro—cardiographic control hitherto exceedingly seldom, if at all, been observed. From these records it follows in my opinion unobjectionably, that very close relations at least must exist between the prolongation of the time of transmission and the A. P. Upon the strength of my records it may even without, anything further, be surmised, whether a permanently prolonged P. R. may not by denoted as the precurser of the A.P.

I have also examined a whole series of patients with high pressure with regard to their time of transmission. The result has been, as was to be expected, that between the two not the least aetiological connection can be sought. Patients with exceedingly high values of blood pressure had a perfectly normal time of transmission, whilst others with lower values showed already very essential prolongations of P. R. Also here the explanation for this different action can only lie in preceding myocardites having exercised the decisive influence upon the time of transmission.

To the question of the significance of these records of the prolonged time of transmisson for diagnosis and prognosis lead E.K.G—, which in the first instance really had to be explained as casual records, but which surely have a much deeper significance. I am thinking especially of two cases which can be distinguished very expressively from the other repeated observations. In one case a man in his best years, in the other case, a young girl, on their hearts clinically and rontgenologically nothing morbid. The assumption of an organic disease could not be sustained in either case, with the man there existed for the explanation yet the possibility of an abuse of nicotine. But both patients expressed more or less lively difficulties in the way of troublesome palpitations and other sensations especially in the region of the heart and went to the hospital exclusively on account of these complaints. The pulse was entirely rhythmical. And only the experience made hitherto, that behind such troubles a noteworthy record may be hidden led to our drawing the E. K. G. with these patients.

With both there was found a prolongation of P. R., with the man between 0·2 and 0·24, with the girl between 0·18 and 0·19. Here begins the significance of these investigations for diagnosis and prognosis.

If we read hitherto in class-books or monographis treating about this subject of the diagnostic and prognostic significance of disturbances of conduct, mostly such of coarser nature, with others the partial and total blocks are meant. The here communicated, I should like to say, simple prolongation of transmission without disturbance of rhythm, has been observed much less. But diagnostically also this means the participation of the myocardium in the region of Hiss 's fascicle with a known or unknown preceding disease of the heart. From these results it follows indisputably, how unexpectedly frequent these accompanying myocardites with endocarditis are. It can, therefore, justly be demanded, that this electro-cardiographical symptom of the prolonged P. R. should enjoy greater popularity than hitherto. Besides the diagnostic importance there is also the prognostic. This takes the first place in cases, which I had to characterise above in the first instance as casual records, *i.e.* with hearts, which are evidently diseased, but which do not show otherwise conceivable symptoms. The demand to apply the E. K. G. here more than was usual hitherto, will just in these cases protect us from disagreeable surprises as to the prognosis. On the other side also, in other cases, the knowledge of an essentially prolonged P. R. will be valuable to us. I am thinking of such patients, who on account of other difficulties, perhaps on account of stomach-ache, come for treatment and then stated, they had in consequence of a former articular rheumatism retained a heart derangement, which, however, did not hinder them in their work. The heart is also in clinical respects perfectly efficient. But if we find a P. R. of 0·25, we shall have to advise the patients distinctly to take great care in future. For we know again from the above investigations, that the entrance of the A. P., which in the great majority of cases goes along with a deterioration of the power of the heart, may be preceded by a stage with an essential prolonged P.R. We shall, therefore, do well with all cases belonging here to be reserved with forming the prognosis.

After having now, as I hope, contributed something positive for the problem of the interpretation of the E K.G., I beg in conclusion to be allowed to warn of an over-estimation of the E.K.G. The E.K.G. is before as well as after to be conceived as the expression of the course of the stimulation in the heart. In contrast to this again and again attempts have been made from various sides to employ the E.K.G. also for judging the power of the heart. These attempts are from the very beginning condemned to be thwarted. Just so other attempts will turn out, that definite forms of the

ventricular E.K.G. might be brought in definite relations to single heart defects. This has gone so far, that for Mitral insufficiency and the other heart derangements quite definite types of the E. K. G. are set up in class-books. It will absolutely only serve for the benefit of electro cardiographic science, if such endeavours are resolutely opposed.

I myself have with the many valvular troubles in which I had occasion to record the E. K. G., never been able to discover even the slightest relation to definite types of the E. K. G. I can even assure quite positively, that just with heart defects of the same kind, which clinically had to be valued quite equally, the most different forms could be established in the E. K. G. A great deal in these questions may also lie in the apparatus. E. K. G-s which have been taken with different apparatuses, cannot be compared with one another. To judge this there is special occasion in Germany, because we work chiefly with 2 types of apparatus, the string galvanometer of Einthoven and the spool galvanometer after a model of Siemens—Halske.

These final remarks signify, in my opinion, no restriction, nay, quite on the contrary it is easier to work with a method the indications of which are concisely sketched, than with one the application of which is boundless

CASES AND COMMENTS.

CARBOLIC ACID INJECTION IN LOCK-JAW

BY

DR. J. C. BAGSHI, L.M.P. MEDICAL OFFICER, DURGAGANJ CHARITABLE DISPENSARY (PURNEA.)

On the 8th October 1924, a girl aged about one year was placed under me for the treatment of Lock-jaw.

On the 27th September '24, the girl became suddenly stiff. She was able to speak a few words. Before placing her under me many indigenous drugs were applied but no good effect was found. During this period she was living only on water as she could not separate her mouth or would not suck her mother's breast.

Treatment:— At first I tried to separate the mouth but could not. The muscles in the neck were more stiff than that of other muscles of the body. Her countenance was changed into grin even by touching her body.

8-10-24. The pecuniary circumstances of the patient was not good and the guardian of the girl refused to buy any medicines. The method I observed is noted below:—

1. Saline purgative was administered with great difficulty at a time.
2. Pot Bromide gr. iii.
   Chloral Hydras gr. iii.
   Spt. Chloroform m. iii.
   Aqua ad. 3ss.
   send 6. T. D.

9-10-24. No improvement except the clearance of bowels and sleep. I injected 8 minims of 2 p.c. of carbolic acid hypodermically.

11-10-24. Same mixture continued.

10 minims of that solution injected hypodermically.

13-10-24. The condition of the patient was slightly improved. I continued the same mixture and injection but injection dose was this day 1 c. c.

15-10-24. Condition better. From this day I stopped the mixture but was continuing the injection in the following way:—1 c. c. of the same solution.

17-10-24.	Same way.
19-10-24.	1½ c.c. of the same strength.
21-10-24.	Same way.
23-10-24.	Same way.
25-10-24.	2 c.c. of the solution.
28-10-24.	Do.

These ten injections made her free from disease. Now the girl is quite well.

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*FACTS ABOUT HIGH BLOOD-PRESSURE

By

DR. B. B. GROVER, M. D.

Too much food, deficient combustion and defective elimination are factors to be reckoned with in the etiology of hyperpiesis.

* * *

Alcohol, save of the liberal table, has little or nothing to do with the causation of hyperpiesis.

* * *

Heredity is an important factor in most cases of hyperpiesis.

* * *

This seems to be a disease of the well-to-do class, or whose fathers have indulged good in appetites.

* * *

* From his book "Epitome on Blood Pressure."

The effects of Tobacco on blood pressure depend entirely upon effects of tobacco upon the nervous system. Hypotension occurs as often as hypertension in men addicted to over-indulgence in tobacco.

* * *

Albutt says:—I feel sure hyperpiesia is hereditary; moderate man of today may suffer by his own excesses, or for the luxurious living of his forefathers.

* * *

It is extremely unwise to proclaim a prognosis in any case of hypertension. The tendency of those who suffer from mental strain is toward a cerebral accident; the overfed, to kidney complications and physically overworked to myocardial failure.

* * *

Prognosis, therefore, should not be based on the beight of the blood pressure. Hereditary tendencies and personal history are better guides.

* * *

Among the causes of death in which hypertension is an important factor 60% is due to Cardiac failure; 25% to Kidney failure; 15% to Cerebral accident.

* * *

Errors in diet, frequent attacks of tonsillitis, needless exposure predispose to kidney failure; rheumatic fever, pneumonia, diphtheria &c, to cardiac failure; diseases of the nervous system, mental strains &c., to cerebral accidents.

* * *

A persistent diastolic pressure above 90 should be viewed with suspicion; above 100 means pathology somewhere in the arterial tree, the condition having passed the hyperpietic stage into true hypertension.

* * *

A minimum systolic of 110 and a maximum diastolic of 90 give a pulse pressure of 20; such an individual may be in good health, yet, a weak myocardium and arterial changes may be anticipated if this ratio persists for an extended period of time.

* * *

The mortality rate as shown by Insurance Companies increases in leaps and bounds as the systolic pressure exceeds 140; at 150 the increase in mortality over normal reaches 34 per cent. and at 160 and over to 400 per cent. It is also the experience of Life Insurance Companies that overweight makes for increase of mortality and when combined with high arterial pressure makes for a very high rate of mortality.

* * *

A perfect heart cannot maintain a perfect circulation of the blood with impotent arterial walls.

* * *

High arterial tension, though intermittent, if not corrected, will cause disease.

* * *

A persistent systolic pressure of 150 at any age will in time induce albuminuria.

* * *

In hyperpiesia the systolic pressure is high during the day but falls to nearly normal during sleep.

* * *

The heart work done by an athlete playing foot-ball for a period of three hours is not equal to our carrying a systolic pressure of 180 for the same time.

* * *

A rapid decline in all pressures in cases of hypertension suggests arterial degeneration and myocardial failure.

* * *

When the systolic pressure reaches 140 in a pregnant women otherwise normal, eclampsia is to be anticipated.

* * *

Normal systolics, high diastolics with diminished pulse pressures are common after apoplexy.

* * *

When the pulse rate is higher than the systolic pressure expressed in mm. of mercury the circulatory equilibrium is seriously disturbed.

* * *

A fluctuating difference in the systolic pressure of 15 to 20 mm. Hg., is of little significance.

* * *

In aortic regurgitation the systolic pressure is high and the diastolic low. A fall in the systolic pressure in this condition forebodes danger.

* * *

The greater the difference between the systolic and diastolic pressures the greater the heart load and the greater the danger of heart failure.

* * *

In angina pectoris the pressure is usually high; when the pressure falls during a paroxysm the prognosis is grave.

* * *

A sudden rise in pressure in chronic nephritis points to Uremia.

* * *

A fall in systolic pressure after exercise suggests myocardial insufficiency.

* * *

A continued pulse pressure of over 50 or under 30 calls for repairs.

HEAD INJURIES

By

C. P. IPE, MEDICAL OFFICER, CHOWERAH.

The object of bringing these cases to the notice of my medical brethren is just to show that all injuries of the head, though at first sight they might appear very slight, should be treated very carefully and a guarded prognosis should be given. It is an old and true saying—

"No injury of the head is so trivial as to be despised of." Thomson and Miles.

Case No. 1. A man, aged about 45, was injured on his head by one of his enemies. He came walking to the hospital for a wound certificate. His gait was quite steady and his speech was normal. Pupils were equal in size and reacted to light. There were no signs to denote any serious injury. In the certificate, an opinion that the injury is not of a serious nature was given.

The wound was well cleaned. Antiseptic dressings were applied and the patient was advised admission into the hospital, which he refused. After a week, he was brought to the hospital with complete paralysis of the opposite side. Under strict aspetic precautions the District Surgeon made a semi-circular incision over the Rolandic area and a flap of skin and subcutaneous tissues was dissected out and turned downwards. On examination, there was a narrow fracture of the skull. Bone, the size of a rupee, was trephined and removed. Subjacent to the trephined area, there was a subdural abscess which caused pressure on the brain tissue. The abscess was drained. The removal of pressure improved the clinical symptoms only, but the patient developed absolute coma and succumbed.

Post-mortem.—Subdural abscess caused by septic infection from the wound on the scalp through the narrow fracture.

This serious condition could have been avoided, if the patient had remained in the hospital and the wound treated with proper aseptic care.

Case No. 2. Patient A received a blow with a stick. There was no external wound. The patient came walking to the hospital. Nobody thought that he had a serious fracture of the skull. Later on he developed paralysis of one side. Trephining was decided on, but patient passed away before it could be done.

Post-mortem.—There was a fracture of the skull, which pressed upon the brain.

Case No. 3. Patient K, aged 73, received a light blow with a walking stick. The accused, never it appears, intended to injure him seriously, but only wanted to give him a fright. The patient was talking. Learning from past experience, I gave a very guarded prognosis, advised his son to take to the Chief Medical Officer for consultation and waited for subsequent developments. But the son, seeing the apparently good condition of his father, could not be persuaded to do so. The patient subsequently developed coma and succumbed to the results of the injury.

Post-mortem.—A small fracture of the skull, subjacent to the seat of the injury. The fractured piece of bone pressed upon the brain.

An early elevation of the depressed bone might have given a chance of recovery to the patient.

A CASE OF LIVER ABSCESS (LEFT LOBE)

By

DR. P. KESAVAN NAIR, L.M.P., LOCAL FUND DISPENSARY, KOLLENGODE.

Krishnan, a labourer, male, aged 45 years, a native of Kollengode was admitted to the dispensary on 9—9—1924.

Condition on admission:—General health emaciated. Breathing and pulse rapid. Couldn't stand erect, being bent forwards, on account of a stabbing pain at the upper part of the abdomen in the middle aspect, where there was a well defined bulging of the size of an inverted half cocoanut shell.

He stated that he had been suffering from indigestion for the last 2 or 3 months until a fortnight ago when he noticed a painful swelling at the 'Pit of Stomach' which has since enlarged itself gradually with the result that he can hardly take in 1 oz. of water at a time without pain and dyspnœa. He never had dysentery and he is fondly addicted to toddy.

On examination of the swelling it was found to be pulsating with heart-beats and moving with respiration. The possibility of any stomach affection was easily eliminated and abscess of Left Lobe of Liver was diagnosed.

9—9—24. The lower border of the swelling was punctured into by means of a 20 c.c. Hyp. Syringe, in an upward and backward direction. The rush of pus into the syringe was so forcible as to expel the piston of the syringe upwards without any exertion. About 15 ozs. of chocolate coloured pus was thus evacuated. But with all that, the swelling didn't show any sign of subsidence and an ordinary medium sized trocar and

canula was inserted through the needle-hole, which drained about 35 ozs of pus more. The cavity was washed out with Iodine lotion and collodion swab applied.

10—9—24. Next day it was found that about 10 ozs. of pus had soaked through the collodion swab and the swelling had reappeared. Canula was again inserted through the previous puncture and 30 ozs. of pus drained. The abscess cavity was washed out with Iodine lotion and the following Sol. was instilled into it.

Re

Tinct Iodine m xxv.
Vin Ipecac 3 i.
Aqua Distil ad 3 ii.

11—9—24. The swelling had greatly reduced itself there remaining only a fulness at its uppermost aspect. No escape of pus as yesterday through the puncture.

12—9—24. The upper half of the swelling was markedly tense and full and a fresh puncture was made into this. The cavity was drained of its pus (about 1 pint), washed out with Iodine lotion and Sol. of Iodine instilled as on 10—9—24.

13—9—24. Repeated as on 12—9—24. About 10 ozs. of pus drained.

14—9—24. There was no appreciable swelling at all.

The swabs were re-applied.

15—9—24. Repeated.

16—9—24. The punctures healed up. Temperature normal.

It was till now ranging between 99.8° F and 102° F, and never rose again.

17—10—24. Discharged cured. He was again seen on 1—11—24, absolutely hale and healthy.

Medicines.

Emetine Hydroch gr. i.
Hypodermically every day for 12 days.
The following mixture was repeated every day.

Re

Ammon Chloride gr. x
Acid Muriatic Dil m x
Tinct Nucis vom m x
Tinct gentin Co 3p
Mag Sulph 3i
Aqua Chlorof. zi
Mft. T. D.

I am tempted to publish this case for the following reasons:—

(1) The possibility of liver abscess even in cases of negative history of Dysentery.

(2) The importance of aspirations as against open operation.

(3) The value of repeated aspirations at the same site and at different places.

(4) The importance of instillations of solution of Iodine at the end of aspiration preferably with emetine or in the absence of the latter, with Vin Ipecac.

(5) The possibility of abscess of left Lobe of Liver pressing on the stomach walls and simulating diseases of the latter organ.

In conclusion I wish to thank Lt. Col. A. Chalmers, I.M.S., the District Medical Officer, Malabar, who during his inspection tour was kind enough to permit me to publish this with his valuable corrections.

A THERAPEUTIC NOTE ON MALARIA.

To avert the coming attacks of Malaria and to materially help the curing action of Quinine I found that its combination with opium in one or other form, gives gratifying results.

I am in the habit of giving in one draught Tin. opium m. x with Quin. mist. oz. ii holding the grains of quin. sulph. about five hours before expected attacks. If time permits it is advisable to see at the onset bowels opened by salines. I repeat this mixture only before expected attacks and give in the interval liq. arsenicalis m. iv twice a day after meals.

More than four times I have rarely administered this mixture and found myself disappointed. By the first dose it minimises severity of an attack considerably if it at all fails to stop it. In very chronic or severe cases both drugs may require to be increased to one and half times.

The advantages of this method may be summed up as follows :—

(1) It saves a patient from annoying symptoms of cinchonism which is brought on by effective big doses.

(2) It requires much less quinine which is after all an irritant and leucocitic poison. And especially when required to be given in large doses or continued over a long time, undoubtedly it must be doing harm which is underrated in view of the great advantage—its curing action.

(3) Besides, economic consideration cannot be lost sight of, when widespread of malaria, cost of quinine and quantity required, are taken into consideration.

I close this with the admission that as I tried this procedure in the out-patient department of a taluq dispensary where patients cannot be traced to satisfaction, I do not venture more than to state that it gave me encouraging results. However the number treated was limited and could be observed limitedly.

The Antiseptic

DECEMBER, 1924.

MODERN VIEWS ON JAUNDICE.

Jaundice is a frequent symptom of many diseases in general practice. It has always been a favourite subject for clinical study and a frequent source of pathological controversy. From the time when Ehrlich discovered Salvarsan uptil now jaundice has been a frequent complication in the treatment of syphilis. The war gave an additional impetus to the study and clinical investigation of the subject. Icterus due to poisoning with "Trinitro-Toluene" and with "dope" was very common. Epidemic outbreaks of spirochaetal jaundice were a common occurrence in France. The chief contributions to the advancement of our knowledge regarding this subject came during recent years from Germany, France, America and Holland.

Blood estimations have, of recent years, come more and more into the limelight as very useful clinical adjuncts to the diagnosis and prognosis of diseases. Estimations of blood sugar in diabetes and blood urea in nephritis are routine clinical procedures. To Prof. Hijman Van Den Bergh is due the credit of having developed a delicate method by which small amounts of Bilirubin could be detected and estimated quantitatively in the blood serum. By this method qualitative differences in the pigment present in the blood serum in various forms of Jaundice can also be made out. To go into the details of the technique of the test is beyond our present scope. An account of the test with some of its modifications is given in the Quarterly Journal of Medicine (1923 XVI, 390). In the discussions in the recent annual meeting of the British Medical Assocation held at Bradford, Prof. Van Den Bergh pointed out that his original direct method is not a correct one. He considers it merely as an estimation

and not a quantitative determination of Bilirubin. The main drawback in the direct reaction, it was contended, was the formation of the protein precipitate on the addition of alcohol to the serum. This precipitate carried down some pigment. This was avoided by diluitng the serum ten times with water before the reaction when no precipitate was formed. This modification was, however, not applicable when there was little bilirubin in the serum. By a study of the bilirubin in the blood very valuable clinical information can be obtained. Obstructive can be distinguished from a purely hæmolytic jaundice. In the former a prompt direct Diazo reaction is obtained, while in the latter a delayed negative reaction is obtained. This test is, however, of no use diagnostically in icterus due to incomplete obstruction as well as in the toxic and infective forms. Gerard, by routine examination of the blood during salvarsan treatment, was able to watch and control the development of latent icterus and stop the administration of the drug before actual jaundice ensued. Pernicious anæmia and other diseases in which there is a yellow colouration of the skin and which had hitherto not been considered as being of icteric nature have now been brought into the category of latent hæmolytic jaundice. Apart form being able to judge the progress of an attack of jaundice estimations of bilirubin in the blood will give us an idea of the 'Green' and 'Black' Jaundice. These are to be taken only as clinical expressions of chronicity and not of the amount of bilirubin retained in the blood. Much bilirubin may therefore be present in the blood at a time when there is scarcely any general icteric tinge.

The most up to date views on the theory of Jaundice have been ably expounded in the admirable opening paper of D. J. W. McNee at the annual meeting of the British Medical Association at Bradford. He classifies Jaundice into three main groups (1) obstructive hepatic Jaundice (2) Toxic and infective hepatic Jaundice (3) Hæmolytic Jaundice. Of all these only the study of Hæmolytic Jaundice has, of recent years, been the subject of much interest. The work of Whipple, Hooper and others in America has to a great extent solved the problem. They have shown that it is the cells of Aschoff's reticulo-endothelial system which are concerned in the production of icterus by hæmolysis and not the glandular cells of the liver. This term "reticulo-endothelial system" is of recent introduction into Pathology. They consist of a system of endothelial cells which are widely scattered throughout the body but have specialised activities

in certain situations. The cells of this system as far as Jaundice is concerned are the lining cells of the splenic sinuses and Kupffer cells of the liver. But in toxic and infective states Jaundice may also arise from disordered function of the liver or Hepatitis. Hence it is inferred that although the cells of the reticulo-endothelial system are chiefly concerned with the metabolism of bile pigment, yet the glandular cells must be healthy in order that the pigment may pass through them and reach the bile capillaries. Thus, based on these recent views that the bile pigment is elaborated by the reticulo-endothelial system and passes to the bile capillaries by some activity of the glandular cells of the liver, we may consider that icterus arises under the following conditions:—(1)When the bile pigment after being elaborated instead of passing through the glandular cells into the bile capillaries, as in normal conditions, is obstructed there and is re-absorbed *into* the blood. (2) When the bilirubin carried by the endothelial cells is unable to enter the damaged cells of the Liver and therefore passes directly along the hepatic venous radicles into the general circulation. (3) When, due to the excessive blood destruction, a large amount of bile pigment is formed, which the liver cells cannot deal with and hence though the normal pigment passes into the bile capillaries yet the excess passes through the hepatic veins into the general circulation. (4) Finally, when there is obstruction in the bile passages as in cholangitis, some pigment passes through the hepatic veins directly into the circulation and some through the polygonal liver cells to the bile passages to be re-absorbed again, being unable to pass through, due to obstruction.

LT. COL. ELLIOT ON THE SCHOOL OF INDIAN MEDICINE

The 24th day of November 1924 marks the beginning of a new era in the history of the indigenous systems of medicine in this Presidency. For, it was on that memorable day that the Government of Madras finally set their stamp of approval and recognition on these systems of medicine and opened a new school of Indian Medicine in furtherance of that cause. That the school was opened by no less exalted a personage than His Excellency Lord Goschen himself amidst an influential gathering of officials and non-officials

Europeans and Indians alike, gave additional grace and colour to the sanctity and solemnity of the occasion. The speech delivered by His Excellency the Governor was characterized as usual by profound sympathy towards Indian aims and aspirations, and it is a happy augury that we have now at the helm of affairs of this benighted Presidency one who has devoted a good deal of his lifetime for the promotion of measures directed towards the alleviation of the sick and suffering in his own country and who appears to be determined to utilize his vast knowledge and experience in this direction for the good of the Indian people entrusted to his charge in all possible ways and in no spirit of bias or narrow-mindedness. We take this opportunity of congratulating also the Honourable the Minister in charge of Medicine and Public Health portfolios for the bold advance he has made in the cause of indigenous systems of medicine in this country and the no mean acheivement he has accomplished in inaugurating this institution in the teeth of formidable opposition from vested interests both within and outside the official groove.

We do not propose to dwell here on the events that led to the opening of this Medical School, by the Government, in Madras. They have become a matter of common knowledge and have also been already sufficiently thrashed out in these coloumns. It is now admitted on all hands and by all shades of public opinion in India, by even the medicos of the Allopathic School that there exists at the present day a dire need for extending medical relief to the poor and that, owing to the failure of the Allopathic system to reach the masses, partly on account of its costliness and partly to financial stringency, the only solution to this problem of life and death lies in reviving and resuscitating the dying medical systems of the East to which nearly 90 per cent of the population of this vast sub-continent still steadfastly cling. The Government of Madras are therefore perfectly justified in giving heed to public opinion and launching this experiment. But, unfortunately, a discordant note is struck, not from unexpected quarters though, which, for the queerness of thought and vulgarity of manners, must be treated with the derision it deserves. We allude to the effusions of Lt. Col. Elliot, I.M.S., (retired) whose wrath and indignation against the present policy of the Madras Government had found vent in the coloumns of the British Medical Journal recently published.

In the first place the retired Doctor presupposes that the Ayurvedic and Unani systems of medicine are empirical and unscientific and therefore unworthy of adoption. We ask, has any one of the modern scientists of the West ever attempted to unearth the medical lore of the Hindus and Muhammadans and prove to our satisfaction that they are what they are termed to be—unscientific and empirical. It is a well-known fact that the ancient Greek Schools of medicine were indebted to the Hindu systems and the modern western system of medicine was based and developed on the Greek system. Centuries of research and labour have made it possible for the West to evolve a rational and scientific system of medicine from the embers of the hoary Greek medicine but still the western system is imperfect. Every day new ideas are sprouting and new discoveries are made, over-riding old theories and principles, to suit the modern conditions of life, disease, and environments. Science is oscillating. A new set of medical scholars have now sprung up both in Europe and America, not a negligible number, mind,—who denounce treatment of the sick by drugging, who warn us to go to nature for cure—to adopt the ways of Adam and Eve, to live on fruits alone, or to fast and roam about in the woods and forests as freely as birds and animals do, in order really to preserve our health and strength. Is Col. Elliot prepared to call these scholars heretics and their theories as wild dogmas? Col. Elliot says "Western medicine has nothing to learn from them (Ayurvedic and Unani medicines) that it has not long ago learnt, classified and standardized." It may be that the western system has nothing to learn from the East for the benefit of the West, but in a tropical country like India, where climatic and other conditions of living are different from those of the West and diseases themselves are of a different type from those generally prevalent in the West, the transplanting of the western system of medicine enbloc in this country will be a mockery indeed! So the East must envolve a separate system for itself and that is what is being attempted now. Further, the Col. casts some aspersions on the wisdom of the sages of yore in India and their theories regarding the structure of the atoms etc. Sometime ago we had the pleasure of perusing a long article from the pen of an eminent scientist in which the remarkable statement is made that the ancient Hindu Shastras contain the most accurate and scientific exposition of the atomic theory, but yet Col. Elliot may not believe it. Considering

the age in which these ancient sages flourished and considering also the want of equipment and facilities then which the modern world can now boast of, that they should have so far advanced in all branches of science—in arts, literature, medicine, astronomy, philosopy, etc.,—is a sufficient indication ot the depth of their vision and the acuteness of their wisdom which must redound to the glory of India and be an object of envy and admiration of the West.

Secondly, the Colonel, true to his military traditions, wants the medical profession belonging to the Allopathic School to revolt against this piece of sacrilege done to the profession by the Government ot Madras. We have nothing to do with the threats and warnings he gives to the young Britisher competing to the R.A.M.C. or the I.M.S., asking him to withdraw from the field, thereby teaching the Government of India a severe lesson. If such advice is heeded, it must certainly prove a blessing in disguise for India. But his call to arms of the Medical profession in India trained in the several Medical Colleges and Schools by Western Savants of his type is indeed indefensible. The medical men here, while acknowledging with gratitude the good work done by the Western medical scholars, realise at the same time the disastrous plight in which they and their countrymen are placed at the present moment. Having spent their all in obtaining that costly education in western medical science, the medical men find themselves in the midst of starvation and unemployment while the suffering millions of their countrymen, destitute of means and devoid of facilities, and unable to seek the services of Allopathic Doctors, go in for cheap recipes at the hands of quacks or suffer in silence and go to the grave uncared for and un-treated. The time has come when, in the interests of both the profession and the public, some new system should be found which must at once be cheap and acceptable. If Col. Elliot thinks that the opening of this new school of Indian Medicine sounds the death-knell of the Allopathic system in India, we take leave to differ from him and hold that it spells the dawn of a new system of Indian medicine—a happy coalition of both the East and the West, a separate entity by itself based on a rational and scientific method and adapted to the needs and requirements of a tropical country. Such occasional outbursts on the part of retired servants of India are not uncommon and are really deplorable. We trust the members of the medical profession here will treat the effusions of the Colonel with the contempt they deserve and do their best to make the new experiment a success.

CURRENT TOPICS.

OBSTETRICS AND GYNAECOLOGY.

Dysmenorrhoea. LEONARD PHILLIPS *(Proceedings of the Royal Society of Medicine*, September, 1923) reported the results he had obtained in the treatment of one hundred patients suffering from dysmenorrhœa. The occupation in nearly all was sedentary. Sixty seven were spinsters and thirty-three married, but the latter were all sterile. Menorrhagia was common. In half the patients constipation was severe. The majority were poorly developed, with weak abdominal muscles, faulty posture and breathing, anæmia or visceroptosis. In half there were signs of arrested development of the genital organs, such as a small acutely antiflexed uterus or a small retroverted uterus, poorly developed labia and breasts and the male type of pelvis and pubic hair. Fifty were treated with extracts of ductless glands, either alone or in combination with antispasmodics. Forty were treated with anti-spasmodics alone, ten were treated with sedatives. Only ten failed to be relieved and were submitted to operation. There were four distinct clinical types which were each treated appropriately. In the first type there was evidence of faulty hygiene and poor development. These were treated by proper clothing, diet, correction of constipation and exercise. The condition of the second type of patient resembled migraine, with general symptoms, headache and nausea. These reacted well to sedatives. In the third type of patient there was evidence of obstruction and clots. The fourth type was characterized by signs of arrested development of the genital organs. In both the third and fourth groups good results had been obtained by organotherapy and electrical treatment in addition to the general hygienic treatment.

The Treatment of Puerperal Sepsis by Quinine Injections S. GORDON LUKER *(Proceedings of the Royal Society of Medicine*, December 1924) reports the results he has obtained in treating patients suffering from puerperal sepsis by quinine injections. The uterine cavity is cleaned out if considered necessary. Thirty cubic centimetres of anti-streptococcal serum are given daily for two days and twenty cubic centimetres on the third day. Intramuscular injections of quinine bihydrochloride 0·3 gramme in one cubic centimetre of sterile water are made into the buttock or thigh on alternate sides daily for six days. Or, it may be given intravenously in doses of 0·18 gramme in ten cubic centimetres of sterile water. He concludes that the treatment is of great value. It is also useful in all forms of puerperal sepsis both in early and chronic stages. Its action is preventive

or abortive as well as curative; thus if given to all patients with acute sepsis, it will prevent septicæmia.

Ovarian Pregnancy. P. MOULONGUET-DOLERIS (*La Gynecologie*, May, 1924, p. 257) remarks that no recorded case of Ovarian pregnancy can be regarded as authentic in the absence of microscopial examination, and he publishes brief abstracts of the 77 cases which he has found described in the literature. Early ovarian pregnancy suggests to the naked eye a hæmatoma of the ovary, and requires microscopial demonstration of the embryonic nature of the tumour; in late ovarian pregnancy there is an obvious fœtus, but the situation of the ovum within the ovary is very difficult to prove microscopically. In the first case diagnosis depends on detection of chorionic villi; in the second, Spiegeiberg's postulates should be fulfilled, the foetal sac, with attached utero-ovarian ligament, should be in the place of the ovary, the tube should be normal, and ovarian tissue should be histologically demonstrable in the fœtal sac wall. Rupture with peritoneal bleeding is the most common fate of ovarian pregnancy, and occurs as a rule earlier than in a tubal gestation—so early that a clinical history of amenorrhœa is rarely obtained; usually the patient when seized with acute abdominal pain is unware of pregnancy and expects to menstruate within a few days. Exceptionally the ovum is destroyed by periovular hæmorrhage which does not pass the bounds of the ovarian tissue; the true character of the lesion is only noted at a later operation for chronic pelvic inflammation. In recent years only one authentic case has been recorded of survival of an ovarian pregnancy to term.

Myomectomy for Uterine Fibroids. ARTHUR E. GILES (*The Lancet*, January 27, 1923) reports his results in hysterectomy and myomectomy. In 1,177 patients with uterine fibroids which he has treated surgically, hysterectomy was performed in 1,004 or 85·3%. The proportion of myomectomy to hysterectomy was thus one to six. The indications he gives for myomectomy are: (i) The fact that the patient is of child-bearing age; (ii) the association of fibroids with prolapse and procidentia, when the uterus may be saved and used to suspend the vaginal vault; (iii) a deep rooted objection on the patient's part to hysterectomy on sentimental grounds; (iv) the character of the tumour, for example, whether single and pedunculated or multiple and diffuse. He regards the following factors as limiting the scope of myomectomy: (i) Age factor. After forty or forty five hysterectomy should be the rule, especially when there are multiple fibroids and when there has been excessive hæmorrhage. (ii) Condition of uterine appendages. When fibroids are

associated with double tubal disease or with bilateral ovarian tumours hysterectomy is the proper procedure. (iii) Size and position of the tumours. If only a battered and unserviceable uterus can be left, it should be removed. Cervical and broad ligament fibroids generally call for hysterectomy. (iv) Excessive hæmorrhage. When the patient has had great losses and is seriously drained thereby, the uterus should be removed. (v) Temperament of the patient. In patients who attach great sentimental importance to the womb, it should, if possible, be left. Myomectomy may be required during pregnancy under three conditions: When the tumour or tumours appear to be increasing rapidly in size; when the patient is suffering from pain, pressure symptoms or indications of septic or degenerative changes in the tumours; when the position of the tumour makes it possible that labour will be obstructed. Of thirteen patients on whom the author operated during pregnancy, eleven went to term and two were not traced. He considers that myomectomy during pregnancy is a most satisfactory operation.

OPHTHALMOLOGY.

Leber's Disease.—Baudot (Rev. Med. de l' Est., May 1st, 1924, p. 296) records a case of Leber's disease or hereditary optic atrophy. The patient was a man, aged 23, who sought advice because his vision had been getting progressively weaker for the last two years, so that he was unable to walk without a guide. At the onset he had had some transient frontal headache. On examination the reaction to light was diminished, but the reaction to accommodation and convergence was preserved in both eyes. The cornea, iris, lens, and media were normal in both eyes, which showed slight myopia. Visual acuity in both eyes was reduced to perception of light. The fundi showed well marked bilateral optic atrophy. The Wasserman-reaction was negative. On enquiry, a history was obtained of five other similar cases in the family namely, a maternal uncle affected at 33, his two cousins, male and female, affected at 24 and 25 respectively, a son of the female cousin affected at 13, and the patient's maternal great-uncle, in whose case the date of onset could not be ascertained. The present case corresponds to the description of the disease given by Leber under the name of "familial retrobulbar neuritis" in presenting the following characters: Greyish-white atrophy of both papilæ with regular margins, dyschromatopsia for green, and the absence of any cause, such as intoxication, infection, or cranial deformity. The date of appearance of the atrophy, both in the patient and the other affected members of the family, corresponded to the average age, which ranges from 13 to 33, with a maximum between 21 and 25. The character of the disease was distinctly hereditary, as five persons were affected in three generations. Males are

affected in preference to females, only one of the five being a *female* in the present case. In spite of the absence of a history of syphilis slight improvement took place after treatment by bismuth.

Conditions Modifying Refraction.—Wm. Campbell Posey (Amer. Journ. Ophthalmol., April, 1924, p. 270) reviews certain extraneous factors which may have an important bearing on the refraction of the eye, but which are not sufficiently stressed in text books. Inflammatory swellings in the lids and conjunctiva, and abnormal conditions in the orbit, may by pressure cause much alteration in the refractive state of the eye. Chronic thickening of the retrotarsal fold, enlarged conjunctival follicles, and deposits of lime salts in the conjunctiva come into this category. A pterygium may cause much distortion of the cornea. Growths of the lids, the most common being chalazia, often produce a marked degree of astigmatism, and after surgical treatment of the chalazion this astigmatism disappears. Pressure from an ethmoidal mucocele, from intraorbital growths, and from tumours of the optic nerve may produce increasing hypermetropia. The ciliary muscle is exceedingly sensitive to toxic influences, and the amplitude of accommodation may be much diminished in toxic conditions. Vascular hypertension and arterio-sclerosis have been noted as causes of ciliary weakness. A change in the accommodation occurs in the prodromal stage of glaucoma, and the effects of disordered sugar metabolism upon the accommodation and refractive state of the eye are perhaps even more generally known.

MEDICINE.

A New Test for Typhoid Fever.—The iodine test for typhoid fever, as introduced some years ago by Petzetakis, was described in THE PRESCRIBER, Sep. 1922, p. 297. A few drops of 5 per cent. tincture of iodine are added carefully to 15-20 c. c. urine in a test tube so that the liquids do not mix. A positive reaction is indicated when the upper portion of the urine changes to a yellowish gold colour. The reaction is not disturbed by the presence of albumin, sugar, etc., and is said to be positive several days in advance of the Widal test.

E. Moretti (*Riforma Med.*, 1923, Nov. 19, 1116) has devised a modification of this test as follows: 25 c.c. of urine is saturated with 20 gm. of ammonium sulphate crystals; after 15 minutes this is filtered and diluted with two parts of water. To 10 c.c. of this diluted filtrate is added 2 c.c. of sodium hydrate solution (10 per cent.) and one drop 5 per cent. tincture of iodine. The solution is then shaken, and a positive result is shown by the appearance of a persistent golden yellow colour.

Moretti tried this test in 100 cases of typhoid fever: in 95 it was positive, and in only 5 (very mild cases) it was negative. In 2 cases of paratyphoid A it was negative, and in 2 out of 3 cases of paratyphoid B it was positive. It is always positive in the first week. In pulmonary tuberculosis with cavity formation it is always positive, and often so in pneumonia and in measles. It thus corresponds with the diazo-reaction, but is more useful on account of its earlier appearance and greater constancy.

Carbon Tetrachloride: Its Purity for Medicinal Use.—The employment of carbon tetrachloride internally in the treatment of hookworm demands the use of a product free from impurities. In our issue of March, 1924, p. 140, this matter was discussed and the various tests described which indicate the suitability of this drug for internal administration. The most serious impurity from the point of view of toxicity, and the one usually present in commercial samples, is carbon disulphide. The B. P. Codex, 1923, following the lead of the Council of Pharmacy and Chemistry of the A.M.A., have fixed the limit of this impurity at 0·1 per cent., or 1 in 1000. The test given for its estimation by the B.P. Codex is treatment with caustic potash, neutralization with acetic acid, alkalization with sodium bicarbonate, and titration with decinormal iodine solution. The A.M.A. recommends treatment with KOH and excess of bromine water, neutralization with hydrochloric acid, and addition of barium chloride, the resulting barium sulphate being weighed and the sulphur calculated as CS_2.

Either of these tests will readily detect one part of CS_2 in 1000, but in view of the comparatively large dose of carbon tetrachloride usually given (50 to 80 minims) this figure has been regarded as too high. Dale points out that any untoward symptoms recorded from the use of carbon tetrachloride have been due to contamination with carbon disulphide, and urges the use of a more delicate test to ensure an absolutely pure product. No perceptible trace of carbon disulphide should, he says, be permitted in medicinal carbon tetrachloride.

The question of a suitable test has been studied by Perkins, who, in a paper read before the British Pharmaceutical Conference in July, described a test capable of detecting 5 parts of CS_2 in one million (0·0005 p.c.). This test is as follows: an alkaline plumbite solution is made by dissolving 0·5 gm. of lead acetate in 20 c.c. of water and then adding 20 gm. of pure potassium hydroxide. To 10 c.c. of carbon tetrachloride are added 3 c.c. of this solution and one c.c. of absolute alcohol. The mixture is then boiled, agitated for a few minutes, and allowed to stand. A coloration from brown to bluish-black, according to the amount of CS_2

present, develops in the aqueous layer in a few minutes. An appreciable darkening is visible in the upper layer with as little as 5 parts per million.

Perkins states that the B.P. Codex test already described is a satisfactory quantitative test provided standard conditions are followed: the iodine solution should be N/100 and not N/10; a blank test should be carried out and the necessary correction made; and exactly 2 gm. of sodium bicarbonate should be used for the quantities given. The use of this method will enable the worker to detect less than 0·1 per cent.

In addition to freedom from carbon disulphide, medicinal carbon tetrachloride should answer the tests given in our previous article, showing absence of chlorine, chlorides, acidity, organic matter, and aldehydes. Free sulphur may be detected by shaking with a globule of mercury, when a black skin or powder is formed on the surface of the mercury. Absence of non-volatile matter may be proved by evaporation of 25 c.c. to dryness when it should leave no residue. A sample which answers all these tests should be suitable for internal administration.

Fenugreek as a Substitute for Cod-Liver Oil.—P. Blum (Bull. Soc. de Thir., April 9th, 1924, P. 135), who records twenty six illustrative cases, states that fenugreek (Trigonella fœnum graccum), which has been used since remote antiquity, can be employed as a substitute for codliver oil in every case in which the latter is indicated, such as lymphatism, scrofula, rickets, anaemia, and debility following infectious diseases or neurasthenia, as well as in gout and diabetes, in which it may be combined with insulin. It possesses the great advantage of being cheap and being readily taken by children, in spite of its bitter taste, which can easily be disguised. Its chemical composition resembles that of cod-liver oil, owing to its containing substances rich in phosphates, lecithin, and nucleo-albumin. It also contains considerable quantities of iron in an organic form, which enables it to be readily absorbed. Reutter has noted the presence of several alkaloids in fenugreek, such as methylamine, dimethylamine, and trimethylamine, as well as cholin, neurin, and betain, which are derived from the splitting up of lecithins. Like the alkaloids in cod-liver oil, these substances stimulate the appetite by their action on the nervous system, or produce a diuretic or ureo-poietic effect. The drug is given in the form of powder in doses of two tea-spoonfuls daily in broth, milk, or jam.

Notes on the Treatment of Pertussis by the Roentgen Ray.—Henry I., Bowditch, Boston, presents for discussion the results of treatment with the roentgen ray of 300 cases of whooping cough by the medical staff of the Boston Floating Hospital. The clinical course of the disease under treatment seemed to be modified very definitely. Within a few hours (about eight) after the first treatment, the patient experienced a feeling of relief. The symptoms were reduced in severity and duration. At the end of twenty-four hours, the symptoms usually reverted to their former degree, and the next day no very marked effects from the treatment were noted. After the second treatment, the symptoms usually fell back a little. There were cases in which the severity of the paroxysms was less than after the first treatment. The most marked changes followed the third treatment. The patient seemed more noticeably relieved—the severity of the paroxysms was reduced, whooping almost disappeared, cyanosis and vomiting became minor factors, and often more uninterrupted sleep at night ensued. By the end of a week, the appetite usually improved, and the patient was much better. Extremes were encountered, cases in which the mother reported cure following one treatment, and cases that persisted with no very marked benefit, in spite of the two courses of treatment. In the entire series of cases, including practically 100 children under two years of age, only one death occurred. Bowditch makes a strong plea to the medical profession and the public to give this form of therapy in whooping cough a fair trial.—*Jour. Ame. Med. Assoc.*, May 3,1924.

Reflexes in Pulmonary Tuberculosis.—F. M. POTTENGER (*Medical Journal and Record*, February 20, 1924) discusses the value of certain reflex symptoms and signs in the diagnosis of pulmonary tuberculosis. He points out that inflammatory lesions of viscera give rise reflexly to certain signs such as pain and rigidity of muscles. Inflammatory lesions of the lungs or pleuræ give rise to similar reflex phenomena, especially to spasm of muscles, limitation of movement of the chest wall, pain and wasting of muscles. The muscles most commonly affected are sterno-mastoid, trapezius, pectorals, levator anguli scapulœ, rhomboidei, scaleni and the diaphragm. Pottenger states that sensory impulses from the lungs are conveyed to the spinal cord and are carried up the cord to mediate with motor and sensory neurones in the cervical region of the cord. This he states is due to the fact that the lungs, embryologically are given off from segments anteriorly to the heart aorta and other thoracic viscera and consequently their innervation is connected with the cervical region of the cord. Increased muscle tension may be detected in the muscles mentioned above by palpation with the patient in the erect posture. This increased tension of muscles gives rise to some extent to the limitation of movement of the chest wall commonly noted in pulmonary tuberculosis. Pain due to disease of the lung is referred to the superficial tissues of the body, the lung itself being

unable to give rise to the sensation of pain. The abdominal viscera and the aorta similarly give rise to superficial pain as explained by Mackenzie. The areas most commonly affected by this viscero-sensory reflex are those supplied by the cervical nerves and the upper four or five thoracic nerves. Tenderness on pressure and other sensory changes may often be noted together with hypersensitiveness of the skin and changes in the heat, cold and touch perception. Pleural pain, contrary to pain due to affection of the lung, is expressed in the same segments of the cord that receive the afferent stimuli from the organ. Hence pleural pain may be expressed in any of the intercostal nerves from the clavicle to the costal border below. Diaphragmatic pleurisy is often expressed by abdominal pain. Trophic influences (due to reflex phenomena) arise frequently in pulmonary tuberculosis. Thinning of the skin and subcutaneous tissues and atrophy of muscles supplied from cervical segments of the cord are common and loss of elasticity of the tissues in these areas on palpation can frequently be detected. These reflex phenomena, muscel spasm, pain, tenderness and atrophy and loss of elasticity of superficial tissues in the areas supplied from cervical segments of the cord are accurate signs of past or present disease in the lung.

Pathological Laughing and Crying.—S. A. KINNIER WILSON (*Journal of Neurology and Psycho-Pathology*, February, 1924) writes on the problem presented by certain cases of abnormal expression in the guise either of exaggerated or uncontrollable laughing or crying or, conversely, of paralysis, at least in part, of the same mechanism. Among the organic affections apt to be associated with the occurrence of pathological laughing or crying may be enumerated double hemiplegia, pseudo bulbar paralysis and disseminated sclerosis. Their appearance after a single hemiplegia has also been observed and the symptom-complex is of moderate frequency in certain stages of basal degeneration from diffuse vascular processes and in tumour growths, infective conditions or vascular degenerations when appropriately situated. In addition to these the author discusses instances characterized by volitional normality, but emotional abnormality of facial movement, namely those who exhibit a unilateral facial paralysis only when they laugh. In regard to the emotional factor in all these cases, the stimuli are often inadequate and inappropriate. One patient cried when she was spoken to, when any one sat beside her, when a hand was laid on her arm. Another walked about with eyes turned constantly to the ground; if he so much as raised them to meet anyone else's gaze, he was immediately overcome by compulsory laughter which sometimes lasted for four or five minutes. Why some can only laugh, while others can only weep is not easy to determine, but as every-

one knows laughter and tears are "near each other." The pathological displays differ from normal in their inevitability, frequency, uncontrolable character, the occasionally contradictory relation of "cause" and "effect" and the extreme facility with which they are induced. It is pointed out that in the expression of emotion the facial and respiratory musculatures are physiologically associated. Sir Charles Bell called the seventh the "facial nerve of respiration." The general conclusion come to is that there are corticofugal paths to the facio-respiratory centres in the pons and medulla independent of the voluntary cortico-ponto-bulbar tracts to the same nuclei whose exact course is unproven, but which pass close to the optic thalamus. In the production of the abnormal emotional activity under consideration the cortex of the brain actively participates.

SURGERY.

Post-Operative Complications of Double Inguinal Hernia.—J. C. HUBBARD (*Boston Medical and Surgical Journal*, May, 27, 1924) in discussing the post-operative complications of double inguinal hernia, states that the two most important are sepsis and pulmonary complications. He raises the question as to whether there is any additional risk of these complications ensuing after operation on both sides of a double hernia at one sitting rather than on two separate occasions. In considering a series of two hundred and sixty-four patients operated on by a group of surgeons he finds the rate of the occurrence of sepsis to be 12% in single-sided hernia and 13% in double hernia. He thus claims that there is no increase in the danger of sepsis by doing both sides at once. In regard to pulmonary complications, however, the reverse is shown to be the case. Thus in the single hernia pulmonary complications occurred in 3·8%, but in double hernia (both sides being operated on at one sitting) the rate was 20%. The reason may perhaps be that the patient was twice as long under the anæsthetic, but the author does not think this to be the cause. He attributes the pulmonary complications to thrombi and emboli from the double operation areas. The conclusion therefore is that owing to the definitely greater risk of pulmonary complications double inguinal hernia should be done in two sittings rather than in one.

The Surgical Relationship of Cholecystitis.—JOHN B. DEVER (*Annals of Surgery*, May 1924) in discussing the surgical relationship of cholecystitis states that, considering the large number of component parts which comprise the biliary system, no surprise should be caused by the fact that there are more or less wide variations in the clinical picture of cholecystitis. Clinically, nearly every cholecystitis is associated with cholelithia-

sis, only 18% in the Lakenau Clinic not being so associated. X-ray diagnosis is still not reliable. He claims that the idea of gall stones being present, but innocent of causing symptoms, has been exploded by W. J. Mayo and others. Clinically again nearly every cholecystitis is associated with hepatitis and oftentimes pancreatitis, though these may be slight. The spread of infection to liver and pancreas is by the lymphatics. The view that the inflammation of the pancreas may be due to the influx of bile into the pancreatic duct has been exploded. The surgical importance of these facts is that as the liver and pancreas do not permit of any direct surgical assault, their disease must be attacked through the gall bladder. The author is rather in favour of cholecystectomy, if possible, as opposed to cholecystostomy. As an argument in favour of choleycystectomy, he states that the diseased gall bladder certainly does not function nor does the gall bladder after cholecystostomy, bound down by adhesions. After cholecystectomy the great majority of patients get along well without the organ. Of all gall bladder operations 4% to 8% are for recurrences and of these recurrences 80% are following cholecystostomy. The most common cause of recurrence is stone, perhaps overlooked in the first instance, but more probably formed since then. After cholecystectomy, the most common cause of reoperation is adhesion and the most serious cause is chronic pancreatitis. This is best treated by drainage of the common duct.

Adhesions About the Ascending Colon Simulating Chronic Appendicitis.—C. DAVISON, M. DAVISON AND D. J. ROYER (*Surgery, Gnyæcology and Obstetrics*, February, 1924) state that adhesions about the ascending colon present a similarity to chronic appendicitis and appear to be a new and definite clinical entity. The symptoms are those of a vague abdominal condition and are alike in those who have been operated on for appendicitis with no relief, and in those who present themselves with no history of previous surgical treatment. They may have been treated medically for a chronic gastro-intestinal disorder, such as peptic ulcer, chronic constipation, colitis or gall-tract disease. After a period of some relief they always get a return of the symptoms. Examination by means of a barium meal reveals a disfiguration of the shadow contour of the ascending colon. This seems to be caused by bands of adhesions passing over the ascending colon and to some measure the transverse colon, producing a partial or complete obstruction of the large bowel at the point of greatest involvement. There is a degree of ptosis also with a consequent kinking at the hepatic flexure. Laparotomy reveals the mechanical condition exactly as it is seen on the plates and with the fluoroscope. He gives in full detail the reasons for his conviction that it is an inflammatory lesion due to colonic stasis which leads to a weakening of the gut wall and to the passage through the wall of low grade organisms causing a chronic peritoneal thickening. The treatment is operative by dividing the adhesive band and by covering carefully with peritoneum any raw surface that may be exposed. The after treatment consists in making the patient lie on his left side so as to cause the recently freed colon to move away from its former bed. Suitable aperients should be given and these will keep the bowel in some degree of movement.

The Resection of the Twelfth Rib as an Operation for Total Empyema.—CARL NATHER AND ALTON OSCHNER (*Surgery, Gynæcology and Obstetrics*, July, 1924) discuss the advantages of the resection of the twelfth rib as an operation for the condition of total empyema. They are struck by the number of methods advocated for the treatment of acute pleural empyema, including repeated or continuous aspiration, intercostal incision and rib resection. The United States Empyema Commission has shown that the occurrence of acute empyema is divided into the two stages: The formative or early stage before adhesions have occurred and the advanced or adhesive condition. The treatment of the former is by aspiration and of the latter by more radical operative means. The drainage of a total empyema must be considered from a physical, anatomical and physiological standpoint. Physically the cavity should be drained in its most dependent portion. Anatomically, this is best attained in the costo-phrenic angle posteriorly by resection of the twelfth rib. Physiologically it is best done where the lung expansion is such that the lung acts as a piston of a syringe and literally forces the pus out of the thoracic cavity. The author states that the lung in its pathological condition is incapable of expanding as a normal lung would. The exudate by virtue of its weight seeks the lowest level the pleural cavity will permit and it is wisest, therefore, to open into the most dependent part of the cavity. Anatomically this point is located in the region of the twelfth rib. In contrast to the partial resection of other ribs, resection of this rib produces a wound composed only of soft parts; this has the advantage that when the drainage tubes are removed, the wound edges fall together and obliterate the drainage canal. Another disadvantage of the older operation as compared to this modification is that there was always the chance of the formation of osteo-myelitis of the exposed ends of the ribs and this was a factor of maintaining the chronic suppuration. With the new operation there is no possibility of any bone infection. A small pleural incision is made and this prevents the production of a large open pneumothorax. By means of two large heavy drainage tubes of rubber, with many lateral openings the pleural cavity can be completely drained independently of the position of the diaphragm.

Patients with empyema treated by this method have a shorter convalescence averaging four and a half weeks. The formation of a chronic fistula is practically impossible. The author has practised this method at the Surgical Clinical, Zurich, and claims that the results are very satisfactory.

Exophthalmic Goitre in Children.—H. HEIMAN (*American Journal of Diseases of Children*, September, 1923) discusses exophthalmic goitre in children. After discussing the age and sex incidence, ætiology and pathology the author turns to the symptomatology. The cardinal symptoms, tachycardia, exophthalmos, and enlarged thyroid gland are present in children. The exophthalmos is usually less definite in children than in adults. In the author's three patients it was quite definitely present. The degree of exophthalmos was in direct relation to the severity of the condition. The patient who had the most rapid pulse rate and the highest basal metabolism, had the most noticeable prominence of the eyes. Graefe's and Stellwag's signs were present in all three instances. The basal metabolism in the three children before treatment was as follows: The first child's basal metabolism was + 12%, that of the second + 20% and of the third + 52%. An unusual manifestation in one of the patients was the development of severe recurrent attacks of ketosis. The first time the author saw this child at the age of four years, he found him in deep coma. There was hyperpnœa without cyanosis. The temperature was 39·5° C. There were definite convulsive twitchings of all the extremities. After subcutaneous injections of 5% glucose solution, frequently repeated, the improvement was definite. The patient subsequently had three similar attacks. The treatment of exophthalmic goitre in children differs little from that of adult patients. One of the author's patients, aged five years, was operated on by Dr. Crile. A partial thyroidectomy was performed. Three months later definite improvement in her condition was noted.

Ætiology and Treatment of Claw Foot.—G. P. MILLS (*Journal of Bone and Joint Surgery*, January, 1924) deals with the ætiology and treatment of claw foot. After reviewing the various suggestions with regard to excision he comes to the conclusion that the temporary paralysis or paresis of the muscles supplied by the external plantar nerve is the cause. Shortening of the *tendo Achillis* is not an essential proof of deformity but is present as a complication in about one quarter of the cases. Treatment for various stages of the condition is outlined. Moderate deformity is treated by fasciotomy, tenotomy and transplantation of the *extensor brevis pollicis* to the metatarsal bone with division of the long flexor tendon and

with lengthening of the *tendo Achillis*. When the condition is advanced excision of bone is necessary.

Snapping Shoulder.—W. R. BRISTOW (*Journal of Bone and Joint Surgery*, January, 1924) reports a case of snapping shoulder. The disability consisted in an inability to abduct the arm fully. Abduction was accompanied by a painful snap in the region of the shoulder. The trouble dated from an accident which occurred fifteen years previously when the patient fell on her shoulder. Examination did not reveal anything abnormal, but at operation a thick fleshy muscle was found covering the lesser tuberosity. This arose from the outer side of the short head of the biceps and the fibre ran upwards and downwards towards the long head. The muscle was considered to be the *rotator humeri* of the lower animals. It is not an uncommon abnormality in man.

Abscess of Lung.—Lambert, A. V. S., and Miller, J. A. *Arch. of Surgery*, January, 1924, 8, Part II, p. 446.

These authors report the results of their experience based upon sixty cases, seen for the most part during the past two years. As they point out, the fact that they have seen many cases during so brief a period appears to indicate that abscess of the lung is a more common condition than is generally believed. The etiology of their cases is similar to that usually encountered, although the proportion of cases following operations on the mouth and upper air passages is somewhat smaller than usual. There were forty-five cases in men, and but fifteen in women. Of their total number of cases forty-six were classified as acute.

In ten cases the bacteriology was thoroughly investigated. The striking feature of these bacterial examinations of the abscess pus was the uniform presence of anaerobic bacteria. These predominated in all, and were the only type of organism present in eight of the ten cases. They urge that the matter of bacteriology be more thoroughly investigated.

The authors insist upon a closer co-operation between physician and surgeon, if this troublesome type of case is to be more adequately treated. They believe that the treatment of acute abscess is primarily a medical problem, and that when surgery is necessary the results are far more successful after preliminary medical observation and treatment. The most important form of medical treatment is postural drainage. They state that from three to four weeks of such medical treatment may usually be safely employed to determine the necessity for operation, during which time many cases will recover without it. They are not enthusiastic over the use of artificial pneumothorax, although they state that their experience

is limited, and, as usually emphasized, they believe that it may help in acute abscess freely opening into a bronchus situated near the hilum of the lung. They have not been impressed by the results of bronchoscopic lavage, and appear to consider that the procedure is a more trying ordeal than has been the experience of other clinicians.

This paper was read at the May meeting of the American Association for Thoracic Surgeons. In the discussion which followed the general consensus of opinion was that postural treatment in the early stages was often of very great value. Singer of St. Louis, makes the statement that ninety per cent. of these cases clear up in a week or ten days. With regard to surgical interference he recommends that surgeons should wait for the abscess to become ripe and the surrounding pneumonitis to subside.

A. V. S. Lambert, of New York, makes the following important pronouncement: "The more I hear and see of thoracic surgery of others, the more I am becoming convinced that the analogies which are drawn over and over again between the chest and abdomen are not true analogies and that we have a subject here the laws and principles of which have to be worked out in the chest and not determined from experience, with conditions within the abdomen."

Treatment of Obstetric Brachial Paralysis with a Report of Fifty Cases.—Boorstein, Samuel W. *Jour. of Bone and Joint Surg.*, Oct. 1923, page 778. Obstetrical brachial paralysis should be treated by the orthopedic surgeon as early as possible. If treated early and properly, one may expect in the mild cases a good recovery in three or four months. The more severe cases will require about six or seven months for a complete recovery. Nerve operations are indicated if no improvement results in four months. If sufficient improvement is noticed in four months one may wait for four months more. The shoulder should be put immediately in a splint or brace to prevent stretching of the paralyzed muscles and contraction of the unopposed muscle. The arm is therefore put up in right angle abduction and full external rotation of the shoulder, the elbow is flexed at a right angle, forearm in full supination, and if necessary, dorsi-flexion of the wrist. The first plaster is left undisturbed for two or three weeks. Then the arm is taken down twice daily for massage and exercise. The support must be kept up for a very long time, for about eight to nine months, as deformities may occur. Adhesions may occur due to slight injuries of the capsule, but these can be prevented. The only deformity that is hard to prevent is the pronation of the forearm. The posterior dislocation is a sequel to the unbalanced paralysis of the shoulder muscles and may be prevented in most

cases by proper orthopædic methods. The obstetrician can prevent the condition in many cases by proper management of the shoulder. Taylor's procedure seems to be the most suitable for the nerve operations. Sever's operation is the best for correction of the shoulder deformities. Hooking of the coracoid process should be corrected by a subperiosteal resection. Pronation should be corrected by a tenotomy of the pronator radii teres. One may also transplant that muscle to use it as a supinator.

BOOK REVIEWS.

MALARIA.

By Chandra Chakravarthy, 172 pages, 1924. [Susruta Sangha, 177, Raja Dinendra St., Calcutta.] Price Rs. 2-4.

Malaria with Kala-Azar and Ankylostomiasis is responsible for a large proportion of deaths and anæmias occurring in India in general, and Bengal in particular. The author realising the fatality, or at any rate, the exhausting nature of the disease, has thought fit to bring out a monagraph on Malaria. He gives a detailed account of the life history and appearance of the malarial parasite and mosquito and of the pathology and symptomatology and treatment of the disease. Last but not the least important is a chapter on Prophylaxis.

EPITOME ON BLOOD PRESSURE.

By Dr. B. B. Grover, M.D., Fellow of the American Electro-Therapeutic Association: Vice President of the American College of Radiology and Physiotherapy. etc., etc., etc., 77 pages, 1924. (The Electron Press, Kansas City, U.S.A.) Price S. 3.

High blood pressure, Hypertension and Hyperpiesis—terms depicting the condition of vascular tension—are used so very extensively and sometimes even indiscriminately that a correct knowledge of what each means is essential. In a neat little book Dr. Grover gives in epitomised aphorisms all that is worth knowing about blood pressure. A blood pressure key with interpretations is also given with the book.

NOSOGRAPHY IN MODERN INTERNAL MEDICINE.

By Knud Faber, M.D., Professor of Internal Medicine, University of Copenhagen, with an introduction by Rufus Cole, M.D., Director of Hospital Rockfeller Institute, 1923, 222 pages, illustrated. Price S. 3·75 (Paul B. Hoober, New York.)

As one goes on reading the pages of Dr. Faber's book there can be nothing but admiration for those who were instrumental in developing internal medicine. In its pages we read of how Von Linnae attempted writing the history of disease by collecting stray symptoms and grouping

them into various syndromes. We also learn how Bright and Sydenham diagnosed nephritis and measles and scarlet fever respectively; how Koch, Pasteur, Virchow, Tranbe, and Mendel, Ehrlich tired hard to carry aloft the lamp of medical science in the dark days of its progress. We have nothing but admiration for the author for having tried to infuse the spirit of these great men into his readers.

ULTRA VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE.

By Percy Hall, M.R.C.S., and L.R.C.P., 110 pages, price 7/6 net. Wm. Heinemann (Medical Books) Ltd, 20, Bedford Street, London W. C.

In this book Dr. Hall has collected his extensive clinical observations on that form of radiant energy known as ultra-violet light. The power of the ultra violet rays to cure surgical tuberculosis and rickets, to hasten the cure of wounds and improve the general health of weakly children has been abundantly established. The tungsten arc generates abundantly and rapidly ultra-violet light for therapeutic purposes and the author has himself designed an admirable arc lamp in which he employs tungsten electrodes. Our own experience of one year of ultra-violet rays in the treatment of diseases such as **Eczema**, psoriasis etc., is remarkable. The book contains 20 very nice illustrations to explain the details of the treatment. The book is written is such *non*-technical style that even laymen could understand and follow the subject well. We commend the book to our readers.

PHYSIOLOGICAL PRINCIPLES IN TREATMENT.

By W. Langdon Brown, M.A., M.D., Cantab. F. R.C.P., Physician to St. Bartholomew's Hospital, etc. Fifth Edition. No. of pages viii + 511, price 10/6, Published by Bailliere, Tindall & Cox, London.

The very fact that five editions with two reprints of this book are called for within a short period of 16 years shows the extent of its popularity. It is one of the few valuable books in the medical literature. The author has emphasized all the points of cardinal importance in Physiology as applied in treatment of diseases. He describes in detail the various factors that cause disturbances in the body and how they can be rectified. He also points out how a knowledge of Physiology will modify the clinical conceptions. The use and abuse of the various treatments is well discussed. In this work Physiology and practical medicine are brought into closer harmony. We commend this book to our readers.

THE THEORY AND PRACTICE OF THE STEINACH OPERATION.

By Dr. Peter Schmidt (Berlin) with an introduction to the English edition by J. Johnston Abraham, C.B.E., D.S.O., M.A., M.D., 150 Pages 7/6 net. William Heinemann (Medical Books) Ltd., London.

This book of Dr. Peter which was translated from German by Dr. M. D. Eder, contains a summary of the evidence based on a practical experience of 100 cases Further the author lays down clearly the indications and contra-

indications for surgical intervention in conditions not hitherto considered amenable to treatment. Dr. Peter's experiments may be summarised under four heads, *viz.*,

1. Castration and spaying experiments.
2. Homoplastic experiments.
3. Masculinisation and Femininisation experiments.
4. Autoplastic experiments. The technique of Setinach's operation is given in detail. The book is very interesting and instructive and makes a very pleasant reading.

RUBBER AND GUTTA PERCHA INJECTIONS.

By Charles Conrad Miller, M.D., Pages 96. Publishers Oak Printing and Publishing Co., Chicago, U.S.A.

This book deals with subcutaneous injections of rubber and gutta percha for raising the depressed nasal bridge and altering external contours. First few pages describe how the commercial crude rubber is converted into a solution by a series of process, fit to be injected into the area needed. The other chapters deal with the Paraffin injection; plastic surgery versus paraffin injection; commercial rubbers in Surgery; effects of Bismuth salt subcutaneously etc., etc.

SURGICAL NOTES ON CASE-TAKING.

By D. J. Asana, L.M.S., B.M.S., 44 pages. Aditya Mudranalaya, Ahmedabad, P. V Pathak, B.A.

This booklet is intended for medical students, in aiding them to prepare case-taking of surgical cases. The subject is not dealt with thoroughly. But it is sure to be of great help in case-taking in wards.

CALORIMETRY IN MEDICINE.

By William S. Mc. Cann, M. D., 98 Pages. Adequate 304 references and illustrations. Price S. 2.25. Williams and Wilkins Co., Publishers of Scientific Books and Periodicals, Baltimore, U.S.A.

This work is an analytical review and summary of the entire field of determination of basal metabolism. The author has pointed out the broader fields of usefulness of calorimetry in medicine, which adds to the better understanding of the mechanism of symptoms and of the action of therapeutic agents. It has become apparent that the study of the total energy transformations in disease should no longer be confined to the post absorptive state but that the effect of the ingestion of foods and the cost of muscular work should receive further investigation. Calorimetry has made notable contributions to the knowledge of the heat-regulating mechanisms in fever, to the action of antipyretic drugs, and to the knowledge of dietary requirements of fevers. Further it has added much concerning the action of drugs, notably of extracts of thyroid, adrenals and pancreas. The subject is dealt with clearly and the book deserves wide circulation.

OPHTHALMO-OPTICAL MANUAL.

By William Swaine, B.Sc., Lecturer in Physics, West Ham Municipal Technical College. Pages 152+xvi. Illustrated. Published by the Hatton Press Ltd., 173—5, Fleet St., E. C. London, England.

This little manual of William Swaine deals with the Optical action of the normal as well as optically defective eyes, sight testing, sight correction, action of lenses on the sight, etc. Many of the important practical hints which are not dealt with in the text books on Ophthalmology are pointed out and dealt with in a concise form in this book. Mathematical calculations are avoided as far as possible. Though the book may seem rather confounding to a beginner it will be of great help to a student-worker in Ophthalmic-optics.

LECTURES ON HOOK-WORM DISEASE.

By Lakshminaraina Rai, L.M.S., Pages 57. Price Rs. 2, Ajodhya Persad Malviya, Compounder, King Edward VII Hospital, Benares.

The learned author deals in the book all about Hook-worms *viz.*, Life history, Geographical distribution, Pathology, Diagnosis and Treatment. One chapter is entirely devoted to the prophylaxis of the disease caused by the Hook-worm. The whole book is made up of 8 lectures delivered by the author. The subject is dealt with thoroughly and lucidly. We commend the book to our readers, especially those who are on the preventive side of the profession.

THERAPEUTIC IMMUNIZATION IN ASYLUM AND GENERAL PRACTICE.

By W. Ford Robertson, M.D., Pathologist to the Scottish Asylum. Pages VII+278, Published by E. & S. Livingstone, 17, Teviot Place, Edinburgh. Price 15 *net.*

Therapeutic Immunization consists in the stimulation of the defensive mechanism existing in the body against the attack of Bacteria, thus destroying or expelling them and restoring the patient to health. This therapy is already being applied profitably to a wide extent. The chief aims of Robertson's book is to urge a wider recognition of the value of Therapeutic immunization, in the treatment and prevention of common maladies. In this book are incorporated the results of many years of research, and a systematic account of all the most valuable points in Therapeutic immunization is given. One full chapter is dedicated to the causes of failure of Therapeutic Immunization. The chapters on the Bacterial Infections amenable to treatment by Therapeutic Immunization and the treatment of such diseases are very extensive, detailed and interesting. The subject is thoroughly dealt with.

A MANUAL OF GYNÆCOLOGY AND PELVIC SURGERY.

By Roland E. Skeel, M.D., A.M., M.S., Second edition. 281 illustrations, 674 pages, P. Blakiston's Son and Co., 1012, Walnut Street, Philadelphia, U.S.A.

This is a very useful work both for students and practitioners. The author has made every endeavour to treat the subject of gynæcology as it really exists viz., as a highly specialized branch of general surgery bearing a close relationship to obstetrics and demanding a thorough knowledge of general medicine, for a proper appreciation of its relative importance in the medical field with its multiplicity of specialities. The micro-photographs are very instructive and the credit of its production goes to Dr. C. V. Weller, Instructor in Pathology in the University of Michigan. The book is concise and practical. In the present edition under review, the advance made in the treatment of Myopathic haemorrhages certain Myomata and a vast number of carcinoma of the cervix by radium and Roentgen Rays is given in detail. Last chapter which is wholly devoted to the post-operative complications and sequelae, is very instructive and contains a fund of information. The book is fit to be prescribed as a text book in Medical Colleges and Schools.

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