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15th and 16th December '30.

The Assistant Manager of Amrutanjan Depot, Madras, has filed a complaint-under Sections 482. 483 and 486, I. P. C. and Sec. 6 and 7 of Act IV 1889 against S. K. Palani Sami Asari of Jaya Lakshmi Medical Hall, Salem, for manufacturing and selling a pain balm named 'AMRUTAMANJAN' with a get up similar to that of the well known 'AMRUTANJAN.' After examining a few witnesses, including the Assistant Secretary of the Madras Chamber of Commerce, the learned Sub-Magistrate convicted the accused for the offences charged. In view of his abject apology and youth, he has been directed to execute a bond for good behaviour for one year, with two sureties for Rs. 200 each.

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JANUARY 1931.

The Antiseptic

A Monthly Medical Journal

EDITED BY
Dr. U. RAMA RAU
AND
U. KRISHNA RAU M.B., B.S.

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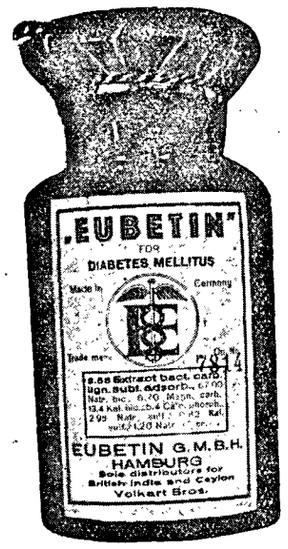

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Original articles

DISEASES OF CHILDREN.*

BY

DR. JAMES BURNET, M.A., M.D., F.R.C.P.E.

Lecturer on Diseases of Children, School of Medicine of the Royal Colleges, Edinburgh.

Nothing of any great importance has been written on the subject of pædiatrics, during the past year although some interesting articles have appeared in some of the English and foreign journals. It is our intention to summarise these, with a running commentary, which may prove of practical use to our readers.

Many sources of errors are liable to be encountered in the *Prodromal Rashes* [1] of infectious fevers. Thus, in varicella a rash resembling that of scarlet fever is not uncommon, and is very misleading. It may be very distinct and generalised. The points of distinction between this prodromal rash and true scarlet fever are entirely those of degree. The prodromal redness is usually limited to the trunk. It is not so intense as that of scarlet fever. The absence of throat affection may prove helpful in diagnosis, and the tongue condition is sometimes of value. In

* Specially contributed to the Antiseptic.

measles, again, various blotches, papules, or macules may occur before the true rash appears. As a rule the prodromal rash is blotchy, occurs in isolated patches on the trunk and is similar to the true rash, but on a smaller scale. A scarlatiniform rash is not at all rare, and Swainston says he has seen a few cases where the diagnosis of scarlet fever appeared to be the correct one until the presence of koplik's spots and mild coryza threw doubt upon that disease.

In smallpox the prodromal rashes may be erythematous, petechial, or mixed. The first-named are usually limited to the trunk, and the time of their appearance coincides with the lumbar pain so often complained of. This erythema is usually morbilliform in type, but may be scarlatiniform. Sometimes we find a localised triangular petechial rash present. This is highly suggestive of small-pox. It is usualy found on the lower abdomen and groins, but may extend up the flanks to the axillae.

Encephalitis lethargica sometimes shows a prodromal rash. This may resemble either that of measles or of scarlet fever. Sometimes it is herpetic in character.

As Swainston points out, the surest way to avoid being deceived by a rash is to see the whole extent of it. In many cases errors will be made, but a careful investigation of symptoms and a thorough examination of the patient will in the majority of cases clear up the diagnosis.

The diagnosis of the cause of *Abdominal Pain in children*[2] is a subject which the general practitioner often finds difficult. Dr. Freeman comes to the rescue with some very helpful suggestions. Appendicitis commences with pain in the umbilical region which later centres in the right iliac fossa. Vomiting may or may not occur, increase in pulse rate is the first indication of danger. Acute ileo-cæcal Lymphadenitis causes similar symptoms, but the onset is not so abrupt, while vomiting and diarrhoea are present. The enlarged glands can often be felt, and the temperature is apt to be higher than in appendicitis. Intussusception occurs in infants. Between the attacks of pain the infant may appear perfectly well. Henoch's purpura may simulate this condition, but here we find the presence of purpuric spots. Volvulus occurs at a later age. The pain is severe, and we have vomiting and collapse. At first the pain is referred to the umbilical region, but rapidly becomes more generalised. Pain due to obstruction resulting from chronic tuberculous peritonitis must be kept in mind. In acute peritonitis, which is usually pneumococcal, pain is not the first symptom. The patient way be toxaemic with few or no abdominal signs, save diarrhoea and slight tenderness. Torsion of an imperfectly descended testes is a rare cause of

abdominial pain. Other conditions causing abdominal pain are: abdominal tuberculosis (variable and may be absent), constipation (spasmodic pain without vomiting), intestinal parasites (colic with chronic intestinal catarrh), cyclic vomiting (may be most marked in right iliac fossa. but there is acetone in urine), cystitis (abdominal tenderness rather than actual pain), spinal caries and herpes zoster, and lobar pneumonia, especially of right lung (the abdomnial pain in pneumonia is not, as a rule, increased by pressure).

A German writer recommends a suitable dietary for cases as *Bacillary Dysentery*[3]. On the first day the child should have tea or fruit juice, lemons in sweetened water, and clear vegetable soup. On the second day may be given white of egg and milk, weak tea or cocoa, barley or oatflour, patent foods. After this the diet should gradually be raised to include eggs, milk puddings, fruit juice, curds, expressed meat juice, chicken, fish, sardines. biscuits and toast. He specially recommends a drug called yatren 105. It is a specific, he says, for amœbic dysentery. It passes through the body unchanged, and is of great value in the acute and chronic forms of bacillary dysentery in infants.

A curious condition, known as *Gastramegaly*[4] is described by Miller. In the case he describes the patient was 2 years of age, a female, very small and thin, with only occasional vomiting. The abdomen was very large, and the greatly distended stomach could be seen crossing the upper part. Following gastric lavage gastric peristalsis was observed. X-ray examination revealed a distended stomach, passing far to the right and hiding the duodenal cap. There was a large food residue after 7½ hours, this being chiefly in the cardiac end. The colon was voluminous, and a barium enema of two pints was easiiy delivered. Miller observes that there are cases of this kind in which arteriomesenteric compression of the duodenum exists from birth. In some severe cases death has occurred in the first few weeks. Miller's case died from vomiting and infective diarrhœa. At the autopsy the stomach had a capacity of nearly 12 ounces. The colon was normal in size. There were no obstructing bands. The congenital obstructive factor was probably comparatively mild, and the obstruction was made worse by gastric distension. Miller suggests a syndrome in which there is from birth a mild obstruction to the evacuation of the stomach. The disorder has three characteristics:—(1). Refusal of food, the bad appetite being the result of gastric stasis and chronic gastritis. Vomiting developes late associated with diarrhoea and mucus stools; (2) visible gastric peristalsis (3) spontaneous improvement after 5 or 6 years of age. It is often difficult in these cases to find any obstructive

evidence at all. Much time needs to be spent in looking for peristalsis. The enlarged and hypertrophied stomach is the most striking clinical feature present. The obstruction is mild, and there is always great difficulty in recognizing the presence of any obstructive factor.

The interest centring round *Hypertrophic stenosis of the Pylorus*[5] warrants us in referring to a very interesting essay on the subject by Dr. Poyton of Great Ormond Street Hospital, London. Within the past few years the practice at this hospital has, we believe, given better results than at any other institution within our knowledge. In a series of 100 cases operated on, 80 recovered and 20 died. The condition at the time of operation was:

Good, 35—two died,
Fair, 39—three died,
Very bad and Bad, 26—fifteen died.

Skilled nursing is imperative. Any crude mistakes in the after-care may prove fatal. The infant must be kept warm with hot bottles and blankets after the operation. Feeding is commenced four hours after the operation, and mother's milk is best. Failing that, skimmed dry milk may be used, followed by a half cream mixture. In the favourable cases the vomiting ceases immediately after the operation, or within a day or so, and complete recovery follows.

Some useful remarks as *Prolapse of the Rectum*[6] are given by Norbury. The rectum, he says, owes its support to (1) The curve of the sacrum, (2) the meso-rectum, (3) levatores ani and sphincter muscles, (4) Perirectal fat and fascia. The exciting causes of prolapse are: (1) wasting with loss of support (2) straining due to constipation, diarrhœa, rectal polypus, irritation from thread worms, phimosis, vesical calculus, whooping cough. It occurs most commonly between the ages of two months and five or six years. Treatment may be palliative by getting rid of the cause, giving tonics, applying cold water compresses, strapping the buttocks. Operative treatment sometimes has to be resorted to. Operations may be classified as follows: (1) For promoting adhesion between the coats of the bowel itself and with surrounding tissues, (2) For supporting the anal canal and rectum. (3) For restoring tone to a stretched and atonic sphnicter muscle. Norbury operates by making semicircular incision anteriorly about ½ inch from the anal margin. The external sphincter muscles are exposed on deepening the incision. Care is taken not to penetrate the mucous membrane. The muscle fibres are fully exposed within the area of the incision. A series of interrupted

catgut sutures are used to "pleat the sphincters". The skin wound is closed by interrupted sutures of fine silk-worm gut, and a dressing of gauze and Whitehead's varnish applied. The bowels, are opened on the third day by castor oil, followed by a small olive oil enema. The child is kept lying down for fourteen days till wound heals. An evacuation is obtained daily by a soap and water enema in the lateral position.

An interesting case of *Purpura Haemorrhagica*[7] following diphtheria is reported by Rolleston and Macpherson in a boy of 4 years. On the twenty-second day of the disease an urticarial serum rash appeared on the limbs. On the twenty-seventh day double otorrhœa developed, bleeding took place from the mouth and pharynx, and the stools were black. Next day there were petechial haemorrhages and purpuric patches on the abdomen and loins, as well as haemorrages from the mouth, pharynx and rectum. The heart became affected, and death took place on the twenty-ninth day of the disease. This, as the authors remark, is a rare occurrence in diphtheria, apart from the acute stage. There is a possible relationship between the appearance of the eruption and the antitoxin. They are reluctant, however, to attribute the purpura, especially fatal variety, to antitoxin. They used concentrated serum which was regarded as safer, and freer from after effects.

Examination of the *Cerebro-Spinal Fluid*[8] is often resorted to for diagnosis in the case of children. Dr. Shackle's paper gives a very useful summary of the method to be employed, and the results obtained. Normal fluid is limpidly clear, sparkling and colourless. It shows no tendency to form clot, and has a specific gravity of 1004 to 1008. A hazy appearance may be due to a faint trace of contaminating blood, to the presence of leucocytes, or, in specimens that have been allowed to stand, to the presence of contaminating organisms in large numbers. A reddish tinge is usually due to contaminating blood. As regards the micro-organisms found in cloudy fluids we have to bear in mind the micrococcus intracellularis meningitidis, diplococcus pneumonia Bacillus Typhosus, Bacillus coli and others. In tuberculous meninigitis the fluid is clear, and contains the bacillus of Koch. The most sensitive indicator we possess of pathological changes in the cerebro-spinal fluid, as Emerson has pointed out, is the gold chloride test introduced by Lange. It is of some value in distinguishing the different forms of meningitis. It has been suggested that in cases of suspected congenital syphilis where the blood test is negative, trial should be made with juice of the cerebro-spinal fluid as this is stated to be sometimes positive when the blood gives a negative Wassermann reaction.

Much research has been devoted lately to rickets, and its nervous complications. In spite of this we are not much further advanced in our knowledge of this disease which in our opinion, and according to our life-long teaching, is due to improper feeding and the lack of the anti-rachitic principle as a result. Dr. Harris, in an interesting article, reviews the modern treatment of *Tetany*[9] which is one of the most troublesome nervous evidences of this disease. He says that the vitamin deficiency (i.e., what we have named the anti-rachitic principle long before vitamins were heard of) which gives rise to the chain of events leading to tetany, has its origin primarily in faulty feeding. We rejoice to read this emphatic statement, as some would have us substitute wrongly "faulty hygiene". The treatment consists in administering calcium chloride in full doses and cod liver oil, which he says and (we cordially agree) has certain advantages over the much vaunted irradiated ergosterol. Certainly we strongly advocate cod liver oil rather than the more up-to-date but less useful ergosterol. Harris says that tetany can also be cured by exposing the patient to ultra-violet light, but is not often advisable to rely on this method alone. The criterion of recovery from infantile tetany is the return of the serum calcium to its normal level i.e., about 10 milligrammes per 100 c. cm. of blood. Harris says that stated briefly the disorder is a perversion of the calcium metabolism arising from a lack of Vitamin D. Two stages are recognised, one, the more severe, in which spasmophilic symptoms occur, the other latent tetany, without symptoms, but having all the objective signs of this condition. At the same time we may mention that it was stated by Brougher (Amer. Jourl. Physiology, April 1928) that low serum calcium is not always accompanied by tetany, and that cod liver oil relieves it when present.

The ætiology and effects of *Undescended testicle*[10] are referred to by H. W. Meyer. The cause has never been exactly determined but the undescended testicle is not always a functionless organ. Spermatogenic cells have been found present. The interstitial cells, which have to do with sexual development, are always present in considerable numbers. We are glad to note that Meyer states definitely that malignant degeneration is not so frequent as was formerly supposed. This was pointed out by an English surgeon long ago. Inflammatory trouble is apt to occur, and pain is often complained of. He strongly advises operation between the ages of 8 and 10 years in patients with one testicle undescended, and earlier in bilateral cases. He does not mention that thyroid extract administered in infancy sometimes brings about complete descent in such cases.

An interesting condition in children is *Osteogenesis Imperfecta*[11] which is very fully dealt with by H. A. T. Fairbank in his presidential address. Familial or hereditary influence is often present in these cases especially in post-natal ones. Cases may be divided into four groups. (1) thick bone type; (2) slender, fragile bone type; (3) honeycomb bone type; (4) marble bone type. Imperfect calcification and abnormal translucency of the teeth are found present. As regards ætiology there is certainly relative failure in the formation of the osteoblasts; but the cause of this failure is as yet unknown. As regards treatment, thymus is reported to have given good results in two cases by Gorter of Leyden. If operative correction of deformity in any given case is considered advisable, length of the deformed bone must be sacrificed to obtain perfect alignment, free from all longitudenal tension, and with as wide an overlap of the fragments as possible.

Very common in children are *Injuries of the Elbow*[12], and Sir R. Jones's remarks on their treatment are well worth noting. He advises treating all these lesions by manipulation, followed by slinging the arm at about 30° of flexion, and discarding all splints. Flexion is the correct position in all injuries in the region of the elbow, excepting fracture of the olecranon, which is very rare fracture in childhood. If splints or bandages are needed, reduction is accomplished by maintining traction on the lower fragment, backward pressure on the upper fragment, and gently bringing the elbow into the position of supination and flexion. The wrist is suspended by a sling with the hand resting below the chin. Between the second and third weeks the sling can be loosened, and its angle slightly lessened. The patient may practise voluntary movements within the limitation of the sling. If these can be easily done the angle can be lessened every few days. Passive movements are never needed, and are often very harmful.

The role played by *Chronic Nasal sinusitis*[13] in children is often far reaching. In children it may result in persistent catarrh and secondary infections. The primary source of infection of tonsils and adenoids not seldom lies in the Nasal sinuses. Sinusites in children is more frequent than has hitherto been supposed. Such children may be a source of infection to others. There is a 'carried infectivity' in chronic sepsis of this kind. One of the most frequent causes of recurrence of adenoids is undetected nasal sinus infection. There is sometimes a connection between sinus sepsis and appendicitis. The infectivity is well illustrated by the following diagram, as is also the possibility of a parental source.

Father, aged 59.

Chronic nasal Catarrh and sinusitis of many years' duration.

Two Sons.

Rhinitis (early childhood) Asthma	age 3 : (operation) Tonsils and Adenoids
age 5 : appendicectomy	age 6 : appendicectomy
age 13 : chronic Sinusitis (operation)	age 9 : (second operation) Tonsils and adenoids
	age 11 : chronic Sinusitis (operation)

The infectious nature of this disease is a matter of very great importance, and should always be borne in mind.

The successful treatment of an advanced case of *Banti's Disease*[14] by ligature of the splenic vein is reported by Dr. E. B. Warner. The patient was a boy of ten years. In view of his general condition splenectomy was considered too dangerous an operation, and so Mr. R. Ledlie tied the splenic veins. Recovery was rapid, and apart from some epistaxis and a little coffee-ground vomit, was uneventful. The condition of the blood before and after operation speaks for itself.

	Before operation.	2½ Months after operation.
R. B. C.	3,487,000	5, 100, 000
H. B.	62 per cent.	84 per cent.
C. I.	0·89	·82
Leucocytes	4,000	6,400

Since the operation the spleen and liver have remained the same size as before, viz., spleen reaching umbilical level, and liver small, hard and cirrhotic, the veins on the abdominal wall are much smaller, there has been no reaccumulation of ascitic fluid and the boy has been at full work at school. In this case the rapidity of the recovery of the liver function has been remarkable.

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ANTE-NATAL WORK IN INDIA*

BY

DR. MRS. ANNA THOMAS, KARACHI.

I propose to consider this subject under the following heads, viz., 1. Introduction, 2. What is meant by Ante-Natal work, 3. What is the historic basis of the Ante-Natal work, 4. How this work is being done in countries other than India, 5. What is the need in India for this work, 6. Is that need being met at present, 7. How can we extend the Ante-Natal work in India, 8. What can we hope from the extension of the Ante-Natal work in India and 9. Conclusion.

1. *Introduction.* One of the most fruitful discussions that the world has witnessed during the last half a century is that more than fifty per cent of the suffering in the world is due to preventable diseases and habits and their prevention does not depend so much on riches or general education as on the wide diffusion of hygienic information, especially dealing with the causes of the spread of many of these diseases, the mode of their prevention, and the proper management of mothers and babies during the most important and delicate period in their lives. All the civilised nations in the world have brought down the disease and death rate by nearly 60 percent by intense propaganda and systematic work with in the last 25 years. In the early years of the Infant-welfare work, attention was bestowed regarding the welfare of the child at the time of its birth. But experience later on taught "birth is not the point at which we begin to live" and that birth is only one of the turning point in life cycle of the child. The child truly starts its career from the moment of its conception—the time of fusion of the minute sexual cells, the ovum and spermatozoon. The intra-uterine stage of the development of a child is the most important period in its career. This period consists of 3 periods, namely 1. Germinal period, 2. Embryonic period, and 3. Foetal period. Germinal period occupies only about one week immediately after fertilisation. The Embryonic period extends up to the sixth week of pregnancy

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and any derangement in the disposition of the cells during this stage, arising from any cause, results in the production of monstrosities or congenital malformations. Eminent doctors, after careful research works have declared that if the blood of an expectant mother in the early stages of pregnancy is deficient in oxygen for example, in case of serious heart disease, or contains some toxin such as that of syphilis, tubercle, lead or alcoholic poison, or if it is of a continually higher temperature than normal, such as in the case of various pyrexial diseases, her developing embryo will suffer.

Foetal period is the period between embryonic stage and the end of pregnancy. The chief function of the organism during this period is the growth along the lines laid down in the previous organogenitic stage. In the early part of this period an intimate connection is established between the maternal and foetal bloods through the placenta which acts as the composite organ of nutrition, respiration and excretion of the foetus. Deformities may occur during this stage, but they are chiefly produced by mechanical and pathological causes.

The practical question before the nation is the saving of the child-life. And the child is a living unit from the time of conception. Science goes even farther and says "prepare the soil for the seed". The Ante-Natal care of the expectant mother is, therefore, a matter of vital importance to the nation. Herbert Spencer wrote years before that " Is it not monstrous that the fate of a new generation should be left to the chances of unreasoning custom, impulse, fancy joined with the suggestion of ignorant nurses, and prejudiced counsel of grandmothers? From the tens of thousands that are killed and hundreds of thousands that survive with feeble constitution not so strong as they should be you will have some idea of the course inflicted on their offsprings by parents ignorant of the laws of life". The health of the future generation and the status of the Nation depends upon the parents of today. Motherhood should never be entered upon without some preparation. It is the most wonderful profession in the world and demands that is the best that is in the women to ensure that everything in connection with the coming child shall be done in the most scientific and efficient manner possible. The State, the Statesman, the Patriot and the Physician have their great responsibilities in the matter of Ante-Natal work.

2. *What is meant by Ante-Natal work.* Dr. Newsholms, the Minister of Public Health in England, in one of his annual reports outlined the following lines to explain what is meant by Ante-Natal work and how the work should be organised. " Ante-Natal work is the application of preventive medicine to pregnancy in

the common interest of both mother and infant. Care bestowed at this period will often secure saving of infant life, or the prevention of chronic diseases in child-hood. It also enables much unnecessary suffering on the part of the mother to be prevented. Both Ante-Natal care and skilful midwifery are needed to ensure in the majority of instances a healthy mother able to nurse her healthy infant. Failing these conditions there is liability to one or more of the following results, namely. 1 Death of mother, infant, or both, 2. Chronic invalidism or protracted debility of the mother, 3. Impairment of the health of the infant by deprivation of the mother's milk, or through neglect of diseases in the mother".

The main functions of the Ante-Natal clinic are therefore as follows :—

1. To advise the expectant mother as to the special hygiene of her infant under existing circumstances.

2. The minor disablities of pregnancy such as dyspepsia, constipation, varicose veins, and defective teeth, are made the subjects of advice and treatment and thus much unnecessary suffering is avoided.

3. More serious conditions such as, albuminuric, cardiac, or pulmonary diseases are looked for and the necessary measure taken in regard to them.

4. In Midwives' cases, when conditions are found which render it likely that medical aid will be needed at the confinement, arrangements are made for this.

5. By means of the aids and advice given, the conditions are avoided which imply that the mother reaches them in an exhausted condition. The exhaustion involves a lingering labour and a bad prospect for the infant. If satisfactory conditions cannot be secured at the patient's house, hospital treatment is indicated.

3. *What is the historic basis of the Ante-Natal work.* In the earliest literatures of the world such as the Hebrew literature and in the code of Hammurabi about 2500 B. C., and various other records, special care of the pregnant women is advocated. It is an interesting study by itself. I shall only quote a few lines from the Hebrew literature. It is written that "a pregnant woman is to be sheltered from fright, bad news, unpleasant odour, etc., because, such are likely to bring on premature labour. She must not undergo undue fatigue, especially on a hot day; must not have a hot bath, and must avoid drastic purgatives". There are directions about the diet of an expectant mother and a diet rich in Vitamines is mentioned. If we turn to our Indian literature, we will find that the Ante-Natal care of the mother is of traditional origin in

India and all the old works on medicine such as Charaka and Vaghbatta deal with this subject in some detail. In the portion on Sharira Sthanam in Charaka Samhita (4:2, 17 & 18) we read that "during the period of pregnancy, the mother in certain matters become accordant with the foetus as regards the acquisition of what is unacquired. Hence, they that are skilled in medical science treat the mother during such a period with all that is agreeable and beneficial". In the well-known works of Susrutha (2nd Centuary B. C.) a great deal about eugenics, the care of the pregnant mother and parturient mother and the hygiene of the infant are mentioned. In the Greek and Roman literatures we find references in Gallen, Quintillian, Lycurges, Phiny and others on this subject. In the writings of Hippocrates (460 to 320 B. C.) who is known as the "Father of medicine" many references on this subject are found. If we can survey the development of medical science centuries after centuries, we can find that in all the ancient writings of great scientists and Physicians, great importance is given to the subject of Ante-Natal work.

In 1695 Dr. Tobiaz Katz, a great Jewish Rabby and Professor published a Hebrew book and it contains much interesting matter regarding thel Ante-Natal, Intra-Natal, and Post-Natal welfare of the child. Ever since century after century has been producing men and women who left very interesting works on this subject. Coming to the 20th century we can see that at the beginning of the century it was noticed in England that infant-mortality remained at the same high level of 155 per thousand live births, as in the middle of the 19th century, inspite of the sanitary improvements resulting from the Public Health Acts of 1872 and 1875. On investigation it was realised that some other factors in addition to general sanitary improvements were having an influence on Infantile-mortality. All the workers in the field, after careful research, study and experiments came to the conclusion on the importance of Ante-Natal care of the expectant mother. Dr. Ballantyne of Edinburgh deserves special mention in bringing this subject of Ante-Natal work to the fore-front in the modern world. His monumental work on "Ante-Natal Pathology and Hygiene" published in 1902 and 1904 was a great eye opener. The Ante-Natal Clinic established by him was the starting point of numerous Clinics in the world today. In England in 1926 there were 772 Ante-Natal clinics attached to Infant-welfare centres and Maternity Homes compared to 675 in the year 1925. This denotes very satisfactory progress.

4. *How Ante-Natal work is being done in other countries than India.*—In 1914 in England, the local Government Board issued a

circular offering a grant to the local authorities in respect of Ante-Natal, Intra-Natal and Post-Natal activities. Under the title of Ante-Natal work the following activites were defined.

A. Local supervision of Midwives.
B. Ante-Natal Clinics.
C. Home visiting of expectant mothers.
D. Provision of Maternity Hospitals or beds at a Hospital for the treatment of complications of pregnancy.

In 1918 Maternity and Childwelfare act was passed. It allowed grant for Lying-in-homes, food for expectant mothers, homes for childern of the unmarried, widowed and deserted mothers. In 1919 the Ministry of Health was established and in 1926 Midwives and Maternity Home Act was passed whose main provisions were :—

A. The suppression of midwifery by "Handywoman" equivalent to our indigenous Dhais.
B. The giving of power to local authorities to form insurance clubs against medical expenses arising from confinement.
C. Registration of Maternity Homes.

In England maternal mortality in child birth has been during the past quarter of a century by increased Ante-Natal work and research work reduced by a quarter and yet it is 3.5 per 1000 births. The Parliament votes annually £ 140,000 for research work alone and it is distributed by the Medical Council to various workers. Several important enquiries have been financed dealing with maternal and infant-welfare conditions. The whole subject of maternal mortality and infant-mortality is now being treated in England as an urgent and serious problem. One central authority, namely, the Ministry of Health, acts as a co-ordinating authority for England. The Ministry of Health gives grant to local authorities and these grants represent only 50 per cent of the total expenditure incurred by those bodies. The grant of the Ministry of Health is now about £ 3,000,000 annually. A very reasonable portion of this is for Ante-Natal work and Maternity Homes. As all the expectant mothers do not visit the Clinics, 3000 Health Visitors are appointed to carry the work into the houses of the expectant mothers. In this connection, it will be interesting to see what the Secretary of the National Baby Week Council said in her report of 1924. She said "In 1900 we as a nation spent nothing out of rates and taxes for organised maternity and child-welfare work and very little out of voluntary funds. In the year 1914 to 1915 we spent chiefly out of rates and taxes £ 83,000 on an organised maternity and child-welfare work. By 1922 this expenditure

reached £ 2,000,000 and the death rate of babies had fallen. We increased our outlay and saved life. We not only saved life, but we saved health, for those measures of education and sanitation which tended to save babies from death, at the same time tended to raise the standard of health of the survivors, and in rearing a race of healthier citizens, we are actually it would seem, adding to the wealth of the nation". Prof Courelaire of Paris tells that "at the Cliniques Bandelequis one of the greatest Maternity Hospitals of the City, Eclampsia in recent years has almost disappeared, because the Midwives carry out regular examination of the urine of all their patients throughout pregnancy and on the appearance of the albumin, the patients are at once sent to the clinics and prophylactic treatment was always almost successful". America is another country where a good deal is done in this work. For the matter of that in all civilised countries of the world, this problem is now treated as an urgent one. In my collections of books on this subject, I have a book called "International Hand-book of Child-care and Protection" and I find the details of this work in every country are described. Consideration of space and time prevent me from taking extracts from them. At least at one place in the world, namely, Villiers-De-Duc of France, Ante-Natal regulations have achieved so perfect a result that the maternal mortality and infantile mortality has been reduced to zero by careful work and legislation. I would earnestly appeal to the Civic fathers amongst us here to study the method adopted there. I wish I had time to reproduce here the regulations of that Municipality in this matter, which is an interesting study by itself.

5. *What is the need for Ante-Natal work in India.*

In all countries in the world except India male death rate exceeds the female death rates. In Switzerland, Germany and Great Britain, for example, the female death rate is only 88 per cent of that of males. This is due to the fact that there the females are less exposed to the trials and dangers of life. But in many of the important provinces in India, the female death rate is invariably more than the male. For example it is double the rate of male death rate. The statistics show that from the age of ten in all age periods, the death rate amongst females in India is much higher than amongst the males. It is reported that as a result of a variety of causes such as, premature motherhood, constant conceptions, poverty. excessive work, ignorant midwifery, insanitary dwellings, want of pure air and healthy excercise, etc., maternal deaths in the city of Calcutta amount to one in every 40. as compared with the average rate of 1.2 in every thousand in England.

In the report of the Director of the Public Health in Madras, for 1921 it is stated as follows;—"A detailed study of death rates when classified according to age and sex constitution brings out some salient features. The ratio of total deaths from women to men is 100 to 102·6. The deaths among men howover is confined to the ages of 1 to 14 and 40 and over. In the period 15 to 39, the child bearing period among women, the mortality in the latter is much higher than in men, the excess being 12,504. There is no known disease to which women are peculiarly susceptible at these ages and it is only reasonable to infer that the annual recurring mortality of over 12,000 women is due to want of suitable attendance during child-birth and the lack of proper care during the Ante- and Post-Natal periods. This inference is corroborated by the fact that in Madras City where Maternity and Child-welfare institutions exist and where over 40 per cent of the births are conducted by the qualified Midwives, the mortality among women at these age periods is far less than in among other Districts."

Dr. Sen wrote some time back in the Maternity and Childwelfare Magazine that 60,000 mothers died in child-birth during 4 years in Bengal. In the report of Bombay we find that death-rate of women from 20 to 30 yields the highest death rate and evidently this may be chiefly due to maternal mortality.

In India maternal mortality is much higher than in England. As yet the statistics available are not perfect as the method of registration is defective. The maternal mortality of Bombay Presidency is estimated at 9 per thousand, that is nearly 3 times as high as in England. In 1925 in our Presidency one woman out of every 190 live births died and the towns in Sind continue to show inordinary rates. Larkana reports one maternal death in every 19 live births and Shikarpur one in every 24 and Sukkur one in every 45 live births. The Director of Public Health in Madras recently pointed out that these ratios are inaccurate owing to imperfect registration. He says "that local estimate of maternal death-rate in Madras was as high as 17.5 deaths per 1000 live births and thousands of women are therefore needlessly sacrificed year after year because skilled medical attendance is not available and because the custom is to depend on the barbarous service of the Dhai who, steeped in superstition, carries on her profession without let or hinderance and in complete disregard of simplest precautions against sepsis". In a preliminary statistical analysis of 7324 confinements in 4 cities in Madras Presidency, several interesting conclusions are drawn and those who are interested in it may read the report of Dr. Adiseshan, Asst. Dr. of P. Health, Madras, which is published in the Age of Consent Committee report 1928 to 1929. In the conclusions, he has shown

that maternal mortality is at its maximum in the earliest ages and it is highest in the first confinement. More than 60 per cent of puerperal deaths are due to septicæmia and sepsis which are preventable to a large extent. Skilled maternity was available only to about one third of these confinements. Please remember in our City of Karachi also only about one third of the confinements are attended by qualified or trained agencies.

In England the maternal mortality in child-birth has been during the past quarter of a century reduced by a quarter though it is still 3.5 or a little more per 1000 live births. I do not want to tire you by a comparison of the statistics of various places in England and India. The measures being taken in England to reduce this are :- (1) Great increase in Ante-Natal work, and (2) a great increase in research work.

Every year in India thousands of Indian mothers are being sacrificed which could be prevented if a little care is bestowed on them while they are pregnant and during their confinement. Apart from unskilled and dirty midwifery there are other causes for these huge preventable deaths. Want of proper care of the pregnant mothers which exposes them to attacks of diseases and other complications and deficiency of diet, is the most important cause for this high maternal deaths. It is evident from these facts that there is great need for Ante-Natal work in India and let us see now,

6. *If that need is being met at present.* When pioneers in this work in England and America declare that the need is not yet adequately met there, with reference to India, the answer to this question is empahtically 'No.' It is only about 8 years since any interest is taken in the Maternity and Child-welfare work in India, while England has been vigorously working at it for about 25 years. It is not more than 2 or 3 years since any attention has been bestowed in India on the question of Ante-Natal work. It was during the 1st Maternity and Child-welfare Conference met in Delhi in 1927, special and pointed attention was devoted to this subject. A study of the discussions on this conference available from the meagre reports published, show that there is only very little organised Ante-Natal work in India. Dr. Ballantyne calls Ante-Natal work as the "New Midwifery" and Dr. Munro Kerr calls it "preventive medicine as applied to Obstetrics". Dr. Balfour who has been a great worker in India says that "Ante-natal work in India is of great importance both on account of need for research into the causes of maternal and infant mortality and the need for better treatment of pregnant women at child-birth." Dr. Webble says that "five years in Maternity Hospital

at Agra with between 500 and 600 cases a year have impressed on my mind the great need for ante-natal work. Over and over again women came to us it may be in the last stage of the anæmia of preganancy or it may be after several days in labour with contracted pelvis or mal-presentation only to die in hospital. If we had some agency to find them out during pregnancy by visiting their homes, how much suffering might be saved."

The female population of India ranging from age periods 15 to 50 may be taken as those who are fit for the duties of motherhood. In the latest census reports we find that there are 58, 257, 303 females of this age period of 15 to 50. We have to deduct the widows of this period and the widows of age period 15 to 30 alone number 2, 302, 710. So roughly calculating the total number of widows between the ages of 15 to 50 as 3 millions, we have about 55 millions of women in India fit for, rather, ready for motherhood in India. The total number of births reported for 1925 is 8, 125, 408. That is, roughly speaking, about one sixth of the women in India fit for motherhood are becoming mothers every year. In the absence of correct registration of pregnancy, abortion and still births, it is impossible to find out exactly what proportion of these pregnancies terminate prematurely. Various estimates have been made. Dr. Ballantyne has calculated that 15 per cent of all conceptions or rather the total births represent only 85 per cent of the total conceptions as far as England is concerned. The available statistics in England show that to every 1000 live births 35 still births also should be added and therefore 1035 births (dead or alive) represent 100 upon 85 multiplied by 1035, that is 1218 conceptions. In other words, starting with 1218 conceptions, we only get 1000 live births and 218 fœtal lives have been sacrificed. This means that the fœtal mortality rate is 218 per 1000 live births. We have no figures in India to make a similar calculation for India. If we calculate our fœtal mortality rates on the basis of the figures of England (no doubt it must be much more here in India than in England) we find that in 1925, on the figure of 8,125,408 live births reported 218 multiplied by 8, 125, 408 divided by 1000, we get approximately the huge figure of 1, 771, 339 fœtal lives are lost in India in one year of Grace of the Lord. Along with this consider the maternal mortality, which is the danger associated with pregnancy and labour. We have no correct figures for this also. However on the rates of certain presidencies this figure is taken as 142, 194 maternal deaths for India in 1925. That means approximately India is losing about two lakhs of mothers from preventable causes, every year. It is stated even in England the figures in this point are not accurate and, if so, in India it must be much more inaccurate and

therefore this figure ought to be much higher than 2 lakhs. Let us here consider the causes for maternal death generally. Puerperal Septicæmia is one of the general causes. A reference to this cause is found in the ancient writing of Susrutha, 2nd century B. C. and Hippocrates 4th century B. C. After several years of anxious research by various eminent physicians in various countries, in 1863 Pasteur discovered the microbic origin of infectious diseases and in 1875 Lister's method of antiseptic was applied to puerperal cases and mortality fell from 300 per thousand to 2 per 1000. Notwithstanding this remarkable reduction in maternal mortality, as a result of the introduction of antiseptic and aseptic methods, it is reported that the number of deaths from pueperal septicæmia is still high in England and Wales, where since 1913 the rates are found to be stationary. (The causes of puerperal sepsis are exogenous and endogenous and exogenous causes include causes of infection from the hands and clothes of accouchers and endogenous causes may occur from the bacteria present in vagina or from an active remote focus in the patient, such as, otitismedia, or septic finger, dental caries etc.) In England under the notification of the Infectious Diseases Acts, puerperal fever is a notifiable disease. In India there is no such regulation, nor there is any kind of registration to find out how many deaths are due to this cause. Due to "dirty midwifery" against which there is no law in this country, thousands of women die of sepsis. In a country like England where midwifery is conducted only by skilled attendants, if the death rates from this cause is stationary since 1913, the position of our country in this matter may be well imagined. Neither in the latest Statistical Abstract for British India, nor in the annual report of the Public Health Commissioner with the Government of India, any figure about the deaths from this cause is given. In my professional career for the last 15 years I have had occasion to treat hundreds of cases of puerperal fever. The relations of the patient usually tell me that "the delivery was quite easy and comfortable. Our usual Dhai attended. But since 3rd day after delivery, evidently due to excessive heat, the temperature has risen. We tried all our domestic remedies and Hakim so and so today felt the pulse and said that the heat is excessive. Of course there was nothing wrong with the delivery." How muchsoever I may try to explain the cause of the fever as due to infection, the generality of the people will not accept or understand it. The confidence in the dhai and her skill is very great and the ignorance of the people is steep. A number of such cases are in the initial stage treated by the quacks who are as ignorant as the patients' people. Sometimes only when it is too late the qualified doctor is called in and if the result is fatal, the time honoured Dhai and the people will accuse even the medical science and console themselves that it was fate that took away the life of their dear one. They will never accept that this was a preventable death. In some cases the people would not allow douching, injection or any local treatment and I remember people telling me to cure by giving medicine internally to puerperal sepsis. The way the Dhais deal with the confinement and the inhuman torture they inflict on the poor woman I do not want to enumerate here. They are so heart-rending and obscene and unbearable even for description. I have seen many young, healthy and respectable young women left incapacitated for their sexual duties as wives, as a result of the inhuman treatment of the Dhais and the consequent neglect in getting expert treatment. The unhappiness of the family life of such women may be imagined. With all this the Dhai is the friend, philosopher and guide of the woman and the ignorant granny is her advocate in every family. I find from the registers we have recently introduced in the Health Association, inspite of request to the pregnant women to arrange a qualified Nurse to attend on her delivery and inspite of offering free services of the Nurse of the Association, the women insist on having the Dhais for the confinement. The Dhais have such a stronghold on the masses and therefore it is the duty of State and and Health workers to take hold of the Dhai and improve her. In one place I worked, this was tried and was found successful. I trained two batches of Dhais of 45 each batch and the Municipality encouraged them to be trained by giving them a stipend under certain conditions. I can say that though they were illiterate and ignorant, they took interest in the study and later on took a pride in calling themselves as "Trained Dhais" under English system of training as they referred to it.

A good percentage of the maternal deaths in India is due to puerperal sepsis as a result of "dirty Midwifery". His Majesty the King Emperor has asked us "if preventable why not prevent". The only way to prevent this gigantic human waste is by dispelling darkness and ignorance by intense propaganda, by giving scientific training to Dhais and affording facilities to the masses by opening ante-natal clinics and sufficient number of maternity homes and taking the advice to the homes of the people by missionary spirited workers.

The other causes of maternal deaths are as follows:—

A. Causes associated with pregnancy such as, *accidents*, namely abortion, miscarriage, ectopic gestation etc., *diseases*, namely albuminuria, eclampsia and other toxins of pregnancy.

B. Causes associated with labour are

accidents such as ante and postpartum hæmorrhage, puerperal embolism and rupture of uterus, and

diseases such as, puerperal insanity, pulmonary tuberculosis aggravated by child birth etc.

Puerperal sepsis may be prevented if the following steps are taken :—

(1) Careful and thorough ante-natal examination to detect

(*a*) abnormal presentation, (*b*) pelvic obstruction, (*c*) disproportion between size of pelvis and that of foetus, (*d*) illhealth of woman due to anaemia or any other cause.

(2) Remove all possible sources of endogenous infection, viz, pyorrhœa, pharyngeal and nasal sepsis, chronic streptococcal vaginitis, chronic constipation, appendicitis, and bacteriuria, suppuration of ears etc.

(3) Prevent access of infection from outside by observing the same aseptic precautions as for surgical operation.

(4) The Lying in room must contain as little furniture as possible and should be thoroughly clean and free from dust.

(5) The obstetrician must in addition to thorough scrubbing of hands wear sterilised gloves and a sterlised overall, as well as mask over mouth and nose. All the instruments, apparatus and dressings must be sterile.

(6) The vulva and surrounding skin must be rendered aseptic with iodine and local hair shaved. In case of suspected vaginal infection frequent daily douchings should be carried out several days before labour. Also the anal area should be shut from the vaginal area by means of sterile towel.

(7) No needless vaginal examination should be made, and any such examination should be as gentle as possible.

(8) If intra-uterine manipulations are nececessary, an iodine douche should be given.

Do not hasten delivery by stretching the cervix.

(9) Leave the uterus empty, so as to help proper contraction of uterus as well as to prevent decomposition of remains of the ovum. Also encourage sitting up in bed as soon as possible to help vaginal drainage.

(10) Avoid tissue bruising and tearing by proper ante-natal methods, and repair tear immediately if they occur.

(11) Avoid transfer of infection from Assistants to the woman.

(12) Lastly the parturient woman's condition of health must be in as good a state as possible, and any excessive bleeding whether ante, intra or post-natal must be carefully avoided as hæmorrhage lowers the woman's resistance to the infection.

In her report to the Ministry Dr. Jennet Campbell has recommended the following measures along with the above.

(1) An improvement on the quality of professional attendance, the Doctor, the Midwife and the Maternity Nurse.

(2) The provision of the Public Health Department of Ante-natal Centres, Maternity beds and domicilliary midwifery investigation of causes of death etc.

(3) Social and educational measures of expectant mothers and their husbands through propaganda derived by the local authorities.

The Maternity and Childwelfare Act was framed as a necessary corollary to the Midwives Act. Statistics and reports show that by enforcing these rules, in England they have been able to reduce the maternal mortality considerably. But inspite of the educational advancement of the people of England, better facilities afforded by the Government and voluntary agencies, the problem is still found to be a difficult one in that great country. In 1925 England had 146 Maternity institutions as follows:—Voluntary institutions 79 with 1347 beds, Municipal institutions 67 with 869, thus making a total of 2216 beds. The condition of India is entirely different. Out of the 8, 125, 408 births reported in 1925, 28, 184 normal and 10, 138 abnormal cases have been attended to in Government or aided hospitals. That is, roughly speaking, only 2 per cent of the total cases received any skilled attention. It is possible that a few more may have received some aid through private agencies. But we should not forget the fact that the proportion of registered medical practitioners in India is 1 to 45,000 people as compared to 1 to 2000 in England. From a study of the reports of the various presidencies in India, I find, that nowhere more than 25 per cent of the delivery cases receive skilled aid at confinements.

I believe you may have read last week in the press, news about the interim report of departmental committee in maternal

mortality and morbidity in England which says that though there is a general decline in the death rate and infant mortality, maternal mortality from child birth is still high and therefore the Committee advocates a united service in which hospital clinics, specialisfs, general practitioners, midwives and local authorities who are all interdependant units and maintain such cooperation, can only be brought about by administrative local authorities, approximately organised by the Ministry of Health. If the condition in England is such how much more we have to work in this line in India!

6. *How can we extend the Ante-natal work in India.* The Ante-natal work in India can be extended in two ways, viz,, (1) by removing the various causes that are responsible for a high rate of maternal mortality and foetal deaths and (2) by introducing in every area, modern and scientific facilities to help the expectant mother.

The causes that lead to high rate of maternal mortality and foetal deaths in India are chiefly the socio-religious customs and the prejudices of the masses, foremost among them being early marriage and consequent immature parentage. Spreading of education and intense propaganda and proper legislation are the only sure methods to improve the situation. Free compulsory primary education and the introduction of the teaching of elementary science, especially simple childwelfare and mothercraft to the girls in the school curriculum will help a good deal to dispel the darkness and the ignorance of the masses. The harmful effects of town life and industrial centres are other well known causes for this high mortality. Dampness, dirt, overcrowding within, and insanitation without, and all that the term "slum living" indicates, are special features of the town and cities. The percentage of death in urban area is much higher than that of the rural areas. Therefore special attention is necessary for the urban areas. Overcrowding is on the increase in all cities and our city is no exception to it. In the register for expectant mothers which the Health Association has opened recently, I find that it is noted that 8 to 10 people live in very small rooms and the remark "overcrowded and insanitary etc." are generally found against many houses. In Liverpool, in a certain insanitary area, the old houses were pulled down and 300 new houses were built on modern plan and as a result of it it is reported that previous to the demolition, general death rate and infant mortality were 40 and 300 per thousand respectively, in the modern condition in the same area, the rates changed to 28 and 167 respectively. Peabody found in London has altered-conditions of people by a scheme of new housing system, and 22000 people housed under that scheme with weekly average

earnings of 22 sh 3 d for the head of the family, the death rate is only 10.4 compared to 14.3 for the whole of London. Therefore it is evident that the improvement of our slum areas is an absolute necessity. My work takes me almost daily to the dirtiest slums of this city and every day, seeing the condition both inside and outside of those areas, my heart goes in pity to the people and I therefore earnestly appeal to the City Fathers to provide model and cheap houses to the poor and working classes. The extensions do good only to the favoured few. In Bangalore Cantonment, where I worked last, the Municipality has provided decent cheap and self contained cottages to the poor at a cheap rate of Rs 3 to 10 according to the need and capacity of the people. In a quarter like the Lyari, for instance, there is great necessity for such cheap and model dwelling houses and it is the duty of the Municipality and the philanthropist to provide them. A scheme for demolishing the insanitary dwellings and building new houses on modern lines in such areas with plenty of ventilation and other sanitary for conveniences and reserving of suitable sites, parks and play grounds is a matter of great importance to the health of the mothers and the children.

The grinding poverty of the masses and their ignorance is at the root of the evil and is now well recognized by all authorities. Poverty, ignorance and insanitation, disease, death and dirt are terms interrelated closely and it is difficult to deal with each one of them in strict isolation. A perusal of the reports of all the Health Officers of the Indian cities will convince this fact easily. Many and varied are the causes of maternal mortality, but poverty and ignorance at the root of them all; and if under poverty, we include not only primary poverty, namely ignorance, insanitation, overcrowding, intemperance, the need of expectant mothers to toil till late in pregnancy, lack of adequate ante-natal, and post-natal aid, improper or defective feeding, neglect, exposure, and the many other evils which both mother and child may be subjected to, if under poverty we include all these, then, it is not too much to say that poverty with all its complications and sequels is responsible for the three-fourths of the deaths of mothers and infants. To combat with this evil, a properly organised scheme for ante-natal work is an urgent necessity in every corner of India especially the cities. I shall just give a skeleton scheme.

(*a*) *Teaching in schools.*— (1) dangers of alcoholism, syphilis, tuberculosis etc, (2) simple childwelfare and mothercraft and fathercraft.

(*b*) *Antenatal clinics.*—which may with advantage be attached to all Infant welfare centres and the programme to

include (1) supervision of pregnancy up to maternity, (2) early recognition and rectification of faulty presentations, (3) recognition of the causes of difficult labour and the timely adoption of preventive measures, (4) the recognition and treatment of any abnormal condition which may disturb pregnancy, (5) discovery of certain diseases, namely, syphilis, etc. and arrangement for the treatment of the same. (6) discovery of the tuberculosis and the preservation of the body from infection, (7) adoption of all measures likely to favour the confinement of the mother and rearing of the child, (8) such measures as examination of the urine for albumin, measuring blood-pressure, testing the blood for Wassermann reaction, and if possible radiography and the adoption of any other prophylactic method according to the necessity of each case.

(*c*) *A maternity home* not only for the confinement but also for the treatment of pregnant mothers during any period of gestation.

(*d*) *anti-syphilitic and anti—tubercular dispensaries,*

(*e*) *consultants for special diseases such as heart etc.*

To carry out the above scheme in all its details would be ideal, but something on these lines adopted suitable to the local requirements of each place if organised will extend the ante-natal work to some satisfaction. Government, local bodies and voluntary agencies should take up the question. In Madras Presidency this scheme is worked up to some satisfaction. The latest move of the Local-Self Government Ministry is to appoint a Lady Doctor as Asst. Director of public health in charge of Maternity and Childwelfare organization. I trust that the other Presidencies will follow suit.

If our expectant mothers will not go to the clinics, maternity Homes and centres, the institutions must be taken to them and when ignorance is removed and when they find they get benefit from this institution, they will voluntarily come afterwards. I am convinced of this from my experience in this work for some years now. Recently Miss Piggot of Hyderabad sent me some of her reports and I find that she is doing a good deal in this line and the experiences of others elsewhere give encouraging reports. A worker in this cause should do it with a real missionary zeal, if I may use that expression, and she should win the confidence of the people. The work was a failure in some places as the workers behaved like officials and ladies of superior colour or social posi-

tion. Unless a spirit of social service and love for the work itself guide the worker, good results cannot be achieved.

The medical practitioners have a duty to perform in this matter. The study of each individual patient and the adoption of the method of delivery best suited to her needs will do much to improve the results. So long as general practitioners are not interested in obstetrics, specialists worthy of the name cannot widen their views and improve their technique, and until midwives are well taught and all Dhais are registered, the results will never be satisfactory and mother and children will be sacrificed unnecessarily.

8. *What can we hope from the extension of the Ante-natal work.*—The care of an expectant mother has a two-fold object, viz, (1) to protect the woman herself against any of the accidents that may be associated with pregnancy, labour and puerperium, (2) to preserve the life and welfare of the child before and during birth and to ensure as far as possible that it will be born strong enough to withstand the rigours of its new surroundings during the most critical period of its early post-natal and neo-natal life. It is a truism that if we want bonny babies we must begin with its grandmother; that means you have to prepare the soil for the seed. In England and other countries where the problem has been successfully tackled, the chief measures introduced were to improve the health of the poor expectant mother, by bettering her sanitary surroundings, giving her expert advice in matters of domestic and personal hygiene and her preparation for confinement period, placing skilled medical help at her disposal during and after childbirth and providing for better nourishment both for her and her baby. The H. O. of Calcutta recently remarked in his annual report as follows:—

"When the expectant mother is not only underfed, but is also subjected to the strain of pregnancy and lactation at short intervals, and constantly exposed to insanitary surroundings as a purdanashin, puny, sickly babies, who only survive a few days are the inevitable result". This observation applies more or less to all the cities in India. The well being of a nation is shown by the steady increase in its birth rate and growth of healthy and sturdy citizens. The only way to obtain this is to conserve life at its source, by looking after the mothers and improving the conditions under which the child-birth takes place. India must realise the need for conserving the child-life and improving the maternity conditions and then only the future will be safe. Even educated Indians show a good deal of ignorance in this matter. Some are highly superstitious and are guided by the illiterate grand mothers in these matters. A district medical officer of the

Madras Presidency told me the other day that when he was camping in some part of the Ganjam District, one day an educated gazetted officer called on him and told him that his wife was in labour pains and as that was a very bad and inauspicious day, he wanted the doctor to give some medicine and stop the delivery that day. The doctor said that his science has taught him only to help a delivery soon if necessary and not to stop it, and humourously added to apply to the nearest Judicial officer for an injunction to stop the coming out of the new comer as the day was unsuitable. This is just to illustrate the intense superstition we have in our country. Even those who know the principles, fail to apply them in practice. Many are indifferent and show a lack of public spirit in these matters. The opposition of the womenfolk, whose voice is supreme in the management of such matters, to any reform, which touches time-honoured customs, habits and practice, however dangerous their effects may be, is a source of discouragement to few who are ardent reformers. Therefore a great deal of spade work is necessary to educate the masses and create a strong public opinion on matters of modern hygiene and sanitation. It is the duty of the State, statesman and philanthropist to see that India produces healthy mothers who give birth to healthy children.

One great danger in India is the venereal disease. In Bombay City alone 9000 children die annually within first year of life and out of these 3000 die of congenital debility and it is believed that syphilis is the cause for it. There is another terrible fact for consideration, namely the great number of miscarriages and abortion and it is calcualted that 60 per cent of miscarriages and abortions are due to syphilis. Bombay reports 2000 still births and 20 per cent of them is believed to be due to syphilis. The toll of infant life that pays to the early ravages of syphilis is but a fraction of the total number of innocent childern, who taunted with germs of syphilis grow up to miserable adolescence smitten with the blasting effects of the terrible scourage of humanity. It is reported that 30 per cent of blind, 25 per cent of deaf, and 50 per cent of mentally deficient children are the living results of venereal diseases. In 1001 pregnancies in 150 families where syphilis existed there were 172 miscarriages and still births, 224 infant deaths and out of 600 live children 390 were diseased. In a hospital it wes observed out of every five children brought for treatment 1 was congenital syphilitic. The condition relating to Bombay may be more or less the same in other big cities of India. Just imagine how many lives could be saved and how much happier the life of many a family be made if our expectant mothers resort to the Ante-natal clinics. The economic efficiency and labour is affected considerably in addition to the heavy toll of life.

sterility, miscarriages, stillbirths, infant mortality—what are these but a total loss of workers to the State, and so the loss is both potential and economic. Dr. Whitridge Williams has said that "syphilis caused more fœtal deaths than pregnancy toxemia and almost as many as those due to complictions of labour". The innocent victims of this foul disease costs much to the state and nation. The cost of the education of a deaf child is 10 times and a blind child is 7 times as that of a normal child.

Conclusion.—Dr. Robert Johnston has said that "Ante-natal work is the intelligence department in the welfare against maternal mortality. The intelligence department of any army cannot avert fighting, but it can, according to its efficiency, give the army enormous assistance and enable it to fight under most favourable circumstances and conditions. Ante-natal clinics should be established in every part of the City to help every expectant mother and for those who may not come to the Clinics due to health or social custom, arrangements may be made to take the Clinics to their homes. No expectant mother should be left without being seen or treated. Local bodies and voluntary bodies should take up the work in all earnestness and in addition to starting the Clinics, an intense propaganda must be started. In Canada one society registers the address of every pregnant mother and sends her a letter every month about her diet and care of pregnancy till she is confined. Recently I have sent a letter to the pregnant mother of this city to be published in the local press and I wish they will kindly publish it and the educated people will read it for their women folk. A regular propaganda by magic lantern lectures and circulation of literature and study circles or classes in different parts of the City should be organised. Registration of pregnancy must be made compulsory by the municipality and special legislation to protect and assist the working class expectant mothers should be passed. There is ample scope for work for the Government, the local bodies, philanthropists and private medical practitioners in this line.

If Mother India were to take her legitimate place in the polity of nations, the mothers and children of India should be healthy and happy. Will the sons and daughters of India rise up equal to the occasion and do his or her part in this great educative and practical work? A day neglected means, hundreds of innocent lives of mothers and children lost for ever and Mother India becomes poorer and kept lagging behind her legitimate place in the race of Nations. May she take her place soon and be growing proud of her healthy mothers and healthy and happy children on whose feet the Nations of the world march.

PETROLEUM IN THE DESTRUCTION OF INSECT CARRIERS OF DISEASE.*

BY

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Whilst a Medical Officer in the Egyptian Quarantine Service I was associated with Dr. E. J. Ross in 1906, in Port Said, in an extension of the initial campaign for the extermination of mosquitoes at Ismailia in 1903, suggested by his better known elder brother, Sir Ronald Ross.

How successful the campaign at Ismailia was carried out under the supervision and personal direction of Dr. Pressat of the Suez Canal Co., is shown by the fact that whereas in 1902 there were 1990 cases of Malaria at Ismailia, the incidence fell to 37 in 1905, and in 1906 there was not a single case of Malaria at Ismailia, whereas a matter of actual fact, Dr. E. J. Ross in that year was unable to obtain for examination of a single specimen of Anopheles.

As far as Port Said was concerned after public interest had been aroused by popular lectures and articles in the Egyptian Gazette, and financial assistance was obtained to the extent of £600 from the Suez Canal Co., and the Government, a careful survey by a house to house inspection located the breeding places of mosquitoes.

After a short time, to the many interesting sights at Port Said, was added the procession of a native sanitary gang with their donkey cart and petoleum barrel. Every house was visited once a week, and down the W.C. there was poured petroleum sufficient in quantity to spread over the fosse, stagnant pools were drained, wet cellars filled in with sand and refuse regularly removed.

Within a few months even the most sceptical were convinced. The only people dissatisfied were a few drapers who no longer had any sale for mosquito netting.

Dr. Andrew Balfour was equally successful at Khartoum, where, as in Port Said, it was found that crude petroleum was more efficacious and cheaper than refined, as it formed a denser film, and one which lasted longer. In the case of wells with an average surface area of 12 to 13 square feet, one pint of crude petroleum per well secured a reliable film killing all larvae and pupae in from four to six hours. The water was not disturbed however for forty-eight hours, as it was shown that although mosquito eggs may be laid on oiled waters, they will not undergo further development. Later all unused wells were closed, and wherever possible, covers were fixed on those in use, and pumps introduced.

*Paper read at the Australian Medical Congress in 1929 and specially sent to the Antiseptic for publication.

Whilst on duty in the Suez Canal in 1906, I met the Medical officers accompanying the flotilla taking out the American Floating Dock to the Philippines, and with them, as well as their colleagues, attached to the American Fleet during its visit to Auckland in 1908, discussed the procedure as to Mosquito Extermination in Panama as contrasted with the Egyptian methods.

In America the crusade against Mosquitoes is summed up thus-"A slap at the mosquito for the moment, kerosene for the week, ditching for a season, but reclamation for all time."

Visits to Freetown, Sierra Leone, in 1918, to Kuala Lumpur in 1920, and to Sandakan in British North Borneo in 1923, demonstrated the greater difficulties of the problem of mosquito extermination, where the rainfall is greater and more distributed throughout the year than in Egypt and the Sudan.

The adoption of the excellently designed houses with well overhanging roofs and no rain water spouting, built on the Panama Canal, if electric fans could be introduced to counteract the stagnation of air from enclosure in mosquito proof wire, would at least protect the white residents.

On visiting Manila in 1923, on enquiry, I found that practically the only innovation in dealing with the mosquito pest was the use on stagnant water of bags of saw dust saturated with petroleum. The bags placed in the standing water, release slowly and continuously the oil from the sawdust, keeping the surface of the water always covered with oil, thus giving the larvae no chance to breathe, and consequently they speedily die.

At Rabaul in the Mandatory Territory, formerly German New Guinea, which I visited X'mas 1927, I found that Drs. Carlove and Brennan (the latter having now succeeded Dr. Cilento, as Principal Medical Officer), having located the areas where different varieties of mosquitoes bred, were able to keep down Malaria, although one found at Madong there were occasional cases, some of a malignant type.

On arriving at Brisbane on 9th January this year *en route* to Singapore I found that, in spite of the measures which had been carried out for the reduction of mosquitoes against the Culex Fati-

gans, or as it is now known, Quinquefasciatus (five spot), whose favourite habitat is the waste sardine tin or jam tin, or other discarded receptacle or tank, or dilapidated spouting; and the Aedes Argenteus, formerly known as Stegomya Fasciata, (the carrier of Dengue Fever, which infects the people of Brisbane, and down as far south as Gosford, south of Newcastle on the Hunter River, in New South Wales), the City had been invaded by myriads of Culex Vigilax, the habitant of marine mangrove swamps and foreshores. Although this species is not known to carry any actual disease, it is a source of serious annoyance, and can only be got rid of by extensive reclamation, getting rid of all rock pools and by the use of mosquito eating fish.

On arrival at Singapore, I proceeded by sea to Port Swettenham, where Sir Malcolm Watson was so successful in overcoming the mosquito menace and reducing Malaria. It was interesting to note the work which had been done by making a bund, reclaiming swamps, subsoil draining and regular oiling.

I also passed through Kuala Lumpur, where the large rubber estate owners had combined for Sir Malcolm Watson's Crusade in successfully reducing Malaria. It was at Kuala Lumpur, which I had visited nine years previously, where I noted the enormous improvements which had been made and the obvious success which had attended the subsoil draining of all ravines, reclamation and constant weekly oiling.

At Singapore I met Dr. P. S. Huntur, Health Officer for the Municipal Commission, who has made a reputation not only as a Hygienist but in engineering circles for reclamation and drainage. He has been remarkably successful in practically stamping out malaria right throughout Gunong Pulai Water Works, South Johore, and has shown how by draining it was possible to reclaim large areas of ground. There is a reasonable prospect of his attaining his objective, the complete extermination of mosquitoes in Port Said.

I am indebted to Dr. Hunter not only for much useful information but for a series of fifty-five lantern slides, which he specially prepared for the B.M. Aust, Medical Congress.

Remembering my regret on returning to Egypt with the A.I.F. at the end of 1914, at finding a few mosquitoes in the town, as after Dr. Ross left evidently the same enthusiastic crusade had not been maintained against mosquitoes as obtained up to 1909, I could only re-echo Dr. Hunter's extract from Sir Malcolm Watson's report on Gunong, submitted to the Singapore Commissioners :—

> "It must never be forgotten that when the mosquito malaria chain is broken, results are brilliant, almost beyond belief the mosquito and the parasite are ever vigilant and neglect of precaution is promptly punished"

Dr. Hunter adds :

> "It must not be imagined that though this work is complete, much of it in a permanent manner, we can afford to relax our efforts. Little break-downs and defects are bound to appear from time to time and a constant lookout for them must be kept, and when found they must not be treated lightly, so that it is essential that the control should remain in expert hands."

At Tanjong Priok in Batavia, one found that following the Anti-mosquito Campaign, the incidence of Malaria had been reduced from 200 per 1000 as it was on the occasion of my previous visit in 1919, to 22 per 1000 in 1928.

The Director of Anti-Mosquito Campaign at Veltrevreden at considerable inconvenience sent me to the M.S. Malabar, a consignment of special mosquito larvae eating fish, which breed in both brackish and fresh waters. Unfortunately a Chinese Steward thought the tub in which I placed the fish the next morning, had been placed in my cabin for ablution purposes, and threw out the contents.

Dr. Mackerras of the Commonwealth Entomological staff who visited Java during the recent Pan Pacific Congress, will probably bring a fresh consignment of fish back with him.

At Darwin we found that ltttle had been done to reduce the mosquito nuisance. As a matter of fact during a concert by the Consalez Italian Opera Company, the polyglot audience was considerably inconvenienced by mosquitoes, probably with the exception of myself, who was protected, at least up to the ankles, by mosquito boots, which I would recommend everyone to wear in the East wherever mosquitoes abound, and which I found more effective than the practice at Sourabaya, where a host and his family use newspapers sprinkled with kerosene.

As far as Sydney is concerned, we are endeavouring to arouse the sanitary conscience of the people to the need for reducing domestic mosquitoes. We have had our Clean-up weeks in season and out of season preached the fact that domestic mosquitoes like chickens come home to roost, and that like most of our sins are of own making.

The presence of mosquitoes about houses is usually due to the sin of omission, to not changing water in flower vases, not screening tanks, not removing waste tins, not repairing spouting, and seeing that there is no opportunity for water to collect, which breedeth the pestilence which stalkest by night.

The modern idea is of course to know your enemy—the variety of mosquito with which we have to deal.

In Sydney we have some amateur aquarium enthusiasts.

Mr. Royce who presented the Lord Mayor in 1926 with some Gambusia Levis, mosquito larvae eating fish, which were placed in Kippax Lake.

Later Mr. Vogwell, Chief Health Inspector of the City Council, who after his tour to America and Europe, brought a further consignment from Italy. These have been reared in the Botanic Gardens by Dr. Darnell Smith, and consignments have been distributed to various parts of New South Wales, and as far afield as New Zealand.

On returning from Malaya, I obtained some Barbados Top Feeding Minnows from Dr. Hamlyn Harris, Entomologist for Greater Brisbane, who has done fine work in that City.

As the result of much agitation by the Town Planning Association and other organisations in Sydney, there is a big scheme now to reclaim the mangrove swamps, mud flats and foreshores of the Parramatta River, Cooks River and other breeding places for mosquitoes, in the Metropolitan Area.

FLEAS.

It has been recognised for some years that the chief objective in the attack against Plague should be the elimination of the agents of dissemination, rats and rat-fleas.

Experience has shown that even in San Francisco and Sydney where wholesale destruction of rats has been carried out, in the case of the latter as far as the city proper is concerned, for the last twenty-nine years, how difficult, and as a matter of fact up to the present, impossible it has been to exterminate rodents, owing to their prolific breeding.

It is not practicable in a large city to attempt the interesting biological experiments exterminating rats by the Rodier system of sexual repression, 'killing the does and releasing the bucks' until the latter exterminate the remnants of their species.

In the last Sydney outbreak, 1922-1923, there were 35 cases with 8 deaths during seven months previous to the middle of June, 1923, in the Metropolitan Area of Sydney, with a population at that time of 1,046,980 in contrast to the first outbreak in the first eight months in 1900, when in practically the same area, with a population of 461,335, there were 303 cases, with 103 deaths.

The most striking change in procedure in dealing with the last outbreak was that whereas in 1900 strong disinfectants such as 1 in 500 acid Corrosive Sublimate and a 2 per cent solution of Formic-Aldehyde were freely used as also was the routine practice in Port Said in 1905-1907, practically no disinfection was carried out in the last Sydney outbreak. Instead all premises with infected rats were fumigated with Hydrocyanic Acid gas. We also had considerable success in ridding premises of fleas by using an emulsion of kerosene 82 parts, liquld soap 15 parts, and water 3 parts (1 in 20, an ounce to the pint).

In this regard, my advocacy in 1906 in Port Said, and at the Hedjaz Pilgrimage Quarantine Camp at El Tor, Sinai Peninsula, of the use of crude petroleum as an insecticide, suggested by reading extract in "Le Matin", a French Journal, which awarded a prize to the man who suggested La Schiste (crude petroleum), as an insecticide, was supplemented by actual experience in Auckland, New Zealand in 1908 in limiting an outbreak of Plague to two cases, both unfortunately fatal—2 girls employed on different floors at different occupations in the same building in the chief street of he city.

I was of the opinion that the swabbing of the whole of the floors and other woodwork of this building with six 3½—gallon tins of kerosene in addition to the deratinfestation of premises curtailed what otherwise promised to be a serious outbreak. There was not another case of Plague in Auckland for six years.

In 1914 in the Summary on Plague Prevention issued by the United States Public Health Service, it is stated that whilst Formalin, Phenol, Mercuric Chloride and Trikresol in the strengths used as disinfectants were of little use in killing fleas, kerosene and miscible oil were extremely efficient as flea destroyers.

Preparations of kerosene emulsion were freely used in Brisbane and Sydney during the last Plague outbreak, in theatres, public halls, trains, trams, shops and private houses.

The infestation of a portion of the Sydney Town Hall with Pigeon Lice afforded an opportunity of dramatically demonstrating the efficiency of the emulsion as an insecticide.

The use of Benzine, Petrol and other hydrocarbons, although excellent flea destroyers was not encouraged owing to their inflammability.

In the British Medical Journal for November 19th, 1921, in an article on wood tar oils for the destruction of lice, the late A. Bacot of the Lister Institute, whose death from Typhus wt experimenting with infected lice was another sacrifice in the interests of Science, stated that the objectionable odour of paraffin

can be covered by the addition of a small quantity of an essential oil or other scent such as oil or mirbane (nitro benzol) camphor.

Locally, oil of Eucalyptus and Sassafras, especially the latter, has been effective in this regard, whilst the addition of a disinfectant of the phenol series, when freshly prepared has given the emulsion more efficacy as a germicide and has certainly had the effect of reassuring the public that the solution was something more than kerosene, soap and water. I have long believed that any benefit which accrued from the old fashioned method of fumigating with sulphur must have been due to the value of sulphur Dioxide as an insecticide.

Most modern sanitarians recognise that disinfection of premises as usually carried out even with formalin, is useless, except in so far as the mess made entails the premises afterwards being cleaned, and the psychological effect on people in lessening the fear of infection. Recently I have considered the advisability of introducing instead of disinfection, vacuum dust extraction cleansing into houses from which infectious cases have been removed. We have been delayed, however, in the City by the fact that not all houses are provided with electric light or power, and we are waiting for the equipment of a small motor outfit.

It may be, however, as suggested by the Journal of Tropical Medicine and Hygiene, December 1909, "that those in charge of Municipal Sanitation are open to severe criticism if not condemnation, who neglect the general use of kerosene emulsion or a good pulicide if possible in association with a germicide in combating a Plague outbreak". It has been pointed out that kerosene emulsion with its strong pulicidal properties, although effective against the pest of the virus, being a weak bactericide, is not effective against the virus itself, or in other words that it will kill the flea but not the bacillus pestis.

Thus DR. W. HOSSACK, Plague Officer, Calcutta, claimed:

"There are many modes of Plague infection, but the rat flea even in a state of starvation rarely attacks man."

Dr. F. E. TAYLOR (Journal of Tropical Medicine and Hygiene, February 15th, 1909) stated that the harmlessness of the excreta of Plague-infected men and animals has not been completely established. In this regard it is interesting to note that as recently as 1918 on the Western Front it was found that French Fever was spread by the excreta of lice. P. U. O. Pyrexia of uncertain (not unknown) origin probably also often emanated from this source.

It has been shown that the excreta of plague infected animals does contain plague bacilli. However, as pointed out in the

Journal of Tropical Medicine, December 1st, 1908 "Natural disinfection is accomplished either by exposure of the plague bacilli to desiccation, or, in moist conditions is brought about by saprophytic bacteria which are inimical to the existence of plague bacilli."

In places not reached by direct sunlight one sees, therefore, undoubted possibilities for a preparation which would combine both the virtues of an insecticide and a germicide.

In this regard, whilst in Tasmania, in 1911, after repeating experiments with a preparation containing petrol with a good phenol disinfectant, I suggested that a strong insecticide with kerosene as a base might be useful in combating the Blow Fly in Sheep. Unfortunately it is difficult to retain the the repellent effect of the kerosene fumes for more than twelve hours after application.

In 1925, Mr. Penfold at the Sydney Technical College obtained a residue from the fractional distillation of Eucalyptus Oil which Mr. R. Grant of the Microbiological Laboratory of the New South Wales Department of Public Health has shown to have a disinfecting coefficient of 22.5 which suggests a possible combination with kerosene emulsion as an insecticide and germicide.

During the Great War, after giving a demonstration at Mex, Alexandria, and after many interviews with Col. Sexton, A.D.M.S. Mediterranean Expeditionary Force, and with the late Lieut. General Baptie V.C., the P.D.M.S., one was successful in securing an issue of 2 gallons of crude petroleum per 6500 men per day in all camps in Egypt for the swabbing inside and outside of nightsoil buckets, thus mitigating the fly nuisance in latrines.

Although at the B.M.A. Congress at Napier, New Zealand in 1909, an elder brother described my voice as the "Apostle of Petroleum for Pediculi (lice) crying in the wilderness," one cannot claim any originality with regard thereto, but merely to have been a pioneer in recent years in the advocacy of its use as an insecticide.

As a matter of fact its use in this respect was known to the ancients. Thus Lucian of Samosata, a contemporary of Trajan wrote in 75 B.C. in his encomium of the Fly: "The fly is in man's company as long as it lives and takes the freedom to taste of all his food, oil only excepted, which is poisonous to him". The old engravers in England also made a practice of smearing the gilt frames of their pictures with oil as a fly deterrent.

An interesting fact that I came across in Egypt whilst in the Quarantine Service, carrying on propaganda for the extermination

of mosquitoes, was that Dr. Clot Bey, the founder of the Medical School, Cairo, in the forties of last century, recorded the fact that there never was a case of Plague in an oil store in Alexandria

The explanation hitherto of the wonderful and almost instantaneous effect of the slightest film of kerosene applied to an insect is the closing of the stomata or breathing spaces in the skin to the escape of the vitiated air, and the closing of the breathing tubes to respiration. If one watches a fly, one notices its habit of rubbing its legs together and with them its wings, apparently with an exaggerated sense of the importance of cleanliness. These movements are connected with the fact that the fly does not breathe through its mouth but through stomata or holes in the sides of its body. These holes are the entrances to tubes, conveying the air through the body to the blood, which does not circulate as is the case with us. These tubes are something like India rubber pipes, so soft and pliable that they would easily close and the fly be suffocated, were it not for the fact that they are, so to speak, reinforced with rings of a horny substance which prevent them from being accidentally closed. At intervals along the tube are valves similar to those in our veins, which permit the air to pass forward, but prevent its return, and so under constant pressure by a wonderful provision at the entrance to each tube of a pumping chamber the air is drawn in from the outside and forced into the tube and thence to smaller tubes ramifying through the body. Surrounding the air tubes are the blood vessels, the walls of both being very thin, the air escapes through them into the blood and being pumped, it escapes though the insect's skin.

It can now be understood why a fly is so particular as to its cleanliness sometimes at our expense. It has to be clean and to remove at once foreign matter from its body or these breathing holes become clogged and it dies.

Professor Shoda Toza, Director of Municipal Hygiene, Tokyo, after an address by myself at the Pan Pacific Congress at Sydney University in 1924 showed that the old dictum of Samosata, that oil was poisonous to flies was true at least as far as kerosene was concerned. Experiments in Japan demonstrated that the fumes did not act mechanically but as a direct poison.

Professor NUTALL of Cambridge, had previously pointed out to me that experiments of mine in Egypt in killing lice with kerosene really had not been effective as lice often showed "sham death", and had I examined the specimens some hours later, I would have found that some had survived.

SEVERAL TESTS FOR DETECTING FOREIGN SUBSTANCES IN THE URINE*

BY

DR. EDWARD PODOLSKY, M.D.

Brooklyn, New York

Within the last several years various independent investigators have devised tests which have proved of great value in the detection of foreign substances in the urine. These tests are not so well as they deserve to be, and also because of the fact that they have not been conveniently grouped for ready reference of the analyst, I have got the most useful of them together.

Aceto-aceitic-acid in the urine: I gm. paramidoacetophenome, 2. gm. conc, HCL, and a hundred mills of water; i gm. sodium nitrite in 100 mils of water. For use mix 2 volumes of the first solution with one volume of the second. Mix the urine with an equal amount of the reagent solution, add ammonia. If acetoacetic acid is present a brownish red color or precipitate forms, which on adding an excess of conc. HCL changes to purple-violet.

Albumin in the urine: (I) Heat 15 mils of urine to boiling and add 5 mils of nitric acid—a turbidity indicates the presence of albumin.

(2) Acidulate the urine with HCL and an equal volume of mercury succinimde solution— a turbidity or precipitate develops if albumin is present. Sensitivity 1:150000.

(3) The reagent used in this case is 20% solution of aseptol (o-phenolsulphonic acid). On floating urine on the reagent solution, albumin gives a white ring.

Albumoses in the urine: (1) To 10 mils of acidulated urine, add 5 % phosphotungstic acid solution until a precipitate no longer forms. Collect the precipitate, wash it with absolute alcohol, dissolve it in sodium hydroxide solution and add a little cupric sulphate solution—if albumoses are present the mixture acquires a characteristic rose-red color.

(2) The albumoses are separated by boiling the urine with ammonium sulphate, and then identified by the biuret reaction.

Alcohol in the urine: Add to some urine drop by drop a solu- of I gm. potassium dichromate in 300 gm. conc. H_2SO_4—if alcohol is present a green color develops.

Bile in the urine: A 20% solution of aseptol is used. On floating urine on the reagent solution, bile pigments afford a green ring.

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* Specially contributed to the Antiseptic.

(2) On acidulating a clear filtered urine with HCL and then adding ferric chloride a green color develops if bile constituents are present. Should a blue color develop, due to the presence of indican, the indican may be shaken out with chloroform ; the green color is then distinct.

(3) The reaction is based on the formation of an orange colored rosaniline bilirubinate on mixing icteric urine with a few drops of aqueous I : 200 fuchsine solution.

Blood in the urine: (I) Decolorize a solution of 2 gm. phenolphthalein and 20 gm. sodium hydroxide in 200 mills of water by boiling with 10 gm. zinc dust. Mix I mil of the reagent with 2 mils of urine and add 4 mils drops of 3% hydrogen peroxide—if blood is present a fuchsine red coloration soon develops. Limit of sensitivity I : 100000.

(2) Shake equal volumes of tincture of guaiac and turpentine oil until an emulsion forms and then allow urine to run in carefully. If blood is present the resin precipitating from the guaiac tincture will be colored intensely blue.

(3) To 5 mils of urine add 3 drops of 30 % acetic acid, let it stand two minutes, then add 2 drops of saturated alcoholic solution of guaiac resin, shake, and add 0. 5 gm. of sodium perborate, followed immediately by 3 mils of 80 % aceticacid; now carefully overlay with 2-3 mils of alcohol and add 1-2 drops of pyridine in positive reactions a blue color develops, first in the neighberhood of the pyridine.

Carbaminic acid in the urine: (I) The reaction is based on the conversion of the acid into its calcium salt, the clear, aqueous solution of which on standing becomes turbid with separation of calcium corbonate, and which on boiling evolves ammonia.

Glucose in the urine : (I) Heat 8 mils of urine to boiling, add 5 mils of cupric sulphate solution (69. 28 gm. per liter), and when cool add 2 mils slightly acid sodium acetate solution. Filter, add two mils conc. solution of Rochelle salts and heat to boiling. If glucose is present cuprous oxide is precipitated (red). Limit of sensitivity 0.2%.

(2) Dissolve 500 gm. of potassium carbonate, 400 gm. potassium sulphocyanate, and 100 mils of water, add a solution of 25 gm. copper sulphate crystals in 150 mils of water, and make up to two liters. Make a second solution of 6.55 gm. hydroxylamine sulphate and 200 gm. potassium sulphocyante in water to make two liters. These solutions are so adjusted that I mil of the first solution will decolorize I mil of the second, employed in quantitative determinations.

Indican in the urine: The reagent is an aqueous 1:2000 solution of $NaNo_2$. On adding three drops of the reagent and 5 mils conc. HCL to 5 mils of the urine, the mixture becomes blue if indican is present. The color passes over into chloroform on gently shaking with the latter.

Lead in the urine; To 150 mils of urine add I gm. of ammonium oxalate, and when dissolved, place in the solution a piece of magnesium foil. After 24 hours test the deposit on the metal with a fragment of iodine (lead iodide forms). Limit of sensitivity 1:500000.

Melanin in the urine: Acidulate 100 mils of urine with acetic acid, add lead acetate solution, collect the precipitate on a filter and wash it with diluted acetic acid solution, then suspend it in water and pass hydrogen sulphide to preceipitate the lead; now filter and blow air through the liquid to remove the excess hydrogen sulphide. To 2 mils of the solution so obtained add 1 drop of ferric chloride solution, 2 mils glacial acetic acid, and 2 Mils. H_2SO_4 If melanin is present a violet coloration develops, and the solution shows an absorption spectrum at the line D.

Mercury in the urine: (I) Add to urine 8 to 10% HCL, then immerse in the liquid a piece of copper or barss wire, and heat gently for 1 ½ hours. If mercury is present it deposits on the wire as a whitish to gray metallic coating.

(2) Dissolve 0.8 gm. egg albumin in fine powder in 250-1000 mils of the urine, and to 500 mils of the solution add 5-7 mils of 30 % acetic acid, heat 15 minutes in a boiling water bath, and filter. Shake the resulting precipitate with 10 mils of HCL (sp. gr. I.19), immerse in the liquid a 2 gm. long spiral made from thin polished copper wire, and allow it to stand in an Erlenmeyer flask for 45 minutes in the boiling water bath. Then wash the spiral with water, alcohol, and ether, place it in a glass tube, add a little iodine and heat—if mercury is present a red ring of mercuric iodide forms.

Phenol in the urine: An orange-yellow to red color develops on adding paradiazobenzenesulphonic acid to urine distillate.

INSULIN AND DIABETES*

BY

U. VENKATA RAO, '*Sudarsana*' *Madras*.

Diabetes mellitus is a pathological condition in which the body is unable to utilize normally the carbohydrate element of its dietary and as a result sugar appears in the blood and is excreted in the urine. It is reasonably believed that some intimate connection exists between this condition and the pancreas as it has

* Specially contributed to the Antiseptic.

been experimentally proved that on the total removal of pancreas in animals the body loses control, so to speak, of its sugar, and the percentage in the blood and tissues increases until the whole body is flooded with sugar.....when the blood sugar reaches about 0·18 per cent. sugar begins to overflow into the urine. (Francis H. Carr). "Further experimentation made it appear at least highly probable that the symptoms thus produced were due to the withdrawal of an internal section which in normal individuals is manufactured in the pancreas, is poured thence directly into the blood-stream, and in some way enables the body to metabolize carbohydrate food stuffs. In addition it appeared that this important secretion is elaborated, not in the cells of the general pancreatic tissue, but in certain patches or groups of specialized cells which occur in the substance of the pancreas and are called by the name of the islets or islands of Langerhans." So Diabetes mellitus arises from degenerative changes in the islets of hangerhans with a deficiency or suppression of the internal secretion produced by these islets. Thus it became plain that if the active principle of the pancreatic internal secretion could be made it might be of utmost value in treating Diabetes mellitus. After many attempts "Insulin" was discovered in 1922 by Dr. Banting and Best, in the University of Toronto, Canada. The active principle or hormone, is secreted by the islets of hangerhans, hence the name "Insulin" (From the Latin Insula—an island).

Normally the body produces insulin in the pancreas and stores it and that amount of insulin which maintains the blood sugar at the normal level is continually discharged into the blood stream. The supply of insulin is increased when the blood sugar rises above and cut off when it falls below the normal. In a diabetic the supply of insulin fails either from lack of it or from defect in this process of releasing it.

Now it has been proved that Diabetes mellitus may arise as a result of nervous influence as well as of primary disease of the pancreas.

Insulin has a specific action on blood sugar. It has a two-fold action—formation of glycogen and utilization of sugar. It acts through the parasympathetic in forming glycogen and directly on the cell or sugar molecule in utilizing sugar. Langdon Brown regards "Diabetes as a sign of exaggerated metabolism arising through the sympathetic nervous system and the endocrine glands". Falta considers diabetes as "a disease of the whole apparatus regulating sugar metabolism including the nervous centres in the medulla and brain, connecting paths between the pancreas and chromoffin tissue" and he suggests the vagus as

"that part of the parasympathetic nervous system concerned in the control of sugar metabolism".

While insulin is necessary to prevent the accumulation of sugar in the blood it has been found that following the administration of insulin there is a rapid disappearance of sugar from the blood and if the dose is large enough, sugar may completely disappear and act as a poison causing alarming and serious symptoms and ultimate death. The present treatment of diabetes mellitus with insulin is to give rest to the islet tissue of the pancreas in order to reestablish its function. It is therefore advisable to get rid of the abnormal concentration of sugar in the blood by adjusting the dietary to a low level and by administering insulin in suitable doses. In normal individuals insulin pours into the blood in such quantity and at such a rate that the sugar content of the blood is well controlled. In a diabetic it is not the case, consequently, a partial correction can be made by injecting insulin at intervals of several hours, especially before the principal meals.

Insulin given intradermally has a greater blood sugar reducing value than the same dose given subcutaneously showing thereby that there are two physiologic mechanisms whereby insulin exerts its effects on sugar metabolism. (1) "Stimulation of glycogenesis in the liver through the medium of the parasympathetic; the insulin acting at the site of injection as an irritant to the parasympathetic nerve endings" but "the blood sugar reducing effect of insulin through this mechanism is decreased or not present at all if the glycogen stores of the liver are already large or if the glycogen forming function is seriously impaired as in severe diabetes". (2) Direct hormone action on the glucose molecule itself. This does not take place immediately following intradermal injection as insulin is absorbed less rapidly by intradermal than by subcutaneous injection.

Insulin is generally given in suitable doses hypodermically. Intravenous injection is not so safe or effective and taken by mouth it has no action. Doses of insulin are expressed in terms of units. In Diabetes mellitus insulin properly administered is capable in a short time of removing the cardinal symptoms for a few hours. The percentage of sugar in the blood is reduced; sugar and acetone bodies disappear from the urine, carbohydrate metabolism is improved and the patient's general condition is bettered. To obtain this a suitable number of units of insulin must be injected two or three times a day. As insulin is continued the patient is able to take and assimilate larger quantities of carbohydrates, and puts on weight; his mental and physical vigour increases and the despondency and apathy, the characteristics of the disease

disappear. The value of insulin is very much appreciated in diabetic coma and in those diabetics requiring surgical operations. "With insulin treatment recovery from the comatose condition is not only likely but probable. Numerous cases are on record of people who have been snatched from the jaws of death and have been able a few weeks later to return to their homes and daily avocations (Francis H. Can). Professor Elliott and Sir Halter Fletcher recently summarised in a few words the value of insulin: "Diabetic patients who were emaciated, incapable of work and borne down by the misery of unending weakness have now since insulin was made available been restored to vigorous health so that they can take the fullest happiness in work." Insulin thus can bring increased comfort, renewed hope and the prospect of a longer life to the diabetic and even restores to normal activity one who is bedridden. Clear evidence is yet lacking that it is a cure for Diabetes mellitus "but it enables the patient to burn sufficient carbohydrates so that proteins and fats may be added to the diet in sufficient quantities to provide energy for the economic burdens of life." (Howard B. Lewis). To keep the symptoms of Diabetes permanently in abeyance injections of insulin must be continued for an indefinite period with due precautions to prevent hyperglycaemia a i.e., frequent examination of urine and blood sugar and so controlling the number of units to be injected. Another important factor is the adjustment of diet to the dosage of insulin. The results of long-continued use of Insulin in Diabetes are very favourable. Dr. Williams says "Insulin apparently does not lose its potency in the relapses which follow indiscretions in diet or from the failure to use it properly. Repeated attacks of diabetic coma do not appreciably hurt the patients. Experience has not justified the fear that the continuous use of the hypodermic needle would destroy the skin and render it impossible to administer insulin subcutaneously. One case had upwards of 4200 injections about the buttocks and thighs. His skin shows no ill effects from the repeated needle punctures. Bad effects have not followed..... it was impossible in some cases to keep the blood sugar constantly at normal levels. Still, no particular evil symptoms resulted. Three severe cases of this type after long treatment have shown evidence of improvement and are now within normal range. .....occasionally in insulin treated cases a transient rise in both diastolic and systolic blood pressure is noted." (New York State Journal of Medicine).

INSULIN SHOCK

During the administration of Insulin, watch for Insulin shock due to reduction of blood sugar below the normal level. Symptoms

are nervousness, dilated pupils, trembling, sweating, then drowsiness, convuslions, unconsciousness and death. It may occur at any time. Therefore it is very necessary to have the patient's blood tested now and then and he should be told to carry some sugar or glucose with him to be swallowed immediately when emergency occurs. In worst cases glucose must be given intravenously or hypodermically.

Cases & Comments

FIRST-AID TREATMENT OF BURNS.

BY

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There are a thousand and one effective methods of the treatment of burns. There are the classical methods of treatment with Antiseptics, of which the most popular is the "Picric Acid" method; then there is the "Paraffin" method of the treatment of burns. This latter method is adopted in the hospitals, mostly. And lastly the latest and perhaps the most scientific method is what is known as the "Tannic Acid" method. Some of the workers use the Salines in burns. Carron oil method is most popular with the lay public.

In Calcutta, the "Picric Acid" method is mostly given preference to other methods. This is the practice with the hospital, as well as with the private practitioners. Its popularity is due firstly to its simplicity and secondly the reagent is available in most dispensaries, the solution is readily prepared and no expert help is necessary (once the method has been explained to the attendants).

The above is an outline of the treatment which is resorted to when medical help is available at the time of the accident or shortly after it. But when medical help is not available or where immediate help is necessary before the arrival of the doctor, the following method is not only of use as a first-aid help but can be continued as a method of treatment, which is both easy and effective.

The writer has found the following method very simple and effective in private practice, where other heroic methods have one or other disadvantages especially where the patients are not very intelligent, or where their surroundings are not very hygienic.

Technique of treatment:

Soak absorbent cotton-wool or gauze in Absolute Alcohol, Rectified spirit or whisky or brandy. Apply this over the affected part, so as not to leave any part uncovered; and then lightly put a bandage over it. This is to be repeated as often as it gets dry. The pain at once disappears on account of the local anaesthetic effect of Alcohol. It is moreover an antiseptic. Another advantage of this treatment is that in most cases, if applied in time, blisters do not appear and if they have already appeared, the healing process is hastened. This is due to Alcohol being hygroscopic and antiseptic. In cases of emergency this method has proved very useful in my hand. The advantages of this method are that this method is very practicable in domestic emergencies; it relieves pain almost instantaneously and the therapeutic effect is as good as in any other method of treatment.

During the last Puja holidays, the writer had a case of burn of the second degree in his own family. He took this opportunity to try this method in this case also. The effect was marvellous. The writer requested some of his medical friends to try this method. They have reported very favourably on this method. It is for the profession to test this simple method and circulate the same among their lay clientele.

AN INTERESTING CASE OF ACUTE BACILLARY DYSENTERY

BY

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Chief Medical and Sanitary Officer, Maharaja's Hospital, Pudukota.

A constable by name Narayana Naiyar, aged 27, was admitted in the Town Hospital on the morning of 6th November '30 with history of high fever and constipation for 3 days. The patient on admission had 104 degrees fever.

Examination:—Patient strong, young man, had high temperature, 104 degrees with 120 pulse, lungs normal; no cough, no running in the nose. Respiration 20 per minute.

Heart:—Fast, 120 per minute otherwise normal.

Blood:—No malarial parasite.

Treatment:—Aspirin, Diaphoretics and cold lotion to the head. Glycerine enema given to relieve constipation with good result. Patient put on barley and gruel water.

The patient had after the Glycerine enema 3 watery motions before 8 P. M. for which Bismuth powder in 10 Gr. doses was given. The temperature in the evening was 104.5. Pyramidon was given. Ice application to head. Suddenly at 12 midnight he had a large bloody motion, about a pint. Practically no fæcal matter, awfully stinking, colour red, again a similar motion at 2 A.M. and a third like motion at 5 A.M. The duty Sub-Assistant Surgeon put him on Calcium Lactas powder every half an hour.

In the morning.—Patient's condition was low, pulse soft, perspiring 92 per minute and the temperature came down to 100.6. He had 2 motions before 10 A.M. and so Ergotine Citras 1/100 Gr. was injected, in addition to Calcium powders by mouth.

The cause for bleeding cannot be definitely attributed, a differential diagnosis between (1) Bleeding piles, (2) Hæmorrhage in Typhoid fever (3) In Malaria (4) Acute Dysentery, has to be made. Malaria was ruled out as no parasites were found.

Rectum examined with Speculum and was found free from piles. It was not Typhoid, as the duration of fever was only 3 days.

Stools could not be examined microscopically as there was no fæcal matter. Anyhow a provisional diagnosis of acute Bacillary Dysentery was made, and an injection of Anti Dysenteric Serum 10 C.C. was given.

Patient was put on the following Medicines:—

Tin. Strophanthis	m 20
Adrenaline Chloride Sol	m 30
Syrup Simplex	ʒ 2
Aqua Chloroform Ad	ʒ vi

F mist. One oz. every 2 Hrs.

Glucose and saline by mouth continued along with Barley water.

12. Noon.—Again he had large bloody motion and so Ergotin Citras 1/100 was injected again.

At 3 P.M. a large bloody motion, dark red in colour, smelling very badly. Hæmoplastin P. D. & Co. 2 c. c. was injected intramuscularly.

At 5-15 P.M. a similar motion as at 3 P.M.; he was given a second injection of 2 c.c. Hæmoplastin and an astringent enema containing Tannic Acid and Adrenaline 10 m. in 1 oz. of starch was given at 7 P.M. and the Adrenaline Mixture continued by mouth.

Temperature in the evening came down to 99 degrees. At 10 P.M. patient had small bloody motion. At 12-30 A.M. another bloody motion (½ pint) for which Ergotin Citras was injected.

8-11-30.—Morning temperature 99 degrees. Patient slightly better-Pulse 80, Resp. 22. The same mixture and diet continued. Ergotin Citras injections kept up twice a day.

Evening.—101 degrees. Complained of pain in the abdomen at right upper quadrant. It was tender on manipulation. Pulse 98. Resp. 22.

9-11-30.—Had no motion last night. He slept well. Morning temperature 100. Pulse 82. Resp. 22. Evening Temp. 103.6. Pulse 110. Resp. 22. Evaporating lotion to the head and Aspirin 5 Grns. given. Had 4 motions from the morning consisting of greenish yellow faecal matter and some blood. Very foul smelling.

Mixture continued with Liquor Ammonia Acetas. Salol 5 Grns. T. D. was put in addition.

10-11-30.—Morning temp. 104. Pulse 86, Resp. 20, had 2 motions in the night. Slept fairly well. Patient's condition better. Motions sent for Bacteriological examination. Result not confirmed, though motions looked like Bacillary Dysentery.

Evening temp. 99.4 Degrees. Pulse 86, Resp. 22 motions 2.

11-11-30.—Motions again examined and showed Bacillary infections. The examination revealed a large number of Macrophages, large quantities of cellular exudate, plenty of R. B. C. and Sodium Ammonium phospate Crystals. Motions were of greenish yellow colour mixed with blood and mucus. Another Anti Dysenteric Serum 10 c. c injected. (Hoesht).

Morning temperature normal.

Evening temperature 99 degrees, had 4 motions in the day similar to those above.

Mixtures and Diet continued.

12-11-30:—Temperature normal; had 10 small motions in the night consisting of mucus and blood with greenish faecal matter. Patient feels thirsty. Tongue dry. Another injection of Anti-Dysentric Serum 10 c.c. given. Glucose and Saline continued by mouth with small bits of ice. The following mixture was put instead of the previous mixture.

℞

Liqr. Bismuthi	℥i
Calcium Lactas Gr.	15

Aqua Chloroform ad ℥iii ℥i thrice a day.

Evening temp. 99.2, motions 2, no pain in the abdomen.

13-11-30:—Morning temp. normal. Pulse 82. Resp. 22. Motions 6, small and free from blood.

Evening temp. 98. 8, 3 motions, small greenish yellow, free from blood. Same treatment continued.

14-11-30:—Morning temp. normal; Pulse 82. Resp. 20. Motions 4, small, no blood. Patient feels hungry and so whey and gruel conjee ordered.

Evening temp, normal. Patient feels better. Only 2 motions

15-11-30 to 18-11-30:—Temp. normal. Patient had 3 motions, well formed, small and free from blood. Butter milk was added in his conjee.

18-11-30:—Twice boiled rice with butter milk given. Patient put on Mix. Carminativa. 19 and 20:—One motion and patient feels better. 21st.—Patient cured and discharged with 2 months leave.

The interesting points of this case are:—

(1) The unusual onset.

(2) The absence of the constant desire to pass stools accompanied with blood and mucus.

(3) The large and profuse bleedings.

(4) The early administration of anti-Dysenteric Serum (Hoesht).

TWO CASES OF MOROUS-MURIS INFECTION

BY

N. M. DAVE, L. C. P. S. (Bom).

Santram Dispensary, Nadiad.

CASE FIRST.

Symptom—Chloasma.

Patient B.—Female aged 30 years, widow consulted me for periodical bilious vomiting and generalized discolouration of the skin which was more marked on the face and back of the neck.

History.—Three years ago, she had a rat bite on the little toe of the left leg, which caused no trouble immediately, but after a fortnight the part became painful, red and swollen resulting in ulcer formation. Painful tender point and redness on the leg etc., all started with fever and rigor and enlargment of glands.

Temperature remained for a week and subsided with attendant symptoms; but she used to get such periodical attacks of fever with its concomitant symptoms in gradually decreasing severity and increasing periodical interval between the attacks. Within a period of two years and a half these troublesome symptoms subsided but periodical vomiting and brownish discolouration began to appear. Discolouration was first observed over the face and back of the neck.

Liver was palpable. Spleen not enlarged. Heart was little dilated, but no marked valvular disturbance. No history of miscarriage, venereal infection; menses regular.

She holding strong orthodox views did not take allopathic treatment, but at last she yielded to strong persuasion to take injections.

Neosalvarsan ·45 grams injected intravenously, which was repeated after a week with marked result. She had no trouble for the last six months. Body is much improved and colour is changed.

The interesting points in this case are Chloasma and *periodical* vomiting. For the first symptom an explanation can be given like this.—That the brownish discolouration may be the result of exhaustion of the suprarenal gland as it is observed in most of the chronic toximic fever condition such as Kala-Azar, Malaria, Tuberculosis etc. There remains for the readers to explain the cause of periodicity of vomiting.

SECOND CASE.

Symptoms—Peripheral neuritis.

Patient Bai Laxmi married, aged 25 years of Bania caste consulted me for tingling and burning pain in the terminal phalanx of the fingers. On pressure part was tender, colour changed and skin of the part can be differentiated. Anaesthetic spot was searched by warm-water test-tube test but was not detected. Nobody in the family suffered from Leprosy (Patta), no history of venereal disease, no addiction to intoxication.

There was a history of rat bite on the index finger of the right hand, intermittent attacks of fever, ulcer formation, gland enlargement etc., coming to the probable diagnosis of morous-moris infection. One intravenous injection of ·45 grams of Neo Salvarsan was given. After that Strychnin 1/60 gr. injected; in all six such injections were given.

She had a bite when she was 10 or 11 years old and suffered from fever etc., for two years; then there was no acute trouble. The last trouble was only of two month's duration when she consulted me.

As it yielded to the treatment mentioned and as there was definite history, I attributed it to morous-moris infection and chronic toxæmia.

My idea in writing notes of these two cases is this, that such complications are not mentioned in text—books and so may interest the readers of the *Antiseptic*.

PITUITRIN IN LABOUR

BY

PHANIBHUSAN MUKERJE, L. M. P.

Chakmehsi, P. O. Janardanpur, Darbhanga.

Pituitrin causes the gravid uterus to contract strongly from its direct effect on the uterine muscle, only when labour pains have commenced. Owing to its action, the organ contracts strongly and the contents, *viz.*, the child, subsequently the Placenta, are expelled from its cavity, provided the presentation is normal, and the subsequent bleeding is also diminished.

The action of the drug will be apparent from the case records of the following three cases.

1st case:—In January last, I was sent for to see an adult female, a multipara, who had been in labour for the last 48 hours.

On examination, I found the vagina partially prolapsed and the labia oedematous. The presentation was normal, the passage patent, but the child dead. The condition of the patient was good.

She was given an injection, of Pituitrin, 1 c.c., subcutaneously and a few doses of Pulsatilla, 30, by mouth, which, making the contractions strong, hastens the delivery. The delivery took place within an hour, but the child was found dead.

2nd case:—In February last, I attended an adult woman, a multipara, who had been in labour pains for the last 24 hours.

On examination, the presentation was found to be normal, the passage patent and the child living. The condition of the patient was good.

I gave her an injection of Pituitrin, 1 c.c., subcutaneously and a living child was delivered within 15 minutes.

3rd case:—In March last, an adult female, a multipara had been in labour pains for 4 hours, but as the pains became intermittent and dull, I was consulted.

I found the condition of the patient good, the child alive, the presentation normal and the passage patent.

A few doses of Pulsatilla, 30, made the contractions strong and the child was delivered within half an hour but there was delay in the delivery of the Placenta and the patient was in great agony on account of intolerable pain in the region of the Epigastrium.

A subcutaneous injection of Pituitrin, 1c.c., acted like a charm in as much as it relieved the pain promptly and there was rapid delivery of the Placenta.

In this connection, I like to inform the readers that Homeopathic Pulsatilla in dilution, 30, given. every 15 minutes or half an hour, acts marvellously by making the contractions strong thereby hastening the delivery of the child and the placenta. It is reputed to possess the power of converting an abnormal into a normal presentation, if administered in the latter months of pregnancy.

QUININE HYDROCHLORSULPH IN MALARIAL CACHEXIA

BY

A. S. HEBBAR, L.M.S.

Medical Officer, Byndoor.

I wish to bring to the notice of the profession through the pages of your valuable journal a trifling experience of mine in corroboration of the findings of Dr. Shapurji Ardeshir Banker, M. D., Bombay, about the use of Quinine Hydrochlorsulph in malarial cachexia.

A few months back, a police head constable's wife was placed under my treatment for a remittant type of fever. The pyrexia was never coming to normal but it increased almost regularly in the evenings. Later, the remission became less noticeable and fever was 103°F or about, the whole day and night. All through the period of remittant or continued pyrexia there was diarrhoea, a typhoid tongue, insomnia and delirium. The patient was by nature of a weak constitution. She rapidly declined in health and within 15 days she was reduced to a skeleton.

From the first, I put her on Quinine thinking it to be a type of remittant malarial, but the ordinary mixture of Quin. Sulphas only aggravated her condition. Then I tried Sinton's alkaline treatment (a modification of quinine treatment introduced by him) and later effervescent Quinine. Both were useless. Meanwhile she passed a round worm in her diarrhoea motions which put me momentarily on the track for roundworms as the causative factor. But santonine proved ineffective as also huge doses of Bismuth with fractional amount of calomel given with an aim to check the diarrhoea. I had not the nerve to try quinine injection on such a frail patient, whose relatives were against unnecessary trial of any injection, and who herself showed a certain amount of idiosyncracy to quinine. I thought that if it did not yield to quinine, it ought to be certainly a case of Enteric. I became certain of my diagnosis when other inmates of the Police lines developed similar symptoms. Soon I was sadly duped, for, on a few days' resort to diaphoretic mixture, with calomel. Bismuth, the remittant nature of the fever again made its appearance. Almost in despair and chiefly to counteract the intractable diarrhoea, I put the patient on the following.

Mixture :—

℞ Acid nitrohydrochlor dil	ʒ	25
Tinct Gent Co.	ʒi	89
Qnin Sulph	gr.	v
Aquad	ʒiii	

Sig :—ʒi + d.

and lo ! the miracle happened. The patient got rid of the diarrhoea the very next day and the temperature too soon disappeared ; she made an uneventful recovery thereafter together with other patients in the Police lines who also miraculously reacted to this mixture in the middle of the course of supposed Enteric. The above mixture continues to be my reliable and unfailing weapen for persistent malarial fever.

I would not have brought it to your notice, had it not been for Dr. Shapurjy's article on Qninine hydrochlor-Sulph.

My knowledge of chemistry is very meagre but I believe an analogus—rather the same--compound as Dr. Shapurji's is probably formed in the above mixture. Hence I would suggest it may be an efficient and cheaf imitation of the *rare* product mentioned in the last issue of your esteemed journal.

It may be argued that the hydrochloric acid of the gastric juice might suffice to enable the formation of Quinine Hydrochlor-sulph out of the Quinine sulph orally administered. But I believe the amount of hydrochloric acid secreted in the febrile state is quite inconsiderable and apart from such a fact the employment of fresh and the more active *nitrohydrochloric* acid may not still be discarded as inert and futile,

Again, it is only a small experience of mine and I only suggest this particular mixture as a probable substitute to the rare product mentioned by Dr. Shapurji. I have not tried it in Black water fever.

Medical Men's Success in their Career.

"Lancet" endorses the following outlook on the part of the Editors of the "Antiseptic'. as practical.

"The medical profession in their dealings with the lay public, have a hard time in convincing them of the benefits of fresh air, pure water, nutritious food, good exercise, sound sleep and a host of other things which are indispensable not only to cure them of their maladies but also to prevent them from contracting fresh ailments. The lay public consequently require to be educated too in matters of health and hygiene if the medical profession should claim absolute success in their career."

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The Antiseptic

ESTD., 1904.

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1931

On the 1st of January 1931, 'THE ANTISEPTIC' has entered its 28th year of existence and on this auspicious occasion, we invoke the aid of Providence to shower His choicest blessings on the journal and its votaries. Following the customary journalistic etiquette, we wish, on the occasion of the birthday of 1931, **a happy and prosperous New Year** to all our contributors, subscribers and advertisers. By way of retrospect, the past year was, for the medical profession in India, not one of unmixed joy and blessing. The year witnessed the award of the Nobel Prize to Sir C.V. Raman, one of the most distinguished sons of Madras and one of the world's greatest scientists living at the present day and we take this opportunity of extending our hearty congratulations to him. The withdrawal of the recognition by the General Medical Council of Great Britain, of the medical degrees of the various Indian Universities for Post Graduate Study in England, the incarceration of some of our worthy brethren for political offences, the general slump in trade which had adversely affected the interests of many of our advertising friends, are sad features in the history of the medical profession in India during 1930.

As for our journal 'THE ANTISEPTIC', thank God it had a safe sailing even in troubled waters and we are glad to [illegible] that our readers and advertisers continued to be as loyal and devoted as ever before, for which we offer our warmest thanks. During the year 1930, we brought out a special number on Eye, Ear, Nose and

Throat and we hope to continue this innovation during the current and succeeding years.

By way of prospect, we visualize the establishment of a Medical Council for All-India at no distant date, for which the ANTISEPTIC had been striving so hard all these years. We also envisage an era of world peace, mutual good-will and prosperity by the grant of substantial Self-Government for India, as a result of the strenuous efforts and labours of the Round Table Conference.

Once more we thank our readers for their sustained and unstinted support they have rendered to the "ANTISEPTIC".

MAJOR-GENERAL C. A. SPRAWSON, C. I. E., V. H. S., I. M. S., SURGEON-GENERAL WITH THE GOVERNMENT OF MADRAS

A Brief Life-Sketch.

Major General C. A. Sprawson C.I.E., V.H.S., I.M.S., was educated at King's College School, King's College, and King's College Hospital, London and qualified M.R.C.S., L.R.C.P. in 1898 taking the M.B. of London University the same year. He then studied bacteriology for several months at the Lister Institute of Preventive Medicine and later in 1899 became House Surgeon at the Royal Free Hospital, London. On leaving the Royal Free Hospital, he became Surgical Registrar and tutor to King's College Hospital and at the end of 1899 passed the B.S., London, in those days a separate examination. He resigned the surgical post at the King's College Hospital in order to enter the Indian Medical Service in March 1900, proceeding to India in August of that year.

In India Dr. Sprawson was posted with the base Hospital of the China Expeditionary Force at Calcutta and later, with military units elsewhere, proceeding on field service to Waziristan in December 1901 for the Mabsud Blockade. On the termination of this small war in 1902 Dr. Sprawson returned to India and then proceeded on sick leave to England, where he passed his M. D. London, in December 1902. On return to India he remained in Military duty, principally in the United Provinces, until April 1907 when he was transferred to civil employ in the U. P. becoming Civil Surgeon of Jhansi. He proceeded on leave next in 1910 when he acquired the membership of the Royal College of Physicians of London and returned to India to become Professor of Physiology in the new King George's Medical College at Lucknow. In 1913 he became the first Professor of Medicine at Lucknow, a position that he held permanently

until his promotion to administrative employ in 1929. At the same time, Major C. A. Sprawson, as he then was, was physician to King George's Hospital, Lucknow, and took a particular interest in tuberculosis, was in charge of separate tuberculosis dispensary and the author of several papers and one book on matters connected with pulmonary disease.

During the War, Major Sprawson was appointed consulting physician to the Forces in Mosopotomia and spent 2½ years in Mosopotomia in that capacity, receiving during that period the C.I.E. and the Fellowship of the Royal College of Physicians. On his return to India he resumed his Medicine post at Lucknow and succeeded Col.Megaw, as Principal of the Lucknow Medical College, which was shortly after transferred from Government control to that of the new Lucknow University. Here Col. Sprawson remained until early in 1929 when he was promoted to be Inspector General of Civil Hospitals, United Provinces and a year later came to Madras to occupy the corresponding administrative post of Surgeon-General.

His services, in the United Provinces, especially in Lucknow, have been adequataly recognized, by the Lucknow University recently conferring on him the degree of Doctor of Literature—a unique distinction for a Doctor of medicine.

It is a happy coincidence, that in Madras, as in Lucknow, our worthy Surgeon-General, Major-General Sprawson has succeeded General Megaw, another equally worthy star in the Indian Medical firmament and that our Surgeon-General possesses the same qualities of head and heart as those of his illustrious predecessor. Madras is thus fortunate in having the services of two of the ablest members of the Indian Medical Service in quick succession and we hope, what was left undone by Genl. Megaw owing to his elevation as Director General of Indian Medical Services, will be completed by Major-General Sprawson before his turn comes, as a result of the natural cycle that has been providentially set up, to succeed Genl. Megaw in that exalted office of Director General of Indian Medical Services. **We wish Maj. Genl. Sprawson a happy New Year, more laurels and a more prosperous career.**

THE RURAL MEDICAL PRACTITIONERS' CONFERENCE, 1930.

Madras was, as usual, flooded with conferences during the past X'mas week and one that is of interest and importance to us was the Rural Medical Practitioners' Conference held at the Y. M. C. A. Auditorium on the closing day of the year 1930, under the presidency of Dr. M. S. Krishnamoorthy Iyer, M. B. C. M., retired Sanitary Commissioner, Travancore state and editor of 'The Medical Practitioner'. Dr. S. Rama Subbu, L. M. & S., the able and energetic secretary of the Madras Provincial Rural Medical Practitioners' Association, whose zeal and earnestness, strenuous exertions and persistent agitation, to better the lot of his professional brethren, are matters for unqualified praise and commendation, delivered the welcome address.* The address was one long tale of woes of the Rural Medical Practitioners and contained a catalogue of their grievances, with suggestions for their removal and it cannot but be so, under existing conditions of their quasi-official tenures. The Presidential address* was indeed a masterly one, and contained also valuable suggestions, worthy of consideration.

The grievances of the Rural Medical Practitioners, though many and varied, can be compressed and put in a nutshell under two heads :—(1) Inadequate subsidy, which failed to keep the wolf from the door and which left the rural practitioners the same old semi-starved creatures they were, prior to their employment, and (2) the tyranny and the teasing of the Presidents of Taluq Boards, with of course a few notable exceptions, with whom their lot was cast, more dreadful than hunger. Speaking about subsidy, Dr. Rama Subbu observes in his welcome address as follows:—"A subsidy of Rs. 500 or Rs. 600 a year is nothing decent to attract a medical man—less so a medical graduate-to the villages and to induce him to settle there permanently, while a mere S. S. L. C. gets very near the amount as a clerk in any public office". "True, he is allowed private practice and the income from that source must certainly keep him above want" that is what the powers-that-be contend. The late Raja of Panagal, who introduced the rural medical scheme during his ministry, did no doubt take into account the proverbial poverty of the Indian and more so, the South Indian peasant, who is groaning already under the heavy weight of land-tax and local cesses, which leave practically nothing for him to keep his body and soul together and those of his growing family and provide for their free treatment.

* Published elsewhere in this Journal.

This covers on a rough estimate, nearly 90% of the rural population and the remaining 10%, the so called rich and paying patients, are generally reluctant to call on the Allopathic Doctor. They have their own family physicians, the quacks of the indigenous systems of medicines, whom superstition and respect for family traditions, have made sacrosanct and therefore irremovable and who can be trusted to treat ordinary ailments. In the event of any emergency or complications arising, the rural practitioner will be called in, but he must be content with what little fees the rich patient is pleased to pay or he must even be prepared to go with no fees at all. Woe unto the doctor who haggles, murmurs, demurs and refuses treatment! The most enlightened and influential among them, who is either a party politician or has recently taken an active part in a Taluq Board or Dt. Board election now steps into the arena and swears at the recalcitrant doctor. The patient is at once removed to the nearest Taluq Board Hospital and there given free treatment or any private practitioner from the nearest town is brought in, cost what it might, and treatment given. The rural practitioner must be booked and the thing is whispered into the ears of the Taluk Board President or any Taluq Board Member and the practitioner is doomed. He is either transferred or a new Taluk Board Dispensary is immediately opened near about, to kill the rural dispensary by unfair competition. A rural practitioner, who is taking sides in election campaigns, through force of circumstances or wisely chooses to remain neutral, or refuses to take part, is marked also for booking and he becomes the unconscious victim of party politics, which, unfortunately in southern India, has taken an aggressive communal turn. Again, any rural practitioner, who refuses to employ a servant or a midwife thrust on him by the Taluk Board President, at once gets into his bad graces and no stone is left unturned to remove and replace him. He is a successful practitioner indeed who satisfies every one but himself and his empty purse. No wonder therefore, that a great majority of the rural medical practitioners have escaped from their hand-to-mouth existence in villages and this has been vouchsafed by no less a personage than Major General Megaw, former Surgeon-General with the Government of Madras and now Director-General, Indian Medical Services.

Some Taluq Boards, we are told, supplement the Government subsidy but they are offered as a prize for good conduct. Evidently, the prize goes to the rural practitioner who plays the second fiddle to the President of the Taluq Board to which he is attached. This is a most unsatisfactory state of affairs which must soon be mended or ended.

Now what is the right solution to this menacing problem? The rural medical Officer is a technical man and for all practical purposes, an independent practitioner, who is expected to build up a large practice in village parts. He must be given a considerable amount of freedom and discretion in matters relating to his professional work. The Presidents of Taluq Boards are only the media through whom Government pays their subsidies. This is done with a view to see that the medical practitioner really owns a dispensary, treats the necessitous poor free and that a proper return is got for the money spent as subsidy. The Presidents are at the same time expected to propagate the rural medical scheme, to encourage and help the rural medical practitioner in all possible ways in the building up of his practice so that in course of time the Taluq Boards may be relieved of their expenditure on Medical Services. It is now clear that the Presidents of Taluq Boards have exceeded and some have even abused their powers and they must therefore be divested of their control over these dispensaries. Dr. Rama Subbu considers that the scheme might be worked on the lines of the Grant-in aid system for schools and suggests the establishment of a District Medical Council analagous to the District Educational Council. The Conference has also passed a resolution approving his proposal to constitute a District Medical council consisting of 1. The District Collector 2. The President of the District Board, 3. Two independent medical men of the District nominated by the District Rural Medical Practitioners' Association. This machinery, we are afraid, will prove to be a cumbrous and official-ridden one and a great handicap to the rural medical practitioner. The District Collector will be supreme in all matters and will be unapproachable and more likely be tied down to red-tapeism. The establishment of such a council tantamounts to creating a more formidable dictator in the place of the President, Taluq Board. The rural practitioner has to gain the good will and confidence of his constituents within his jurisdiction and a humble advisory committee, such as the one attched to cantonment hospitals and Taluq Board Hospitals and Dispensaries, consisting of the village headman, two retired Government Officials residing within the area served by the dispensary, preferably Gazetted Officers or government Officials in service, such as sub-Registrars and others within the area and two or three rich influential land-holders of the locality may be appointed to aid the practitioner in his endeavour to build up private practice, assist him in discriminating the poor from the rich, and in short, undertake the responsibility of administering the scheme for the benefit of the people with whom they live and move and whom they can induce to avail themselves of the scientific medical relief

afforded by the scheme. The Committee will meet every month and report through the President, District Board, as to the working of the dispensary, to the Surgeon-General. The District Medical Officer must be made to inspect the dispensary in the same way as he does every other hospital or dispensary in his area and submit his report to the Surgeon-General who will forward it on to the Rural Dispensary Committee, through the President District Board, for necessary action. Thus the rural dispensary will be a non-official independent institution, controlled by the representatives of the very people whom it serves. The Committee will see to it that the rural practitioner prospers, his dispensary thrives and the constituents given proper treatment. The Committee will also see that the rural practitioner gets his reasonable fees from the paying patients. It is immaterial who disburses the subsidy and the president, District Board, may be authorised to do it, any dispute with regard to leave, allowances etc. being settled by the Surgeon-General. This will be in our opinion, the nucleus for the formation of Medical Swaraj or the setting up of independent medical practice in rural areas. Quack treatment will gradually disappear and if, as suggested by the conference, the hospital and not the dispensary be made the unit of medical relief by the Government, unfair competition between Government Medical men and independent medical practitioners who settle themselves in villages will vanish. Until the rural medical practitioner is able to stand on his own legs, he must be given a decent subsidy. The conference reiterates its resolution passed on 26-2-1928 and demands a living wage of Rs. 100/- and Rs. 150/- a month for an L.M.P. and a medical graduate respectively and we do not consider it exorbitant. In Canada the Rural Medical Scheme has recently been introduced and the Rural Medical Practitioners there are called the community doctors. We give below the necessary particulars connected therewith from which it will be seen that the community doctors there are handsomely paid about Rs. 4000 per annum.

"Of the 866,700 people who live in Saskatchewan, Canada, over three quarters reside in Rural Districts. Many of these are sparsely settled, and in these thinly populated areas it is often impracticable for a doctor to establish himself. To cope with this condition, the Provincial Legislature, during the session of 1928-1929 passed two measures which constitute something new in Government Administration. The first measure provides that the Council of every Municipality shall be empowered to make a grant to a medical practitioner to induce him to reside and practice his profession in that municipality and in consideration of such residence and practice a grant of money up to 1,500 dollars (£. 300) shall be paid to him.

The other measure goes further than this, and provides that the municipalities may submit to their electors the question whether or not an all-time physician shall be engaged by the municipality at a salary not to exceed 5000 dollars (£. 1000) a year. The community doctor in this case acts as a medical health officer for the district, and gives free medical service to all rate payers and their families, vaccinates against small pox and inoculates against diphtheria, and examines all children attending the schools of the District."

It may be argued that poor India can stand no comparison with a rich country like Canada. But it must be noted that the Canadian Doctor has more facilities than the Indian practitioner and has none of the handicaps of the latter such, for instance, as the unfair competition he has to contend against, first against his own class of medical men employed in Government service and secondly against the practitioners of the indigenous systems, not to mention the free treatment which he is obliged to give to the necessitous poor. Further it is an undisputed fact that India maintains the highest paid services in the world though at the lowest rung it is starved, and the plea of penury is not put forward there.

We hope that the deputation which it is proposed to wait on the Hon. the Minister for Public Health will be able to convince him of the immediate need for overhauling the system of rural medical relief, as at present administered and persuade him to appoint a representative Committee for the purpose, without undue loss of time. Meanwhile we commend the resolutions of the conference for the favourable consideration of the Government.

PROCEEDINGS OF CONFERENCE, SOCIETIES ETC.

The Madras Provincial Rural Medical Practitioners' Association Third Annual Conference, Madras (31st December, 1930.)

WELCOME ADDRESS

DELIVERED BY

DR. S. RAMASUBBU, L. M. & S.,

Secretary, The Madras Provincial Rural Medical Practitioners' Association.

GENTLEMEN AND BROTHER DELEGATES,

I am highly indebted to you, gentlemen, for your kindness in responding to my invitation at short notice and thus evinced your sympathies for my Association. I welcome you all most respect-

fully. Your presence will certainly serve as a good tonic, the effects of which will last after this gathering and put in new life and vigour in us, the members of the Madras Provincial Rural Medical Practitioners' Association.

The Rural Medical Relief Scheme inaugurated by the Government at the instance of the late respected Rajah of Panagal has great possibilities not only in the matter of solving the problem of affording cheap, yet efficient medical relief to the masses but also in the Nation-building work where it is conceded by all that the unit of reconstruction should be a village. I am hopeful that your presence will enable us to put before the Government and the public new ideas gathered by our experience, which if accepted by those who are concerned in running the scheme will serve as a model to be copied by the sister provinces in India.

You, my Brother Delegates who have responded to my call at great expense and personal inconvenience, will I trust, not be sorry for the zeal you have shown by going over to this city. You have an opportunity to give expression to your pent-up feelings and put before this gathering your disabilities and sufferings which I trust you will do with great reserve, consistent with the dignity and prestige of the noble profession to which you and I have the honour to belong. Whatever you propose should be more in the interest of the scheme of medical relief and not in your private individual interest. Let us all hope that at this Conference we will arrive at resolutions may I say, almost unanimously with the sage counsel and wise direction of our revered President of to-day: resolutions which if accepted and adopted by Government will certainly usher in the millennium of medical relief to the rural population.

It is usual on occasions like this, to give an account of our grievances and suggest appropriate remedies. As the Secretary of the Madras Provincial Rural Medical Practitioners' Association for the past four years I can give you a pretty long catalogue of our woes, and bore you with disgusting details if you only allow me time to do so. The other portion of the task—that of suggesting changes for the better—I confess I am quite unequal to it. I wish this duty had fallen on better and abler shoulders of whom I see many in this hall. I doubt whether I am competent to suggest anything and whether my suggestions would be acceptable to the vast majority of you. I feel embarrassed, nay a bit shaky even, to suggest anything especially so in the presence of such stalwarts of the profession—I mean our friends of the metropolis who have so kindly responded to our invitation at great personal inconvenience.

If I am offering any suggestion now my only excuse for doing so, is that I have to by virtue of the role I am assigned and and I do so with the hope that if my suggestions do not happen to be the exact remedies for our ills, you would at least eliminate them and by a process of *reductio ad absurdum* deduce the correct ones. I would try to be as brief as possible for I dare not take up much of your time and stand between you and our revered President who, I can assure you has very many valuable suggestions for us.

THE PRESENT SCHEME—DEFECTIVE.

Gentlemen, it needs no saying from me that our grievances are many. But I have to concede, that the Rural Medical Relief Scheme which we have the honour to work, is with all its faults, an endeavour in the right direction. Its double objective of providing employment to the unemployed, and rendering skilled medical aid to the necessitious poor of the rural population, are quite laudable. Yet I should say, the scheme has not achieved the best results because it is defective in details, and has not been worked in the right way by those concerned.

A subsidy of Rs. 500 or 600 a year is nothing decent to attract a medical man—less so a medical graduate to the villages to induce him to settle there permanently, while a mere S. S. L. C. gets very near that amount as a clerk in any public office. Income from private practice there has very little scope for at present, partly because of the nature of the people, partly because of the preponderance of quacks in rural areas and partly because of the proximity of these rural dispensaries to other medical institutions, where—unlike as at a rural dispensary—medicines are given free to all patients rich and poor alike. A rural practitioner is really in a fix, while charging fees for the patients. Even the richest villager, especially from an outlying village feigns poverty. There are really no means of knowing who is rich and who is poor. I am not exaggerating when I say that excepting a fortunate few, the average extra income of a rural practitioner is about Rs. 15 to 20 a month which is not even found to be enough to meet his charges on building rent and establishment. It is true that some Taluk Boards supplement the Government subsidy from their own funds, but such amounts are too small and in some cases are given as a prize for good conduct, which according to them is synonymous with servility. To give you just an example, a practitioner who was getting a subsidy of Rs. 50 per month on the scale of Rs. 50-3-65 had his extra subsidy withheld as he would insist on subscribing himself as, "I have the honour to be, Sir, Your most obedient servant."

To work in villages under such depressing conditions is rather hard indeed; to continue there in the hope of settling down permanently, firmly believing in one's destiny and hoping against hope for better luck, would be impossible for a rural practitioner especially under the humiliating treatment meted out to him by his local board. Save a few commendable exceptions here and there, the attitude of the majority of the Presidents of Taluk Boards has not been either encouraging or sympathetic. Some of them seem to smart under an impression that they have not been given enough power over a rural dispensary and its practitioner and that this is an omission in the scheme. They would therefore assume powers and treat rural practitioners worse than subordinates, on the plea that they contribute something towards the upkeep of the rural dispensaries. This attitude is more characteristically manifest in the local boards who pay an extra subsidy to practitioners. It is not my purpose or desire to portray the Taluk Boards in dark colours, but I can't help stating facts. Many of them go behind the rules purely for personal reasons. They would not equip their dispensaries as required in G. O. 761, P. H., dated 7-4-25. One President would not brook his rural practitioner signing himself as I have the honour to be Sir, Your most obedient Servant. I have already told its sequel. A warning was given to another practitioner who broke a mere ounce-glass. Another President insisted upon the production by the rural practitioner of a certificate from the nearest Taluk Board member to the effect that the practitioner had treated all the necessitious poor free during the month as a condition precedent to the disbursement of the subsidy. Payment of the subsidy is still irregular and delayed in many cases. Many practitioners are not allowed, and are reprimanded if they did so, to leave the headquarters on any account even for visiting the patients in outlying villages, without getting the previous permission of the President. Some of these latter, would construe this as a breach of the terms of the agreement and an enough cause to dispense with the practitioner's services without notice. Indeed, it happened so in one case quite recently. Transfers of rural practitioners are still indulged in. One President issued an order that all patients attending a rural dispensary should be treated free though fortunately this was rescinded through the kind intervention of the Government.

As to fixity of the tenure the less said the better. This has been till now a thing of personal equation. A practitioner is alright so long as he is in the good books of the President. The moment there is a rub between him and the President, experience has shown that the practitioner goes to the wall sooner or later.

The same has been the case where the President has got some young medical friend or relative to provide for. The practitioner could be sent away on some flimsy pretext—a delay in sending the statistical return will even suffice; or the rural dispensary might be converted into a regular one and a new man brought in defiance of a Government order to the contrary. In one case a practitioner was ousted from his place as he was on leave for more than 15 days in the year. The causes for such absence—illness in the particular instance—the President would not discriminate between. Luckily this practitioner has been restored through the kind intervention of the Surgeon-General and the Government. In another, a practitioner of somewhat an independent nature demurred to his being transferred to another place. The President did not like to have an independent—*wallah*, though the practitioner had run his dispensary as per rules, and to the satisfaction of successive District Medical Officers, Presidents, Taluk Board and others. The practitioner was told that as the period for which he had agreed to serve would expire by a certain date, the Taluk Board was not prepared to renew the agreement and so his services would be dispensed with from that date. Even the Government could not do anything to this poor practitioner. Very good Presidents even get prejudiced when they hear through some of their aggrieved friends that a particular practitioner is very strict and exorbitant in demanding fees. They do not realise that a rural practitioner is liable to err as much on the side of leniency as on that of strictness in demanding fees, so long as the practitioner has no means of ascertaining the exact income of his patients. Any day this charge could be levelled against even the most conscientious of rural practitioners. I would not accuse the President of any personal animus in such cases for they themselves are new to the system in vogue in rural dispensaries.

Amidst such odds, the scheme could not be said to have worked successfully; neither medical men nor the rural population could be said to have been benefitted to any appreciable extent. In the words of Major General Megaw the late Surgeon-general with the Government of Madras and the present Director General of Indian Medical Service: "The great majority of them the rural practitioners have sought the earliest opportunity to escape from their hand-to-mouth existence in the villages" and to that extent the population had suffered. To ensure continuous, and efficient medical aid to the rural population better ways and means should be adopted.

RURAL SCHEME IN OTHER PROVINCES

I now come to that portion of the task which I dread most, viz., the formulation of a suitable scheme to achieve the end in view. The problem is very difficult indeed. If our people knew how to appreciate the importance of timely and skilled medical aid, if the country were not quack ridden and if all the medical institutions in urban parts were poor infirmaries under honorary medical men, then it would be time enough to expect medical men to settle down in villages as private practitioners who might also be requested to give their services as honorary medical men for poor infirmaries maintained by the state or the local bodies. Such men might also be requisitioned on a decent remuneration to be medical inspectors of and lecturers in Hygiene and Physiology to school children in a specified area. The time is too early to think of such a system obtaining in the other advanced countries. If, however, the State had unlimited funds at its disposal, then the opening of regular free medical institutions in every nook and corner of the country would solve the problem. Or if the State could by a stroke of the pen convert all the medical institutions in urban areas into poor infirmaries worked by honoraries, the savings thereby effected might be utilised towards free medical institutions in rural areas. In a poor country like India, the State should provide medical relief at least to the poor. As the State has not enough funds and as it cannot afford to pay medical men their full pay and as medical men cannot venture to villages, depending upon private practice only, the State and the practitioner should do the work sharing the responsibilities half and half. So a policy or a scheme under which the State should help the medical man with money in return for his free services to the sick poor would seem to be a necessary evil under the present circumstances.

As to the method in which this mutual help should be effected opinions differ. There is a system in the Central Provinces where young medical men (superannuated men are discarded) are subsidised who would settle for private practice in village, at a distance of not less than 8 miles from each other or other medical institutions. The Government pay the practitioner through the Civil Surgeon or the District Medical Officer a monthly remuneration of Rs. 50 and an advance of Rs. 300 free of interest and initial equipment to be repaid at the rate of Rs. 10 per month in the 2nd year and Rs. 15 per month in the 3rd year of practice. Thereafter the Government do not worry themselves about the practitioner. No other conditions are imposed upon the practitioner nor any return obligations expected of him. This scheme has been working

for the last two years and that too in a handful of places. It would be too soon, therefore, to pronounce any opinion on it. This scheme is defective in two ways. A period of three years is too short a one for the practitioner to be able to stand on his own legs at the end of it and that the destitute poor are left entirely to the mercy of the medical men. In Burma, retired Sub-Assistant Surgeons or other qualified practitioners are subsidised to settle down and take up private practice in villages, approved by the Local Government, the rate of stipends being paid Rs. 50 upto 1925-26 and Rs. 75 from 1927-28 and at certain unhealthy and remote places Rs. 100 upto 1925-26 and Rs 125 from 1927-28, the increase from Rs. 50 to 75 and from Rs. 100 to 125 having been made to enable the practitioners to give free treatment or treatment at nominal fees to necessitious persons. This system is a better one than the former but puts a premium on superannuated people who cannot be expected to have enough enthusiasm, especially when they are kept above want by their pension and will have too little lease of life to be expected to settle in villages for a long time. There is one school of thought which holds that the state should provide the practitioner with the drugs, necessary for the treatment of all the patients, give him the necessary assistants—a compounder, midwife and servants—while the practitioner would be allowed to levy a consultation fee, for his own benefit, of one rupee from every patient that comes to the dispensary for the first time in respect of a particular disease. This scheme will benefit the well-to-do alone, and not the poor who cannot even find a a copper piece for their daily salt.

AN ALTERNATIVE SCHEME

The best scheme that suggests to me is one on the lines of Grant-in-aid schools the Government defraying about 3-4 of the practitioner's entire expenses both capital and running, including a decent allowance to the practitioner in return for free treatment to the necessitious poor. The practitioner should have real independence and allowed every encouragement to make the village his home. A district medical council analogous to the district educational council, composed of (1) the district medical officer (2) the district collector (3) a representative elected from each taluk and district board and (4) five representatives elected from among the independent practitioners of the district of which three shall be from among those working under the Grant in-aid scheme, should be entrusted with the work of determining and disbursing the grant. Any dispute that may arise between those concerned in the running of the scheme and the

rural medical practitioner should be referred either to the Inspector-General of Panchayats or the Surgeon-General for enquiry and report on which the Government may pass final orders and till such time the subsidised practitioner shall work as usual.

It is quite possible both financially and otherwise in instituting a medical relief scheme for villages on the above line if only the Government wills it, and the present time with Hon'ble Diwan Bahadur B. Munuswamy Naidu as the Minister in charge of Medical portfolio and Major General Sprawson as the head of the Medical Department seems to be not only appropriate but also most auspicious. That the Hon'ble Minister is anxious to bring about reforms in the Rural Medical Relief scheme has been made evident in his answer to the address presented to him by the Tiruppur Taluk Board on 21st instant when the Minister referred to rural medical scheme in the following words.

"The Government did not anticipate such a difficulty, as it was then thought that a small pay would be sufficient to the Doctors, taking into consideration that Doctors would be able to get decent private income to boot. The question of examining and reorganising and eliminating the various evils in the present system was being considered by the Government and the entire scheme would be re-examined at no distant date."

If I am not charged for revealing a secret you will be all glad to know, and a few of my brethren have tangible proofs, that Surgeon General Sprawson has a soft corner in his heart for the rural medical practitioners. Major General Sprawson has been able to induce the Government to widen the angle of vision and in a short space of time after he took charge of office in the Province, he has been able to understand in the right way the spirit and principle underlying the Rural Medical Relief Scheme as it is constituted to-day even with its inherent defects. I take this opportunity of thanking most heartily on behalf of my brethren the Hon'ble the Chief Minister and the present Surgeon-General both of whom, I trust most fervently, will make us realise our hopes and keep us and the rest of the members of the independent medical profession under a deep debt of gratitude by inaugurating in the near future a medical relief scheme both for village and urban areas worthy of the profession to which we have the honour to belong.

Being one connected with the rural medical scheme ever since its inauguration and having suffered with the rest of you, my brethren, my heart is over full and I never know how and when to begin and when and how to end. This has been a real task to my humble self and you will forgive me if I have tired your patience more than necessary. I am conscious that instead of welcoming you and treating you with something sweet and plea-

sant consistent with the season, I have done the other way. But I am sure you will not misunderstand my purpose and motive and excuse me for my shortcomings. I feel I have a duty to you and my country as a humble unit of a scheme which, if properly worked, will solve the big problem of medical relief to the masses with the minimum expense to the State and the maximum benefit to the people. I welcome you all once again and pray the Almighty to bless this gathering, guide its deliberations and bring about a rural medical scheme worthy of its noble purpose.

PRESIDENTIAL ADDRESS

DELIVERED BY

DR. M. S. KRISHNAMURTHY AYYAR, M. B. C. M.,

Retired Sanitary Commissioner, Travancore State & Editor "Thê Medical Practitioner."

LADIES AND GENTLEMEN,

I appreciate the honour you have done me in electing me to preside over this meeting. Perhaps it is the fact that I am one of the few oldest members of the medical profession living here that has weighed with you in doing so. When I was approached with the request to preside over this meeting, I readily acceded to it as I thought that with my knowledge of the medical profession for over 37 years and experience of the system of rural medical relief when I was Sanitary Commissioner in Travancore, I would be able to place before you a few important points for your consideration. During the last six years I have been contributing articles on medical relief and latterly as the Editor of "The Medical Practitioner" dealing with that and kindred subjects largely,

FAMILY PHYSICIANS

Now-a-days in every civilised country and well organised society family physicians have become a recognised institution. They are naturally the repositories of the confidences of their clients and weild much influence over them. In olden days in India when village communities flourished village physicians of the indigenous system existed in each and every village and these were regarded and occupied the same position as family physicians. These physicians being permanent residents of the locality possesed an accurate knowledge of local conditions and of having various opportunities, coming into contact with the inhabitants in their everyday life, knew well the constitutions of their clients and the

diseases to which they were predisposed and this knowledge greatly facilitated the diagnosis of diseases and their treatment, even though the methods and means adopted were not as accurate and advanced as they are now under the western allopathic system. With the advent of state-paid hospitals and dispensaries of the western allopathic system, these village or family physicians disappeared and their places have not yet been filled up to any appreciable or satisfactory extent. The necessity of having family physicians at present is really much more than what it was before. With the advancement in the methods and means for the prompt and correct diagnosis of diseases and the introduction of efficient and safe remedies in their treatment, there are now far greater facilities for the detection of and the predisposition to diseases particularly in children and their successful treatment and the prevention of their onset. It is well-known that prevention is better than cure. A large amount of trouble and money and a large number of lives may be saved by prevention than by the treatment of actual diseases. In the rural reconstruction scheme now largely before the public eye, family physicians would occupy an important place. The subject of heredity and diseases which are inherited are intensively studied now and the birth of children who are feeble-minded, epileptic etc., may be prevented by satisfactory marriages, or control of births in unsatisfactory unions. The family physicians would come in here also i.e. to advise in the matter of matrimony. Having regard to very large number of physicians required and to the fact that these would more or less permanently reside and settle down in villages, it will be easily seen that the state-paid medical officers cannot, on account of their comparatively limited number and their liability to transfer owing to the exigencies of the service, be expected to meet the necessary requirements to any appreciable extent. It seems, therefore, that it is the private practitioners alone who can and are best suited to take the place of family physicians. The problem, therefore, for consideration and solution by Government is how to make private practice more attractive so as to induce a large number of private medical practitioners to practise their profession and settle down in rural areas.

THE RURAL MEDICAL SCHEME—ITS ORIGIN AND OBJECT

The urgent need for medical relief in rural areas inhabited as they are by about 90 per cent of the population of the province, has already been recognised by the Government. They found that neither Government hospitals nor Municipal and Local Fund hospitals and dispensaries could meet adequately the need and therefore organised the Rural Medical Relief Scheme.

According to the terms of the Government order inaugurating the scheme, it was intended to encourage private practitioners (allopathic) to settle down in villages for practice by the grant of money subsidies and the supply of medicines from public funds, this being the cheapest and at the same time the best method from many points of view, and thus to divert to the villages the large number of unemployed medical men, congregated in towns and to solve the problem of unemployment to a material extent. Neither the terms of the Government order nor the steps till now taken in the administration of the scheme indicate whether the scheme is to be a preliminary to or an intermediate stage in the evolution of proper medical relief in rural areas or is to remain a permanent institution. If these medical men even to the full extent now contemplated by the Government are to be subsidised permanently in villages for practice, the scheme will neither adequately meet the requirements of medical relief in the rural areas on account of the very large number of medical men actually required, nor will it satisfactorily solve the question of unemployment. The result will be more or less akin to the supernumerary honorary physicans and surgeons, etc., existing at present in the medical department and the creation of a small number of discontented quasi-state-paid medical men. The main objects of the scheme are evidently (1) to induce private practitioners to settle down permanently in villages where the scheme is in operation and (2) to make the villagers appreciate the advantages of the western allopathic system of medicine and resort largely to treatment under the system so that when the subsidy is withdrawn the private practitioners can support themselves by their earnings in private practice. To attain these objects, taking into consideration that, until the villagers begin to appreciate the treatment the practitioner is not expected to get any remuneration worthy of the name from private practice, the rural medical officer should at least be given Rs. 100 a month with Rs. 50 for medicines and house rent for dispensary, and a midwife on Rs. 30 per mensem to assist him in maternity cases which require, on account of the high maternal mortality obtaining at present, skilled assistance. The subsidy will have to be continued for at least five years as by that period the villagers will have had sufficient time to appreciate the treatment and the medical practitioner will have become known to them thus facilitating his settling down permanently amongst them without any subsidy. In order that he might not be entirely dependent upon his private practice the medical inspection of schools in the villages may be entrusted to him and the usual fees for inspection given him until a separate school-medical-service is organised. Even in the separate school-medical-service, the private

practitioners may with advantage be included as they will have the opportunity and facility for treating in their capacity as family physicians the diseases detected in the inspection. In this way villages or group of villages may be taken one after another for the operation of the rural medical relief scheme and all of them in course of time may be provided with private medical practitioners who will eventually work without any subsidy and constitute themselves as family physicians.

WORKING OF THE RURAL MEDICAL RELIEF SCHEME

The working of the scheme at present is beyond doubt unsatisfactory. The Taluk Boards are at the best unnecessary intermediaries between village unions and District Boards and all such third wheels in the administrative machinery are not conducive to smooth, prompt and satisfactory working. In the case of the rural medical scheme which is working under the Taluk Boards they are a positive nuisance. They tease and wantonly interfere with the work of the medical officers under the scheme and annoy them in several ways so much so that resignations of medical officers have become frequent. The opening by Taluk Boards of dispensaries in villages where the scheme is working and appointing as medical officers for them others than those working under the scheme in those villages, are acts not only going against the very object of the scheme but of positive injustice to the medical men working under the rural medical relief scheme. Instances of such actions are not wanting and it is comforting to note that at the instance of the present Surgeon-General, the Government of Madras have declined to give permission for the opening of dispensaries in places where the scheme is in operation. In some cases these medical men were deputed by Taluk Boards for festival, small-pox and cholera duties without remuneration and sometimes even in election campaigns, and it must be said to the credit of the present Surgeon-General that an allowance was ordered to be paid for special duties—election excluded.

One man's autocratic administration may be tolerated in departments where the staff is a fully paid one but in the case of departments such as rural medical relief where the men employed are given only honoraria or subsidies, a Board consisting of the President, District Board, The District Medical Officer, The District Health Officer and at least two private practitioners will be the best controlling authority for each district.

HOSPITALS AND DISPENSARIES

The opening of the dispensaries by the State out of public funds for the treatment of out-patients is objectionable and

is prejudicial to the intererst of the private practioners who are now induced to settle down in villages and who are eventually to become the family physicians. As serious illness requires constant attention, rest, diet and treatment and as the large majority of the people are too poor to afford these in their own houses the duty of opening and maintaining hospitals falls on the Government until philanthropic gentlemen come forward to assist and relieve them. The unit of State Medical relief should be hospitals as is the case in the Federated Malay States and not dispensaries for the treatment of out-patients which should be left solely to private practitioners. In the province of Madras, characterised by the poverty of the people, high mortality and extensive illness, the number of beds available in all the hospitals in the province is about 9,390 which works at the rate of 1 bed for every 5,000 population. In America the richest country in the world where the number of practitioners is as numerous as 1 for every 800 population against 1 for every 10,000 in Madras and where therefore treatment in houses is possible there is 1 bed for every 270 persons. If the salary of medical men attached to the hospitals is withdrawn and honoraries are appointed in their places a larger number of beds can be provided in the existing hospitals with the money saved thereby and without much extra expenditure. The honoraries are at present permanent supernumeraries in additon to paid men. This practice of treating the honoraries as so many permanent supernumeraries without allowing them to take up the places of paid men when vacancies occur should be put an end to at once. It is said that a Committee has been appointed to go into the question of honoraries. If any useful purpose is to be served it is necessary that a large number of private practitioners should be represented amongst the members of the committee. Till the paid officers are fully replaced by honoraries, no new permanent paid appointment should be made and the paid men already in service should be prohibited from private practice except as consultants and they should not be allowed to conduct medical inspection of schools in places where there are private medical practitioners or where the rural medical scheme is working. In the case of paid medical officers employed solely for teaching in the medical schools and colleges and in special institutions such as the King Institute, Guindy, they should not be allowed to have any practice whatever much less should paid men be allowed to attach themselves either directly or indirectly to Nursing Homes, Chemists' shops, etc.

MEDICAL EDUCATION

Of all the provinces in India, Madras is the one which is seriously suffering from the caste system. While every attempt is being made to do away with it or at any rate, to mitigate the hardships arising from the caste system, the introduction and continuance of such a system in any profession—particularly in the medical profession—which deals with matters of life and death among the people, is most undesirable. There are in the medical profession in Madras two castes or classes, the L. M. Ps. and the University degree-holders. They are taught separately and in the matter of appointments, privileges, etc., they are treated as two independent and incompatible entities. A committee was appointed sometime ago to break this caste system and improve the status and training of the L.M.Ps. and to bring them to the level of the graduates and the recomendations of this committee are under the consideration of the Government. Medical education does not end in medical schools and colleges and in passing the examinations from them. Before the successful candidates from the Medical colleges and schools enter upon their duties and undertake the treatment of the sick, they should be given practical training in hospitals, say, for at least a year and then alone be permitted to carry on their profession. To provide for practical training for a large number of persons expected to take up private practice in villages, if the rural medical scheme should be worked out in the way indicated above, all the paid assistants attached to all the hospitals should be replaced by these persons and appointed as house surgeons and physicians on a small allowance for about a year and then given permission to practise in medicine.

RESEARCH.

It is indeed encouraging that His Excelency the Governor of Madras has recognised and pointed out the absence of any research in medical science while there are in the province highly intelligent and capable doctors. That research work is the most important factor in the advancement of medicine and alleviation of the sufferings of the sick, there can be no doubt. That a disease like the infantile cirrhosis of the liver which carries away every year a large number of children as its victims, should be allowed to continue without its cause and treatment being correctly investigated and determined and against which the western system of medicine is practically of little use only proves the absence of research. In no other civilised country would this state of affairs be allowed to exist. Perhaps in course of time when His Excellency becomes acquainted with the system of

medical relief in this province, he may find out the cause for the absence of research. There are at present in this province two classes of doctors (1) the purely private medical practitioners struggling for mere existence in their own legitimate field in unequal competition with the paid officers and possessing no time or energy or money to pursue research work and (2) the highly paid Government Officers who in addition to their legitimate duties take up private practice, maintain nursing homes, etc., and can afford to bring to their help all the resources available in the State institutions to which they are attached, for competing with the unaided private practitioners and who therefore find neither time nor necessity for doing research work. Between these two parties research exists nowhere. Until the time arrives, and this may be far distant, when wealthy philanthropic persons like Rockfeller and Carnegie may come into existence in India, it is the paramount duty of the Government in the matter of medical relief to provide adequately for research work more than in the matter of maintaining hospitals for the treatment of patients. Without research, medical practice is like a ship sailing without a compass. The required amount of money for this purpose can be found to a large extent by replacing the paid medical staff in the hospitals by honoraries, as private practitioners in increasing numbers are coming now to take up honorary work in hospitals. As whole time officers in colleges and schools spend only a few hours in actual teaching, they also may be entrusted with research work as is the case in the Seth Gordhanda Sunderdas Medical College, Bombay, and not allowed to spend their time in practice. A beginning in this direction should be made early and all attempts at appointing permanent paid medical men in hospitals including the contemplated recruitment of Assistant Surgeons and Sub-Assistant Surgeons advertised by the Madras Services Commission should be stopped and as vacancies occur in the paid appointments they should be filled up by honoraries.

CONCLUSION.

We are close at the dawn of an auspicious time and the year which begins to-morrow will, let us hope with trust in God, mark an epoch in the history of Indian administration. There are happy indications so far that Round Table Conference which is sitting at present in London and discussing an improved form of Government for India may bring about rest, contentment and prosperity to the people by the grant of responsible Government. It is really fortunate that at this juncture we have as the head of the administration in this province His Excellency Sir George Frederick Stanley, who even at the commencement of his regime

has diagnosed the disease the medical profession is suffering from and as, correct diagnosis constitutes three fourths of the treatment, we may feel sure that he would find out the proper remedies. We have further a large hearted and sympathetic officer in our Surgeon-General who has already recognised the present unsatisfactory condition of the L. M. Ps., both as regards their training and appointments and we may feel sure that with his sympathetic advice, their condition will be improved and the invidious and irritating distinctions now existing between them and the graduates will disappear and that both these will become united thus enabling them to raise and maintain the dignity of the profession. Lastly, the Hon'ble Minister in charge of Public Health comes with a name for fair and open mindedness and we feel no doubt that he also will show real sympathy with the people at large, by taking prompt and necessary steps for providing them with family physicians in each and every village.

Ladies and Gentlemen, I have already taken too much of your time and taxed your patience a good deal. I have given only a brief outline of the existing conditions under which the medical relief is struggling and indicated the lines on which improvements can be effected. Neither is this the time, nor is it possible to treat this subject exhaustively, and before I resume my seat, I beg to thank you for the kindness and the patience with which you have heard me and offer you my sincere greetings for the new year.

The following were the Resolutions passed at the III Provincial Conference of the Rural Medical Practitioners of the Madras Presidency held at Madras on 31-12-30.

I. This conference reiterates such of the resolutions passed at I and II Conferences, not given effect to by the Government and requests them to appoint a Committee to reorganise the rural Medical relief scheme on a sound and workable basis taking into consideration all the evils of the present system, inherent or otherwise, and suggests that the proposed Committee might consist of

1. The Surgeon-General with the Government of Madras. 2. A senior civilian having experience of district administration. 3. Two members of the Madras Legislative Council, preferably those, who were or are presidents of Taluk Boards. 4. Two senior independent medical practitioners, and 5. Two experienced rural medical practitioners, and to be nominated by the Provincial Rural Medical Practitioners' Association.

II-(a). This conference expresses its deep sense of gratitude to the Hon'ble the Chief Minister for his concern in rural medical relief as expressed by him in his reply to the address of welcome presented to him by the Taluk Board of Tiruppur on 21-12-'30, and referred to in the welcome address of the Secretary of this Association, and also feels thankful to Major General Sprawson, Surgeon General with the Government of Madras who within a brief period

of his regime was able to point out to the Government a few instances of grave injustice done to rural practitioner and got the same rectified by Government, and

(b) resolves that a deputation consisting of the Provincial secretary and two members of the Association to be led by a nominee of the President of this Conference, do wait upon the Hon'ble the Chief Minister in company with the Surgeon-General to bring to the notice of Government our grievances and suggestions and for this purpose places once again before the Government for consideration and kind acceptance the resolutions passed at the previous two Conferences, as well as the following resolutions.

III. This conference approves the principle advocated by the president of this conference in his address, that the unit of Medical relief by the Government be a hospital and not a dispensary and that for the purpose of effectively popularising scientific methods of treatment, the rural medical practitioner should be more liberally subsidised than at present, and for this purpose reitetrates the principle contained in resolution I of 1st. conference and suggests the following modified resolution for kind acceptance of Government. "This Association of the Provincial Rural Medical Practitioners sugggests to Government that as no uniformity prevails in the maintenance and administration of the rural dispensaries, even in the same district, the district instead of the taluk be taken as the unit of administration, and independent medical men be encouraged to settle in villages by subsidising them with money grants through a District Medical council composed of the following:-

1. The District Collector. 2. The President of the District Board. 3. Two independent medical men of the district nominated by the District rural Medical Practitioners' Association:

IV. This conference is of the considered opinion that a subsidised practitioner would have greater incentive and chance to settle in a village if he hails from the same village, or taluk or district in the order maintained as that where a dispensary is proposed to be located and, therefore, requests Government to direct that natives of the place shall be given preference for the purpose of subsidising other things being equal.

V. This conference condemns the proposal of some of the Taluk Boards to open rural dispensaries at or near villages where medical men have already settled as private practitioners; and if, however, it is desired to provide for the free medical aid to the necessitous poor of the locality, this conference requests the Government to direct that in all such cases the first option to undertake such work on the usual terms and conditions, shall be given to the existing private practitioner and that a new person should be brought into the place when the former refuses to do the work.

VI. This conference desires to point out to the Government that the withdrawal of the power of appointing midwives from the rural practitioner is not conducive to the good working of the scheme, as in this case, rural practitioner is not able to control the work of the midwife and, therefore, requests the Government to restore to him the power of appointing and controlling the duties of the midwife and pay him the subsidy direct for disbursement to the midwife in turn.

VII-(a) This conference requests Government to direct that each rural practitioner should be paid a minimum of Rs, 360 per year in cash, and in advance towards cost of drugs permitting him to purchase drugs for the use of the poor; also that such drugs shall always remain the property of the practitioner and proportionately so to the period he had treated the poor free if he should leave the place before the end of the year for which the advance had been given;

(b) this conference also requests that in cases where the daily average attendance exceeds 30, every practitioner shall be paid a sum higher than Rs. 360 proportionate to the extra attendance.

VIII. This conference brings to the notice of Government that no uniformity prevails in giving travelling allowance and batta to rural practitioners that attend courts as witnesses, and therefore requests Government to allow to a rural practitioner a batta of Re. 1, per day and an allowance of four annas per mile of journey by road and second class fare by train.

IX-(a) This Conference thanks the Government for having recommended the payment of a daily allowance of Rs. 5 to rural practitioners deputed for epidemic work, and requests that a conveyance allowance of four annas per mile be given to them, as they have to go, in some cases, even to places fifteen miles of their head quarters.

(b) this conference brings to the notice of Government that certain taluk boards, deduct from such allowance, a sum equal to subsidy of the practitioner, and so requests Government to direct that no such deduction shall be made.

X. This conference requests that at least one indpendent registered medical practitioner within the limits of a taluk board area be nominated as a member of that board to safeguard the interests of the public in matters of village sanitation, rural medical relief, child welfare, medical inspection of school children, and other allied subjects and that necessary provision be made for such nomination in the rules.

XI. This Conference thanks the editors of the Medical Practitioner and other journals, and others who sympathise with the aspiration of the rural practitioners and help them in their progress.

S. RAMASUBBU.

Copy of resolutions passed at a meeting of the Benares branch of the All-India Medical Licentiates' Association, held at the King Edward VII Hospital on the 21st September 1930.

1. This branch strongly protests against the proposal of the new All-India Medical Council, which intends to exclude the Medical Licentiates from registration in their All-India Medical Council Register.

2. As the Medical Licentiates are fully qualified bodies from the Government Medical Schools, under the State Medical Faculties, and are eligible for registration in the Provincial Medical Registers, it is not understood of what advantage it would be to the All-India Medical Council and the public, to exclude them from the All-India Medical Council Registration.

3. The Medical Licentiates form the backbone of the medical service in India, and are the chief factors in popularising the

Western Medical Science in almost every nook and corner of India. Their high state of efficiency--professional and administrative, have never been inferior to any. Their devotion to duty and self sacrifice in the famines and the epidemics, e.g. Cholera, Plague, Malaria &c, are too well known to the public and the Government.

4. They have also proved their loyalty and merits during the last Great War by volunteering to serve their King and Country unconditionally, while the others moved from their homes only on certain conditions and terms. The Medical Licentiates' devotion to duty and loyal services were fully recognised and highly appreciated by His Majesty the King-Emperor, their Excellencies the Viceroy and the Commander-in Chief of India.

5. In all civilised countries the Medical Licentiates are duly registered in the Medical Councils of their countries, even the most conservative medical body—the British Medical Association of England, is not hostile towards the Medical Licentiates of India and considers them fully eligible for admission as members of their association.

6. This branch, therefore, respecfully requests the Director General, Indian Medical Service, Hon'ble Sir Fazal Hussain Saheb, K. C. S. I., the Hon'ble Ministers, Legislative Councillors, Presidents of the Provincial Medical Council, Surgeon Generals and the Inspector Generals, to kindly give their full consideration and support to our interest and claims for registration in the All-India Medical Council register.

7. A deputation should be arranged to wait upon the Director General, Indian Medical Service, Hon'ble Sir Fazal Hussain Saheb and the Inspector Generals of the Civil Hospitals for the purpose.

8. The Secretary of the branch should submit copies of the resolution to the officers concerned for their information and necessary action.

Book Reviews

Radium Chikitsha (in Bengalee).—By Dr. Subodh Mitra. Published by the author. Chittaranja Seva Sadan, 148 Russa Rd, Calcutta 1st Edition 1927, Price Re. 1/—only.

This is a small hand book in Bengali on the treatment of diseases by Radium. The author has presented the subject in the vernacular of the province, where his field of activity lies, in a style which is at once literary and pleasant reading. He has attempted to convey to the minds of his readers in easily understandable language what Radium is, how it works and the diseases in which it has been found useful. Since the greatest use of Radium in the opinion of the authorities lies in the treatment of cancer and other diseases affecting the female genital organs—he has reviewed in detail the signs and symptoms that are found at the earliest stage of malignant disease affecting the cevrix and the uterus and has drawn pointed attention of his readers to the ever forgotten fact that Radium offers the best chance of cure if the patients are submitted to treatment at the first stage of development of the malignant disease. From this point of view his performance has been a notable success and the lucid style in which the book is written, will ensure quick comprehension of the subject by most non-medical men to whom it can be warmly recommended and for whom it has been primarily written. A few pages at the end of the book describe, in brief how X Rays are generated and how they are utilised in supplementing the action of Radium in the treatment of malignant diseases, especially the lymphatic territories. In discussing the relative merits of surgery versus Radiation Therapy in the treatment of cancer and other malignant diseases the author has expressed his views with commendable frankness and it is gratifying to note the absence of any dogmatic assertion with regard to the benefits that any particular method of treatment has to offer to the patients suffering from these fell diseases. The author has contented himself by quoting statistics and leaving the readers to form their own opinions and has appended several pictures showing the condition of disease before and after treatment by Radium and X Rays. The book does not claim to be exhaustive on the subject but the author has succeeded in presenting a difficult chapter of Therapeutics in easy vernacular and the Bengali readers both medical and non medical would gain considerably by a perusal of this useful little book in as much as they would come to learn precisely the stage at which cancer patients are to be subjected to Radium Therapy if the best results are to be obtained. The book should be widely read and merits extensive circulation:—Dr. P. B. Mukerji.

Aids to Bacteriology.—By W. Partridge, F. I. C. 1930 5th edition P p vii+311. Price Sh. 5/. net London: Bailliere Tindall and Cox.; 7 and 8 Henrietta street.—

This fifth edition of the book has been thoroughly revised, and much new matter has been added to make it up-to-date.

The following diseases receive mention for the first time in this book; tularæmia, meliodosis, canine gastro enterites in cats, fowl typhoid, bacillary white diahrroea, limber neck, black head, avian coccidiosis, forage Poisoning, New castle disease ('Ranikhet'), and Bacillus Salmeniceda infections (fish furunculosis). New sections have been added on the newer tuberculin tests, control of mosquitoes, soil fertilisation, bakers' yeast, purification of shell fish, mytilotoxin poisoning, diseases of live fish and dead fish, bacteriophagy etc. We are sure with these new additions, the aid is complete and uptodate, and will continue to maintain, the same popularity as its previous editions among the student population.—*V.C.S.*

Leprosy-Diagnosis, Treatment and Prevention.—By E, Muir, M. D., F. R. C. S. (Edin) 5th edition 5P. 73. illustrated. Published by the Indian Council of the British Empire Leprosy Relief Association, Delhi, Simla.

The aim of the author in writing this book is to present in a condense form the knowledge that is absolutely necessary to understand the nature of the disease and the lines along which it may be dealt with successfully. It is intended for the use of the medical practitioners in India who wish to be put in touch with practical means of dealing with leprosy from both the therapeutic and the public health points of view.

The book is divided into three chapters and four appendicies.

Chapter I deals exclusively with the Diagnosis of the disease. Finding of the lepra bacilli, and the presence of anæsthesia are mentioned as the two cardinal points in the diagnosis of this disease. The importance of early diagnosis, the differential diagnosis with syphilis, psoriasis, ring worm, Syringomyelia, tuberculosis, Raynaud's disease, Dermal Leishmaniasis, Leucoderma etc. have all been explained well.

The various phases of Leprosy, (e.g. periods of quiescense, reaction and resolution are also given. The importance of finding in what phase of leprosy a patient presents and his reactionary level towards efficient treatment is emphasised.

Chapter II deals with the treatment of the condition. The author lays down the maintenance of the patient's resistance to the disease, and the administration of drugs that would effectively resolve and break down the leproma as the two main general principles in the treatment of leprosy.

Esters and Sodium salts of Hydnocarpus are recommended as effective 'lepromalytes' and the recipe that has uniformly given encouraging results is

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Other treatments like counter irritation and application of trichlor acetic acid to the leprous nodule and Vaccine treatment are also given.

The last chapter gives a very useful and an interesting account on the prevention, and prophylaxis of the diseases.

The book is lucidly written and will amply repay all those interested in the eradication of Leprosy.

We confidently recommend it to all our readers.—*U.K.R.*

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. A.]

The Fourth Factor in Aetiology of Malaria.—By Dr. P.C. Roy Berhampur, Bengal. Published by the author. Price Rs. 5.

Modern Infant Feeding.—By Dr. Bernard Myers, C.M.G.M.D., M.R.C.P. Published by Messrs. Jonathan Cape. 30, Bedford sq. London. Copies can be had of Messrs. Butterworth & Co., Calcutta. Price Rs. 3-12.

Sub-Standard lives.—By Dr. Jehangir J. Cursetjee M. D. L.R.C.P., L.M.S., F.C.P.S., Bombay. Published by the author.

Eighteenth annual report of the United Fruit Co.—Published by Messrs. United Fruit Co., Medical Department 17. Battersey Place, New York.

Aids to Histology.—By Dr. Alexander Goodall M. D., F.R.C.P. (Edin.) Published by Messrs. Baillere Tindall and Cox 7 & 8, Henreitta St. Covent Garden London W. C. 2—Price sh. 3-6.

A Treatise on Hygiene and Public Health.—By Dr. B. N. Ghose. Published by Scientific Publishing Co,, Post. Box 7890. Calcutta. 7th Ed. Price Rs. 6-8 or sh. 10-6 net.

The necessity of sex Education.—The pleasures of remarriage.—By K. Dyer. Published by Messrs. Steno House Agency. Amritsar, India. Price Rs. 2 and Rs. 2-8 respectively.

Hand Book of Physiology.—19th Ed. by W. D. Halliburton, M.D., and R.J.S. McDowall. Published by Messrs. John Murray 50 A. Albemarle St. London W. I. Price 18/-

Clinical Chemistry in Practical Medicine. By G. P. Steuart M. sc., Ph. d., & D. M. Dunlop B. A. M. D. M. R. C. P. Published by E & S Livingstone 16 & 17. Teviot Place Edinburgh. Copies can be had of Messrs. Butterworth & Co., Ltd, Calcutta. Price Rs. 5/10 net.

A short History of the Royal Army medical corps.—By Col. Fred Smith. Published by Messrs. Gale and Polden Ltd.—Aldershot Price sh. 1/6 net Postage 3d.

The Improved prophylactic method in the Treatment of Eclampsia. By Prof: W. Stroganoff. Published by Messrs. E & S. Livingstone. Edinburgh Price sh. 10/6. net. Postage 6d.

Sanatorium. By Donald Stewart. Published by Messrs. Chatto and Windus, London. Price sh 7/6 nett.

Iritis: Nutrition and Exercises, 2nd Ed. By A Rabagliati. Published by Messrs. C. W. Daniel & Co., 46 Bernard St. London Price sh. 10/6 nett.

Diseases of the Blood, 2nd Ed. By Paul W. Clough. Published by A C. Black Ltd. 4,5,6. Soho Square, London. Price sh. 6/- nett.

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EDITED BY
Dr. U. RAMA RAU
AND
U. KRISHNA RAU M.B., B.S.

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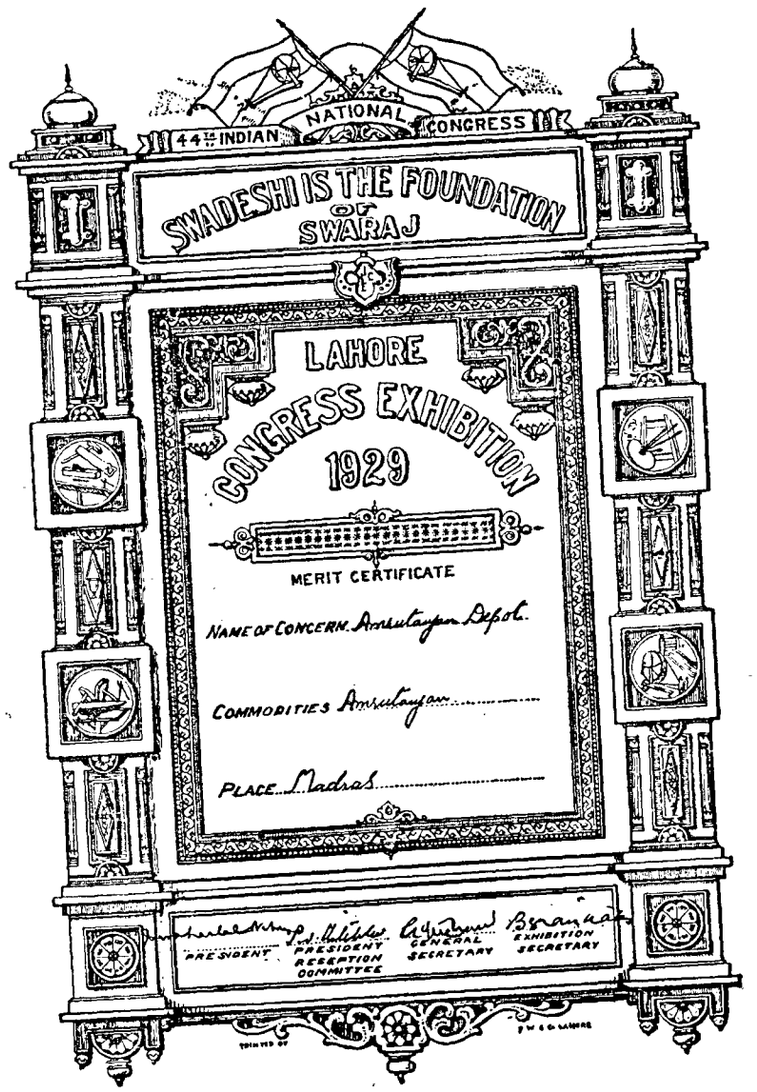

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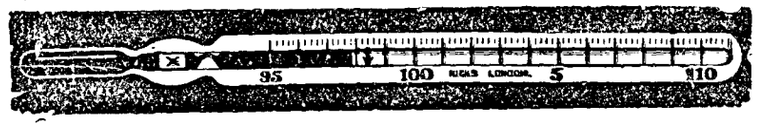

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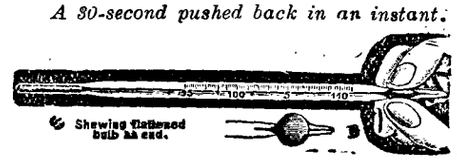

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Vol. 28] FEBRUARY, 1931 [No. 2

Original articles

THE USE OF APOCYNUM CANNABINUM IN HEART DISEASE*

BY

DR. EDWARD PODOLSKY, M.D.,

Clinical Assistant in Cardiology, Cumberland Hospital, Brooklyn, N.Y.

Apocynum cannabinum, or Canadian hemp, is a plant which has been used medicinally for more than a hundred years. It was first introduced to the medical profession by Knapp in 1826, who reported nineteen cases in which the extract of the plant had been given to provoke vomiting, diarrhœa and sweating with very successful results.

Knapp also was the first to record the action of apocynum on the pulse. Having taken a dose of 30 grains of the extract he noted that his pulse fell from 70 to 50 in one hour, and to 45 in two hours. From 1830 to 1900 many references are to be found in the literature on this drug, most of them favourable reports of its diuretic or emetic action. Acceptable scientific work on the subject of its action was absent, although Murphy in 1889 reported observations showing that its diuretic action was more pronounced in cases of heart disease than in cases of nephritis. In 1904,

*Specially contributed to the Antiseptic.

Wood reported a study conducted on animals which showed the drug to be possessed of a stimulating action on the cardio-inhibitory center and a constrictor of the blood vessels. In 1910 Dale and Laidlow isolated a crystalline principle, cymarin, with which they conducted careful experiments on warm blooded animals. They concluded that "cymarin has an action which is like that of digitalis in all respects, but not cumulative."

Among the early investigators to put forth enthusiastic claims for this drug was Bradford. He found that the principal action of apocynum was on the heart. The heart of a dog was slowed down to two beats to one respiration and even to three beats to two respirations. It was found that it stopped the heart of a frog in systole, and in mammals the heart is stopped in diastole. Further experiments by Ringer in England confirmed these views.

Apocynum brings about a quick reduction in the apex rate of the heart, a dimunition in the pulse deficit, diuresis in all cases of œdema, and simultaneous improvement in the general clinical condition. Its most disagreeable feature is in the nausea and vomiting which it produces, and this has served more than anything else to prevent the drug from becoming popular in its use as a heart remedy.

The action of apocynum on the heart is manifested only so long as it is given three times a day. Signs and symptoms which disappear under its use begin to reappear within 48 hours after its discontinuance. However, while it is being given, the favourable effects due to apocynum usually exceed those produced by digitalis.

Electrocardiograms show an inversion of the T wave deflection in Lead II under the influence of apocynum. Digitalis administered subsequently in the same cases has a more pronounced beneficial effect, which lasts for many days and is not accompanied by the extreme discomfort which follows the use of apocynum. This fluid extract of apocynum has been recommended in doses of 16 minims. This is somewhat insufficient; it might be used with greater advantage in increased doses of at least 30 minims. In combination with digitalis it exerts its greatest benefit, and it is a suggestion worth trying in some cases which do not respond to the action of digitalis alone.

Another drug similar in its actions and closely allied to apocynum is convallaria majalis, or lily of the valley. This drug has been known in medicine for hundreds of years. Laigre, in 1903, refers to its use as early as 1580 by a French physician who wrote concerning it: "The Germans use it to fortify the heart, the brain and other noble organs. They employ it also in

palpitation." In 1770, according to Laigre, "the stimulating, diuretic and calming virtues of the plant in asthma due to cardiac trouble," was recognized by Ferrein.

Since 1880, a large majority of all articles concerning the therapeutic uses of convallaria have emphasized its "truly remarkable diuretic properties," and at least one writer has pleaded for its universal adoption under the attractive caption "The vegetable Trocar."

Moriquard and Dellenbaugh recommended the infusion of the leaves; Germain See preferred the aqueous extract of the root, while Laigre recognized differences in the action of the two glucosides contained in the plant, convallarin and convallamarin and urged the use of these glucosides.

The official (N. F.) preparation in America is the fluid-extract of the root. The dose recommended is ·5 c.c. It may go as high as 5, 10 or 15 c.c., three times a day. The ·5 c.c. dose is far too small. To get appreciable results the higher doses are recommended.

Convallaria has been found to cause a lowering of the apex rate, dimunition in the pulse deficit, diuresis, a decrease in symptoms such as dyspnœa, anorexia and headache. The action is similar to that of digitalis. Nausea and vomiting occur, but not as pronouncedly as with apocynum. As with apocynum the drug causes an inversion of the T wave in the second lead, and as with apocynum the action is transient, which is not the case with digitalis. Perhaps this drug may be used in combination with digitalis to enhance its action, in cases where digitalis alone has been found to be not of much value.

Both apocynum and convallaria are worthwhile heart remedies which possess digitalis-like action and which in former times were much in use for their cardiotonic and diuretic actions. Unlike digitalis their action is only transient, while that of digitalis is cumulative. They act only when they are being administered. Like digitalis they cause nausea and vomiting, but to a more marked degree, and for this reason have not been very popular. Their use alone in heart disease is perhaps limited, but in appropriate combination with digitalis will often serve to render the latter drug more effective in certain cases which to all intents and purposes are digitalis-refractory.

LEPROSY AS IT AFFECTS THE EAR, NOSE AND THROAT*

BY

DR. G. RAGHUNATHA RAO. D.M.C. (MAD.), D.T.M. (BENG.)

Research worker in Leprosy under the Govt. of Bihar and Orrissa, at Purulia (Bihar).

Ears.—The swollen and nodular ears of the advanced skin leper is too familiar a sight to be easily forgotten. But by the time, this lesion has appeared, the disease has reached the topmost stage and the sufferer has become the most infectious leper. Not only in this advanced stage are the ears affected in leprosy but also in the earlier stages of the disease. A thorough examination of the ears—specially of the external ears, is necessary in every case of leprosy—no matter what stage the case may be in, excepting of course the secondary nerve cases or as they are termed the " Burutonts."

The middle ear and the internal ear are not known to be directly affected in leprosy. A close study of the literature on leprosy, does not reveal any instance of the direct involvement of either the middle ear or the internal ear. The middle ear may be involved, by a spread from the nose, through the eustachian tube. Thus it is not uncommon to find cases of Eustachian deafness, among the highly advanced (B_3) and the moderately advanced (B_2) skin types of lepers. But, when one considers the nature of the lesions in the nose, in such cases, and the case with which, the leprous infiltration can extend through the Eustachian tube to the middle ear, it is rather surprising that cases of eustachian deafness, and middle ear affections are not more frequent.

External Ears—The Pinna.—Two types of lesions are common :—(viz) anæsthesia and nodules. In the nerve type of cases, when the great auricular nerve is affected, anæsthesia of the pinna is common. The auriculotemporal nerve is also not uncommonly affected. When this happens, anæsthesia of that part of the pinna which is supplied by this nerve becomes manifest. Subsequently, when the case passes on to the skin type, the pinna,—specially the lobule, may become bacteriologically positive. It is to be noted that the cartilaginous part is unaffected, leprous infiltration being confined to the skin. Even in advanced skin type of lepers (B_3 cases), when nodules form, they are confined to the skin and they may extend down to the subcutaneous tissues;

*Specially contributed to the Antiseptic.

but the cartilaginous part is never encroached upon. Nodules generally appear only on the lateral margin of the pinna. Very few nodules are found elsewhere.

The pinna is devoid of fat and there is not much loose areolar tissue. The skin is thin and tightly stretched over the cartilage. Such being the anatomical arrangement, it is rather surprising, how big nodules could form in this region. But this surprise increases in degree, when one considers the almost absolute freedom of the cartilage from the leprous infiltration. Even when big nodules are formed, they are seen to be strictly confined to the skin and subcutaneous tissues. This could be easily verified by grasping the nodules between the forefinger and the thumb and moving them over the underlying cartilaginous margin. The surgical treatment of these nodules is, in fact, based upon this comparative freedom of the cartilage from the leprous infiltration.

Pathology.—As already stated, the anæsthesia of the pinna, in the early nerve (A_1) cases and in the early mixed nerve and skin (A_1-B_1) cases, is due to the involvement of the great auricular or the auriculotemporal nerve. As a result of the formation of granuloma, inside the sheath of the nerve, the nutrition of the axis-cylinders suffers and this may explain the impaired cutaneous sensation of the pinna.

The process of nodule formation in the pinna, does not materially differ from the same elsewhere in the body, nor is there any noteworthy difference between the structure of the nodules in this region and elsewhere.

Differential Diagnosis.—Nodules do not appear in any other disease. Even in advanced cases of dermal Leishmaniasis, the ears are unaffected. Possibly, in well marked cases of xanthoma tuberosum multiplex—a few nodules may appear on the ears. But even then their appearance is nothing like what one sees in leprosy. Also, it is a very rare disease. Keloids are easily distinguished from leprous nodules, by their very appearance and colour. If any doubt arises, a clip of the size of a nailparing, deep enough to include the corium of the skin, may be taken, and the under surface of the clip, may be rubbed on to a clean slide. The resulting smear is stained by Ziehl-Neelson's method, and examined microscopically. If the nodule is leprotic, numerous acid fast bacilli (m lepræ) may be found :

Treatment for anaesthesia:—Paint an aqueous solution o trichloracetic acid, strength 1 in 5, on the anæsthetic areas, once in 10 days. Only distilled water should be used for dilution.

For nodules.—If small and difficult to excise, paint an aqueous solution of trichloracetic acid 1 : 1, once in 10 days. For

larger nodules, excision is the best method of treatment. A special curved forceps, the curve of which closely corresponds to the curve of the external or lateral margin of the pinna, is applied to it, in such a way that all the nodules situated on the margin are lateral to the forceps and the lateral margin of the underlying cartilage lies medially. A certain amount of care is necessary in applying this forceps. The cartilaginous margin should not be caught hold of. With a pair of sharp scissors curved on the flat, all the nodules and other excrescences are cut off and the cut surface touched with pure carbolic acid to prevent hæmorrhage and sepsis. Then the forceps is removed and the wound dressed with a pledget of cotton-wool dipped in Friar's Balsam. When the balsam dries up, the cotton adheres to the wound and effectively seals it, thus obviating the necessity for a bandage. The patient should be instructed not to take a bath on that day lest the wetting of the dressings should delay the healing of the wound A certain amount of artistic sense is necessary in performing this excision. After the removal of the nodules and other excrescences, the patient should have a well formed pinna and not a mutilated or irregularly dented one. The cut margin should look even and not serrated or bevelled. No loose tags of skin should be left behind. When properly performed, it is a distinct advantage to the patient.

The removal of the nodules, apart from giving the patient normal looking ears, serves to break up some of the foci. Large numbers of Lepra cells are broken up and m. lepræ are liberated in large numbers and thrown into the general circulation. These serve as antigens and stimulate the defensive mechanism of the body. Generally, a mild reaction ensues and the patient's general condition improves thereafter. So, this cutting off of nodules acts just as a dose of Pot. Iodide or as an injection of hydnocarpus oil or one of its several derivatives. It is advisable not to deal with both the ears at one sitting, lest a severe reaction should be provoked. Sometimes the nodules undergo suppuration, due to secondary infection and become converted into small abscesses. Incision, evacuation of the pus and antiseptic dressings, are the measures usually required to give relief in such cases.

Auditory canal.—Leprous affections of the auditory canal are not known. Myiasis may occur in the auditory canal, especially in dirty, disabled, advanced lepers (mostly beggars), but this is comparatively rarer than myiasis of the nasal cavities.

Nose.—The nasal mucous membrane has been, from remote times, the object of attack in connection with the vexed question of the channel of infection. Too much attention has been devoted

in the past, to the study of the nasal mucous membrane, with a view to definitely incriminate this tissue, as the only portal of entry for the M. lepræ, to the exclusion of all other possible modes of infection. But, the failure to find any lesion at this site, in a fairly large number of early cases of leprosy, led to a search for the other possible channels of infection. The nasal mucous membrane undoubtedly serves as the channel of infection in some cases, but not in every case of leprosy. The present position in regard to this question, may briefly be stated thus :—

(1) In cold countries many clothes are worn and practically, the whole of the body, excepting the face, is covered by clothing. There are no exposed parts of the body surface; and hence the nasal mucous membrane forms the only available site for inoculation.

Besides, the greater frequency of occurrence of respiratory disorders in cold climates helps the spread of the disease by "Droplet infection," from the nasal discharges of those that have latent or patent nasal lesions.

(2) In warm countries, on the other hand, few clothes are habitually worn and a large surface of the body is exposed to injury. So, there are plenty of sites available for inoculation.

The occurrence of early nasal lesions in some cases, proving that the infection might have taken place through the nose in such cases, can be accounted for, by the habit of "Picking of the nose", so common in those who are harbouring intestinal worms specially oxyuris vermicularis". And it would be a matter for surprise, if any resident of a warm climate could be found, entirely free from Helminthic infection of any sort.

Recent research has shown that the initial lesion generally appears at the site of inoculation, in the majority of cases. Judged by this criterion (viz.) the location of the initial lesions, several exposed parts of the body may become the sites of inoculation.

Lesions of the nose. Almost all of the different types of lesions appearing on the skin may be met with in the nose.

Externally.—Depigmented and anesthetic patches may be present on the nose. Erythematous patches and small nodules may also appear on the nose;—the latter, generally affecting the "Alæ nasi". *Internally*—The mucus membrane also presents lesions corresponding to the different types of skin lesions :— Thus, there may be dry and blanched areas on the anterior aspects of the nasal septum, the normal moist red colour of the

mucus membrane being absent. This corresponds to the depigmented patch on the skin.

Corresponding to the Para and Hyperkeratosis of the skin, dry rhinitis with scabs may be present in the nose, and this may be the earliest sign of the disease. Dry rhinitis may, later on, give rise to a severe catarrh and epistaxis may result. In fact epistaxis may be the earliest symptom in some cases.

Actual anæsthesia, with or without loss of the sense of smell, may be present inside the nose—this lesion generally affecting the septum. Nodules may appear on the septum. Nodules may be present also, in the middle and interior nasal conchae. When these nodules break down, deep ulcers result and there may be repeated attacks of epistaxis. These ulcers take a long time to heal. In fact, lesions of the nose may persist, even long after the other lesions have disappeared. Such cases, as are having only persistent nasal lesions, by virtue of the fact that they are apparently healthy and free from all other active lesions elsewhere on the body, are allowed to mix with the healthy, thus infecting a great many of those that come into contact with them. Too much stress cannot, therefore, be laid on the importance of carrying out a very thorough examination of all nasal cavities, of all patients, who have lost all the active signs of the disease elsewhere and who are about to be paroled or discharged symptom-free.

When nodules on the septum break down and form ulcers, these ulcers become secondarily infected with pyogenic organisms. Such ulcers, as already stated, persist for a long time,—the ulcerative process gradually destroying the septum. In secondary nerve cases, the septum may be gradually absorbed in the same way as the small bones of the digits are absorbed; or it may undergo necrosis and be destroyed. In any case, a flattened nose is the result.

In nodular leprosy, the ulcerative process that accompanies the breaking down of nodules, may even destroy the turbinated bones, or at least a portion of them. The Vomer is occasionally destroyed along with the bony septum of the nose, both in nodular as well as in secondary nerve cases,—in the former, by ulcerative process, and in the latter, by impaired nutrition, due to loss of trophic influence, consequent on the destruction of trophic nerve fibres of the septum. When foul smelling ulcers are present, in the nose, specially in nodular cases, the possibility of the occurrence of myiasis should be remembered. The presence of foul smelling ulcers, with their sanguinopurulent discharges, serves to attract flies and other carnivorous insects, which generally enter the nasal cavities, deposit their eggs and come out, specially when the

patients are asleep. The presence of anæsthesia renders this possible. The eggs hatch out into larvae in time and these larvae begin to burrow into the tissues, causing haemorrhage and pain. Very soon, the whole face becomes swollen to such an extent as to mask the natural features. The eyes may be practically closed by the heavy, overhanging, oedematous eyebrows. Fever is common. In severe cases the features may be such, as to justify a diagnosis of erysepelas. Considerable damage to the nasal tissues may result from this.

In a case of nasal myiasis that occured in the Cuttack Leper Asylum, a hole, admitting an ordinary sized goose-squill, just in the middle line of the nose, midway between the tip and the root of the nose, resulted. In another severe case, the whole nasal septum, the vomer and the turbinated bones, were all destroyed, and the patient developed a flattened nose with a deep cavity inside.

Lastly, it should be remembered, that rhinophyma may be the earliest sign in some cases. The writer has seen several early nerve cases passing on to the early skin stage, who developed rhinophyma, long before the appearance of the swelling and erythema of the skin lesions. In these cases, the rhinophyma probably indicated an extension of the disease.

Pathology.—The lesions of the nose, do not materially differ from those on the skin and other parts of the body.

Differential Diagnosis.—When simple dry rhinitis with scabs is present, it is not possible and not justifiable, to diagnose definitely leprosy. But if there is a clear history of contact with an infectious leper, leprosy may be suspected. If dry rhinitis is accompanied by vague nerve pains and periodical rises of temperature, leprosy may quite reasonably be suspected, but a definite diagnosis cannot be made.

Rhinophyma, with repeated attacks of epistaxis or severe catarrh, may raise a suspicion of leprosy; but may not justify a definite diagnosis of that disease, in the absence of any one of the cardinal signs of the disease.

The presence of ulcers and nodules inside the nose, need cause no difficulty in diagnosis, as, by the time these lesions appear, there are other obvious signs of the disease on the skin, elsewhere. It is, of course, extremely rare to find cases showing only nasal lesions, without any other kind of lesion elsewhere on any other part of the body.

Treatment.—For dry rhinitis with scabs—Simple painting of the inside of the nose, with hydnocarpus oil, to which, either 1% of

double distilled creosote or ¼% of iodine is added, will be enough. But, for catarrh and epistaxis, the following method of treatment is recommended:—The nose is irrigated with sterile-warm normal saline, morning and evening; and after thoroughly drying with a swab, hydnocarpus oil with 1% of D-D-creosote or ¼% Iodine may be painted on the septum, and other affected areas or a solution containing glycerine 2 parts and Tr-iodi BP 1 part, may be painted. The writer has been using this glycerised iodine, even in cases of foul ulcers and finds it to be a very valuable and cheap remedy.

When ulcers and nodules develop, the painting of a 5% solution (aqueous) of chromic acid, is said to give very good results. The writer can testify to the efficacy of this, from personal experience. When there are large nodules obstructing respiration, spraying of the nasal mucus membrane with a mixture of equal parts of ephedrine 3% aqueous solution and adrenalin 1 in 1000 solution of P. D. & Co., gives temporary relief. To enhance the therapeutic effects of this solution, an equal part of 1% solution of Atropine sulphate in normal saline may be added. This spray should be followed after 15 minutes to half an hour, by the application of the 5% aq-solution of chromic acid or the glycerised iodine, mentioned before.

Operative measures to relieve the obstruction are rarely called for, as nodules do not develop suddenly in a day or two. It is only during reactions either natural or provoked by anti-leprosy remedies that the nodules begin to swell, a temporary obstruction to respiration is caused, but the use of the spray suggested above, gives remarkable relief and the continued use of it, may avoid many a hurried tracheotomy. In exceptionally severe reactions, when the nodules in the nose are much swollen and the patient is suffering from acute dyspnoea,—tracheotomy or laryngotomy may have to be performed to avoid death by asphyxia.

The repair of the destroyed nasal septum and the reshaping of a flattened nose are subjects, more appropriately for the plastic surgeon, than for the leprosy specialist, and hence these cannot be dealt with, in this paper.

As regards the treatment of nasal myiasis—it should always be remembered that the prevention of this condition is much easier than the treatment of it. Regular daily treatment of the nasal lesions, with the appropriate remedies and attention to general cleanliness of both the person as well as the environments, are all that are necessary. By way of treatment, the nose may be irrigated with warm 1 in 80 carbolic lotion or 1 in

1000 Hydrarg perchloride lotion. Turpentine has been recommended as a larvicide. Pledgets of cotton wool soaked in recitified oil of turpentine are introduced high up into the anterior nares, retained there for some time—say half an hour, and then taken out. It is claimed that the turpentine irritates the worms (larvæ) which come out gradually. The writer can, from personal experience, testify to the efficacy of turpentine in cases in which there is a moderate degree of infestation.

Pure chloroform has been recommended, as being more efficacious than turpentine. Although the efficacy of chloroform cannot be questioned, still, its use is not without danger. The writer, very much prefers to use a ½% solution of chloroform in water, for irrigating the nasal cavities, instead of pure chloroform. Many other combinations have been suggested, as for example—a mixture of chloroform, eucalyptus oil and turpentine oil or, 2% solution of camphor in turpentine oil. But the writer prefers to use a 2% solution of camphor in turpentine for cases of a moderate infestation and warm 1 in 1000 solution of hydrarg per chloride or 1 in 80 carbolic or ½% Aqua chloroform in cases of severe infestation. The continued use of turpentine in severe cases, has led to the subsequent development of A. nephritis; and especially in advanced and crippled lepors, whose powers of resistance are not too strong, the possibility of this should be kept in mind. Lastly, it is necessary to consider to what extent the sense of smell is affected in leprosy. In cases of extensive lesions of the nose and nasopharynx, the sense of smell is more or less completely lost. But impairment of the sense of smell, of varying degrees, is common in all nodular cases and also in some nerve type of cases showing a preponderance of facial lesions.

Nasopharynx.—The nasopharynx is also involved in advanced skin type of cases (B_3 cases). The presence of anæsthesia in this region cannot be determined easily and this, probably, accounts for the entire absence of any mention of this lesion in the literature on leprosy. When nodules form in the nasopharynx, the patient begins to experience dyspnœa, the intensity of which varies according to the size and number of nodules. This dyspnœa may increase to such an extent as to necessitate a hurried tracheotomy or laryngotomy, when the nodules are swollen during a reaction, either natural or provoked by anti-leprosy remedies. When nodules subsequently break down into ulcers, the ulcerative process may sometimes involve a small nasal artery, the erosion of which, may give rise to alarming hæmorrhage. In such cases, thromboplastin or hæmoplastin (P.D. & Co's) will have to be used. A small pledget of cotton wool soaked in hæmoplastin is pushed high up into the anterior nares and then gradually pushed

back so that it may effectively plug the posterior nares. This plugging should be repeated until the bleeding stops. If hæmoplastin is not available, the following mixture may be tried :—

℞

Ephedrine Hydrochloride	gr. 5
Adrenalin (1 in 1000) P.D. & Co's	ʒi
Tr. Ferri Perchlor	ʒi
Ext. Hemmamelis Liqd.	adʒss.

A pledget of cotton wool soaked in this mixture may be used to plug the posterior nares. Hæmoplastin, of course, has a quicker effect.

In cases of nasal myiasis the nasopharynx is also involved. The larvae burrow into the deeper tissues, causing numerous small ulcers. These ulcers, because of their concealed, or rather not easily accessible situation, are effectively protected from antiseptics and as such, are very difficult to deal with. Only a prolonged treatment by nasal irrigations with antiseptic lotions etc., will have any effect on these ulcers.

Pharynx.—Pharyngeal involvement is quite common in advanced skin type of cases (B_3 cases). It is doubtful, if early nerve lesions, such as anæsthetic or hyperesthetic patches, ever appear in this region. Even in cases of the purely nerve type, in which facial lesions preponderate, anæsthesia or hyperesthesia of the pharyngeal mucous membrane has not so far been recorded. On the other hand nodular lesions are fairly common. These are the result of extension from the nose and nasopharynx through the lymphatics. The writer has frequently seen nodular lesions occurring specially in the region of the so-called pharngeal tonsils. These nodules begin to swell during reactions and cause obstruction to respiration, as well as dysphagia. When these nodules break down into ulcers, deglutition becomes still more painful. The scars that result, when these ulcers heal, cause a permanent narrowing of the pharynx, and in such cases, dysphagia becomes a permanent complaint.

The Fauces, Tonsils and Palate.—Nodules and ulcers are more common on the fauces than nerve lesions. In fact, nerve lesions have not so far been recorded, in this region. The scars that result from the healing of ulcers cause a narrowing of the pharyngeal orifice which gives rise to marked dysphagia. In severe cases, the pillars of the fauces, may be destroyed by ulcerative process and replaced by scar tissue, which again may cause a considerable narrowing of the pharyngeal orifice.

The tonsils are sometimes involved in highly advanced skin type of cases (B_3 cases) who have extensive nodular lesions in the nasopharynx, and pharynx. Probably, in these cases, the tonsillar involvement is due to the extension from posterior nares and the nasopharynx through the lymphatics or sometimes, by contiguity. The essential lymphoid tissues may be replaced by scar tissue when these nodules heal. During the phase of reaction, the affected tonsils may swell to such an extent as to cause acute dysphagia.

Palate.—Corresponding to the depigmented and anæsthetic patches of the skin, dry, pale, blanched areas, are sometimes seen on the hard palate. But it is doubtful if actual anæsthesia is ever present in this region. When there are extensive nodular lesions, affecting the nasopharynx the palate is also involved. Slightly thickened and red patches (infiltrated areas) may be seen on the hard palate in B_3 cases, but definite nodules as seen in the nose, are rather rare in this region. On the other hand, the soft palate may show definite nodules. When these infiltrated areas and nodules swell during reactions, considerable difficulty in swallowing may be caused. If these nodules and infiltrated areas break down into ulcers, these ulcers continue to excrete large numbers of M. leprae in their discharges and the oral secretions of such patients may be highly infective. After healing, these ulcers leave behind deeply pigmented scars. The writer has seen a few advanced skin (B_3) cases, in whom the entire soft palate has been destroyed and replaced by scanty scar-tissue.

Perforation of the palate is not uncommon ; but in most of the cases, who show this lesion, there is probably an underlying syphilitic taint. It is doubtful if leprosy *per se* can cause perforation of the palate. This question requires further investigation.

Tongue.—Anæsthesia of the tongue has not been recorded and this is probably due to the fact that the tongue is rather rich in its nerve and vascular supply. Nodules of the tongue are quite common in B_3 cases. In some cases, instead of definite nodules the whole tongue may be enlarged, due to a generalised infiltration of the whole organ, resulting in the production of the condition known as " macroglossia "; this, closely corresponds to the " Leontiasis " type of skin lesion affecting the whole face

Nodules of the tongue are very prone to break down into ulcers, as they are constantly exposed to injury—(e.g.) during mastication of food. These ulcers cause considerable pain, as the tongue is the most sensitive organ in the body. The pain may be so severe, specially during the phase of reaction, as to necessitate

nasal feeding for a few days. The writer had two such cases under his care, who had to subsist themselves mainly on liquid foods—milk. But these ulcers, if properly treated, heal quickly. It should not be supposed that in every case of nodular tongue these ulcers develop. It is very common, for the nodules to get absorbed, specially, if the patient undergoes effective antileprosy treatment with some hydnocarpus derivative, combined with the use of the appropriate local remedies. When the nodules resolve or when the ulcers heal, scarring, with deep pigmentation of the tongue and loss of the sense of taste are the results.

The lingual nerve is sometimes affected, in cases, in which, nerve type of lesions are more marked in the face and this may give rise to impairment of the sense of taste.

The writer has noted the peculiar susceptibility of syphilitic lepers to suffer from the severer types of lesions of the tongue, palate and pharynx. Also, those lepers, who smoke crude country made cigars, containing uncured or half-cured tobacco, are very apt to develop the severe types of lesions of the tongue, palate and pharynx. In the Cuttack Leper Asylum, the writer has observed how quickly nodular cases, previously free from any lesion of the tongue and throat, develop such lesions, when they begin to smoke crude country made cigars, known as "Picca" in Oriya. Nodular type of cases should avoid smoking at any cost.

Mouth.—Nodules may appear on the outer margins of the lips, probably as a result of extension from the facial lesions. Sometimes, ulcers of the lips, and ulcers at the angles of the mouth, may be met with, in advanced nodular cases,—specially those who have an underlying syphilitic taint, and those who indulge in smoking crude cigars.

Treatment.—Constitutional treatment with injections of hydnocarpus derivatives, is the first essential. Local treatment for the lesions of the different regions, as outlined below, should be regarded as secondary :—

The local treatment for nodules or ulcers of the pharynx, palate and tongue, consists, in the application of either a 5% aqueous solution of chromic acid or the glycerised iodine, mentioned elsewere or in the absence of any of these, pure hydnocarpus oil containing ½% of iodine or 1% of D-D-creosote may be painted on the lesions. Radium and X-rays have been tried on these lesions and beneficial effects have been reported. In cases of pharyngeal nodules and ulcers much scarring and its consequent narrowing of the pharyngeal orifice, may be prevented, by

timely radium applications. Ionic treatment with zinc salts, has been tried, in cases, showing severe nodular and ulcerative lesions of the nasopharynx, pharynx, palate and tongue, with varying degrees of success.

The usual, warm antiseptic gargles and mouth washes, should not be neglected. In fact, the local applications of special remedies, suggested above, should be preceded by a thorough wash with some mild and warm antiseptic lotion. The writer generally uses a warm in 2000 Pot. Permanganas lotion, as this is the cheapest. Warm sterile normal saline or 1 in 320 Carbolic or "Listerine" may also be used.

When there are numerous painful ulcers on the tongue and in the pharynx, warm boracic lotion 1 in 80 or 100, to which a few drops of a 1% solution of cocaine hydrochloride in normal saline, are added, may be used as a gargle. Cocaine or Tr.Opii may also be added to the local applications, to secure some local anodyne effect.

When there are large, inflamed, and painful nodules in the pharynx, or on the tongue, acute dysphagia, some relief may be afforded, by repeated sprayings with the ephedrine and adrenalin mixture, described already in connection with the treatment of nasal lesions.

Lastly, it is necessary to briefly describe the lesions affecting the larynx. The larynx is not primarily involved in leprosy. Lesions of the larynx are always the result of a downward spread, from the lesions of the pharynx, tongue, and the nasopharynx etc. It is only in advanced nodular cases, (B_3) that the larynx is affected. Nodules occur frequently in such cases on the false vocal cords and the epiglottis. When these nodules swell during reactions—acute obstruction to respiration ensues. A further contributory factor to this obstruction, which makes it all the more serious, is the spasm of the larynx induced by the inflammation of the affected false vocal cords and epiglottis. In such cases, a hurried laryngotomy may have to be done, to save life. But the judicious use of ephedrine and adrenalin spray may help to avoid any hurried operative interference.

It should be clearly recognised that, in cases with laryngeal affections, treatment with reaction-provoking drugs, like Pot. iodide and hydnocarpus derivatives, will only worsen the condition and imperil the patient's ' life.

In all B_3 cases, therefore, it is advisable to have a thorough examination made of the pharynx and the larynx (as far as possible) and treatment should be slow and not hurriedly pushed on. One should make sure that the patient has tolerated the particular dose administered, before the next increase in the dose

is given. In this way harmful reactions are avoided easily. In the event of the onset of a reaction, prompt treatment with antireaction remedies, the most important of which is the intravenous injection of 2 cc of a 1% solution of pot. antimony tartrate in N/1 saline, to which 0'5 % of carbolic acid is added, as a preservative, may save the patient from much of the perils of acute respiratory obstruction, and the doctor, from the worries incidental to a hurried tracheotomy or laryngotomy. Judicious administration of ephedrine orally may also be combined with the antimony injections to secure local action on the larynx. Ephedrine has the property of reducing congestion and relieving spasam, and as such, has a high value in cases of nodulation and spasam of the larynx in reacting lepers.

Externally—Ice compresses may be applied on the throat or ethylchloride spray may be used. Hot fomentations combined with steam inhalation may give some relief.

Sometimes, when the epiglottis is swollen, as for example, during reactions, partial obstruction to respiration results. In such cases, no time should be lost in carrying out antireaction measures—(viz.), antimony injections and ephedrine orally. To secure some direct local effect on the epiglottis, spraying with ephedrine cum adernalin mixture may be tried. If the obstruction increases, as is evidenced by cyanosis of the lips and face and air hunger, etc. etc., scarification of the epiglottis and its surrounding tissues may have to be done. If this is not possible, a laryngotomy should be done immediately, to save the patient's life.

Laryngeal involvement in leprosy, causes the voice to become husky. If the nodules on the false vocal cords break down into ulcers, as they do in some cases, the patient experiences considerable pain while speaking ; also, their presence generally induces spasm, specially, during reactions. This pain and spasm, both combine to produce a temporary aphonia, in some cases. Of course this is rare. After the subsidence of the reaction—the aphonia disappears spontaneously. But if irrepairable damage has been caused to the false vocal cords and the true vocal cords—permanent aphonia may result.

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THE TREATMENT OF GENUINE EPILEPSY*

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The nature of genuine epilepsy has not yet been fully determined, and it is therefore impossible to speak of a causal therapy, "established on scientific bases". The medical treatment also is merely symptomatic; experience alone can determine its scope and means of application. For this reason the efforts of our therapeutics, as regards medical treatment, have been directed above all towards eliminating the attacks, or at any rate towards rendering them less frequent and diminishing their violence. We must bear in mind that, according to our experience, it often occurs that the same medicament, in combination with the same diet and the same regime, which had produced such favourable results as to bring about the complete disappearance of the attacks in some cases, in others, merely diminish their frequency and violence, while in dealing with yet another class, excellent therapeutic effects are observed but up to a certain point only. These divergent results are to be met with, even where the clinic has made exactly similar observations.

On account of the fact, one cannot criticise too severely the daily practice which consists in ordering for any and every patient the same medicaments. We are not justified in thinking that it is merely necessary to prescribe for an epileptic a bromine or luminal cure and afterwards to attribute the persistance of the attacks to the inefficacy of the medicaments. Genuine epilepsy has various clinical forms. We must, therefore, recall to mind the foregoing remarks in connection with individual treatment. Choice of the medicine, prescription methods, the subsequent combination with an injection cure, are, as regards results, of just as much importance as the regularity of its absorption and the constant control of the effects observed. The patient should be kept under observation, therefere, during the whole course of the treatment and both the medication and the dose should be varied as may be considered advisable. *Consequently, there is no general rule governing the influence of medicaments on genuine epilepsy.*

In this paper I do not intend to enlarge upon prescriptions of diet or regime, nor upon the *ketogenous diet,* which is so important in infantile epilepsy. A diet *excluding* salt and spices is indispensable, particularly with the bromine treatment. In the case of the ketogenous treatment, it is necessary to take into account the weight of the patient and many other factors, and to prescribe the

*Specially contributed to the Antiseptic.

diet for a very co nsiderable period. The patient should be warned that not only the el ements but also the bread that he eats should be without salt or spices. Children in particular dislike this insipid bread, nor often do they prefer the "*bromopan*" prepared with bromine ointment. In such cases it is best to tell the parents to prepare the bread with a larger proportion of cumin seed, for children like it better this way. It is very important to follow the ketogenous diet not only the bromine but also in the luminal treatment. The parents of genuine epileptic children should be made to understand that they ought not to stuff their children with candies, cakes and similar delicacies, and that, while avoiding the entire range of carbohydrates, care should be taken that the diet is rich in fats. Butter and vegetable fats are the most beneficient. A glutenous acid of calcium and sodium, known as *Hosal*, and containing no chlorides, has recently been recommended to take the place of salt for the seasoning of cooked foods, but the patients do not like this very much either. Moreover, it cannot be incorporated prior to baking the bread. Recently *Reinhard von den velden* has recommended a preparation known as *Brom-Hosal* which is an alliance of the medical and dietetic prescriptions and contains 60% of bromine combined with the Hosal. He prescribes 3-5 grs. of *Brom-Hosal* daily. A meatless diet is also of importance.

Long and profound observation by clinical specialists as well as repeated examinations of the patient, are necessary in order to correctly determine the medication and the diet most suitable to genuine epileptics. This is far beyond the scope of the general practitioner. This is why it is advisable to place the patients for a certain time under observation in a mental clinic, exactly as sugar tolerance and methods of treatment should be determined for diabetics.

Among the medicaments most employed in cases of genuine epilepsy, the most important are *Bromine* and *Luminal*. The object is to replace the chlorides in the organism by bromides through the absorption of bromide. For this purpose bromium salts must be applied in sufficient quantities. In order to eliminate the chlorides I consider that, before embarking on the bromine cure properly speaking, *Theobromine* (3/4 Gr. 3times p. diem) or *Calcium-Theobromine* tablets should be prescribed for several days (3-4 days). The same result may be obtained by injection of 1-2 cc. of *Novasurol*, *Salirgan* or *Novurit*. The diuretic effects of the latter are even stronger and the elimination of chlorides more pronounced. There remains the cheapest but very effective method, that of prescribing soluble bromium salts. We must order therefore a large quantity of this medicament, and, calculating in advance when this supply will be exhausted, determine the

date on which the patient should get a new prescription made up, in order that the treatment may not be interrupted for a single day. In effect, such interruption often brings on an attack, which, according to our observations, is generally very violent. Calcium bromide contains 67% sodidm bromide, 77% ammonium bromide and 82% bromine. If the attacks are very violent and frequent, we give at the beginning 2 - 5 Gramms to 5 year old and 4-7 Gramms to 10 year old children. To adults 6 - 10 Gramms per diem. During the first three days we commence with 1/3, 1/2 and 3/4 of the dose respectively, only administering the full doses from the fourth day onwards. If the full doses take effect, we reduce them successively to 3 Grms. per diem for children and 5 Grms for adults at the rate of 1/2 Grm. p. diem. If the attacks disappear completely after one or two months, little by little we give them even smaller quantities, until eventually we reach only half the full dose. This quantity diminution must be carried out with utmost care and extended over 1 - 2 months.

A suitable prescription is the *Erlenmayer* mixture, viz.: Rp. Kalii bromati, Natr. bromati *aa* 100.0 Ammonii bromatt 50.0 M. D. ad vitrum. S. 2-3 times p. d. after meals ½ coffee-spoonful. The mixture of *Sandow* is composed of: Rp. Ammonii bromati 7. 5, Kalii bromati, Nater, bromati *aa.* 15.0 Acidi tartarici 25.0 Natr. bicarbonici 27.5 Sacch. alb. 10.0 M.D. ad vitrum, S. 1 table-spoonful in a glass of water.

With children, it would seem to be advisable to vary the doses from day to day, in order to avoid a bromine intoxication of the system; thus, one day we would give 2 grm, the next 3 grms and the third day 4 grms subsequently reducing the dose to 3 Grms, and then 2 grms. and so on. The same results may be attained by prescribing antepyrine with bromium salts. In the treatment of children *Bechterew's* mixture has proved extremely efficacious, viz: Rp. Inf. Adonidis vernalis 2.0: 180, Natr. brom, 10 Gr. Codeini phosph. O. 1 M. D. S. 3-4 times p. d. 1 table-spoonful. Tablets of *Polybromide*, likewise *Sedobrol* (60% Sodium bromide) are suitable for bromine treatment. The preparations containing composite bromium salts seldom induce bromintoxication, but on the other hand they contain a smaller proportion of bromine and are less to be reccomended on account of their high price. There are a very great number of such preparations, viz.: *Bromocoll*, *Bromipin*, *Bromglidine*, *Sabromind*, etc. It is possible to obtain a combination of bromine and calcium in tablets of *Brom-Kalziril*. To combine the treatment with valerian preparations, *Bromural* and *Adamon* may be used. It would appear to be often useful to saturate the organism with bromium salts. In such cases intervenous injections of *Bromcalcasol* in doses of 5-10 c.c. p. diem

should be given. *Luminal*, or the corresponding French product, *Gardenal*, or else the Hungarian product recently put on the market, *Sevenal*, should be tried whenever the bromine treatment fails to give results. The latter also contains phenylethylbarbituric acid. Adults should be given 0.05 Grms. and in very serious cases a maximum of 0.10 Grms. It is useless to give stronger doses, for if the luminal is ineffectual in these doses, it will remain equally ineffectual in stronger ones. The distribution of the daily doses of 0.15 – 0.30 Grams should be determined by the daily or nightly character of the attacks. On general principles, a small dose should be given in the morning and a stronger one in the evening. Thus, the calmative effects are produced during the patients' sleep and interfere less with their daily pursuits. Besides they only feel this calmative effect of luminal during the first few weeks. Even when taken during a number of years, a daily dose of 0·10—0·15 Grmms. of Luminal causes not the slightest discomfort. According to certain German authors, soldiers have gone through the most arduous war service while taking the above dose of luminal every day. Thanks to its euphoristic efforts Luminal ameliorates the patient's temper to an equal extent. Luminal may even be given to one and two year old children, in doses of 0·01—0·02 Grms. It is as well to prescribe luminal together with bicarbonate of soda, for it is better resorbed in an alkaline medium. An antepyrine combination is often frequently employed, viz.: Rp. Luminali 0·05 Antipyrini 0·10 Natrii bicarb. 0·30 Mfp. dentstal dos, acqual. No XXX. It is sometimes a good thing to prescribe 1-2 Ctgr. of belladonna extract together with the usual luminal treatment.

The most efficacious combination is generally that of bromine and luminal, bromine being taken during the day and luminal in the evening. It is often advisable to start off with the bromine cure as explained above, then to add luminal during the second or third week and finally, at the end of a month, gradually to suppress the bromine. The combination of the bromine and luminal cures with opiate preparations is better confined to hospital cases. The sodium salt component of luminal can also be given in sub-cutaneous doses of 0.05 to 0.15 Gramms.

A lesser known remedy for epilepsy is *Borax*, recommended by Gowers, in doses of 0·80-0·90 Gramms, 2-3 times a day. On account of its diuretic action, I only give it before the bromine cure or in combination with the latter. Rp. Natr. boracici 10·0 Gr. Natri bromati 15·0 Aqu. dest. 200·0 Gr. D. S. 2-3 times p.d. one tablespoonful.

When writing to advertisers, please mention " The Antiseptic."

In many cases, and above all with children and for attacks of petit-mal, as well as at the age of puberty, *Rosenthal's Epileptol* is more efficacious than bromine; the latter is a combined product of amidoformic acids (Acidum amidoformicum condensatum). It may also be used in cases where the patient cannot tolerate bromine.

Treatment by protein preparations, as well as injection cures, should also be mentioned. Often the former are only of use in cases which are refractory to the Bromine-Luminal treatment, but in general, however, they may be combined with it. Injections of plain milk or *Xyphalmilk* in the gluteal muscles may be given in 3 c.c. doses 3 times a week, with a total of 10-12 injections. The Hungarian *Epyleptolystine,* which contains bacterial serum as well as milk albumen, may be given in the same form ; likewise injections of *Dolken's vaccine.*

During the "*status epilepticus*" the essential is to subdue the attacks as soon as possible, and for this purpose energetic methods are to be counselled. Paraldehyde-bromoclysms, the microclysms recently recommended, together with luminal and a corresponding quantity of sodium solution, 10–20% luminal, in subcutaneous injections, has proved efficacious. Rp. Paraldehyde 5·0–6·0 Gramms. Natr. brom. 12·0 Mucilag. Gummi Arabici 10·0. Give half the preparation as a clyster after menstruation. I have often prescribed with beneficial results suppositories of a paraldehyde-luminal-sodium composition viz., Rp. Paraldehyde 4. 0 Gram. Luminal natr. 1. 0 Butyrii coacao qu. s. ut. f. suppositoria No. 10.

Among recent remedies *Somnifen,* which may be given 3-4 times a day, 20-30 drops at a time, should be mentioned. We were the first, in the year 1923, to employ this medicament in our clinic and we have registered several successes in the treatment of infantile epilepsy and the elimination of *petit-mal.* We were likewise the first to employ it in our clinic as a deterrent to the *status epilepticus.* We first give 4-5 c.c. in the form of an intravenous injection, and subsequently employ it as an intragluteal injection, Recently other authors have declared this method successful. The injection of hypertonic solutions of sugar may also prove effective against the status epilepticus. 20-40 c.c. of a 25-40% solution or an ampule of *Glucose* may be given daily. In very serious cases of *status epilepticu* we have given 20-40 cc. of a 15-20% solution of common salt also with good success. As a result of the hyperosmotic action in the brain, in connection with the blood and tissue fluids, it would seem probable that a certain depletion is produced, which induces a good therapeutical effect. Of course, we have at our disposition for

the treatment of genuine epilepsy and the *status epilepticus*, apart from medicinal therapeutics, numerous other therapeutical methods of proceedure.

THE RADICAL TREATMENT OF PILES BY INJECTIONS*

BY

DR. J. F. LOBO L. M. & S. L.M; D.P.H; D.T.M; (Liv), *Goa.*

This new method of treating internal hæmorrhoids and prolapse has met with such striking success in France and America that it is considered by many proctologists such as Bensaude of France as a method of choice and to be preferred to surgery, with its attendant destruction of tissue and danger of stricture.

It consists in injecting into the piles, sclerosing solutions such as that of quinine and ureahydrochloride, which is to be preferred to others on account of its local analgesic action.

The *modus operandi* of the sclerosing injection into a haemorrhoid depends on the formation of a fibrinous exudate, as a result of irritation which in turn presses on the vessel, diminishing the blood supply and thus causing the pile to atrophy or shrivel up completely.

The strength of the quinine and urea solution used is 5%, the dose being from 1 c.c. injected directly into a pile or 5 c.c. if infiltrated into the rectal mucosa, at one time, and the interval between injections being usually from 4 to 8 days.

I have treated a few cases by the injection method and the end-results have been so uniformly good that they might be worth recording:—

Case No. I. G. S. Male, aged 30. History of troublesome haemorrhage before and after defaecation for past 6 years. Was advised operation. Small internal piles visible under speculum. Six injections given at intervals two to four days directly into the piles. Haemorrhage stopped. Seen after one year, says, he is "cured completely."

Case No. II. C. S, male aged 50, suffering severely from haemorrhoids prolapse, no haemorrhage but abundant whitish discharge from anus for past 7 years. Anaemic, dyspeptic and constipated. Is obliged to take enema daily and the act of defaecation takes from ½ to 1 hour. Has been practically an invalid because of his illness. Before coming to me had received an injection of quinine and Urea elsewhere but it was followed by such painful œdema of the anal region, bleeding and fever for

*Specially contributed to the Antiseptic.

several days subsequently, that being worse, he abondoned the treatment altogether. Examination showed the anal aperture gaping with two large and several small piles blocking the way and apparently causing mechanical obstruction to the passage of faeces. Each individual pile was injected separately at intervals of 4 days. Finally the whole rectal mucosa for about an inch above the anus all round was infiltrated, one quarter area at each time. Within a month's time, the haemorrhoids had practically disappeared, the prolapse was gone and the white discharge had ceased altogether.

Case No. III. V. M. male aged 40. Complains of blood passing *per anum* every 8 days for past 10 years. Six years ago a fleshy tumour protruded out of the anus, which slips out ever since and has to be pushed in when straining at stool. Examination discloses a globular, pedunculated pile like a big black grape, dangling from the anus. Only one injection given was sufficient to stop all further haemorrhage. Five days after, the pile ceased to come out or give any further trouble. The patient declined to take further treatment.

Case No. IV. Wife of case No. 3 aged 35. History of blood passing from anus every month or two and whitish discharge replaced since 6 months by a serous discharge from anus. Complains of back ache and inability to sit for any length of time. On examination the inner lining of the anus was found everted with a bluish pile protruding. The patient was actually sitting, as it were, on a cushion formed of her own everted anal mucous membrane and the pile. The very first injection given into the pile caused, to my considerable surprise, the inversion of the whole everted anus as well as disappearance of the pile. A few more injections cured the patient of all her troubles.

I need not add here more cases of similar nature. Suffice it to say that all the patients without exception have pronounced the end-results as simply "marvellous".

Before adopting the injection treatment I used to deal with such piles by operation under general or spinal anæsthesia, each pile being secured by a clamp and the projecting mass burnt off by means of steel rods heated dull red on a Primus stove. But I believe that the cautery cannot eradicate the pile as completely as a sclerosing injection can do, and considering that the injection treatment obviates the inconvenience of *anti* and *post* operative treatment and the danger of sepsis and hæmorrhage and allows the patients, while under treatment, to follow their vocations, without going to bed, it must be hailed as a veritable boon to the pile-suffering public.

However, the injection method has its limitations. It is contra indicated in strangulated and sloughing piles, in pregnancy and in diseases of the skin of staphylococcal origin such as furunculosis. The method should not be employed in external piles. Even in internal piles great care should be taken that the injection is made well above the anorectal line, for if it be made too near the muco-cutaneous border, a very painful œdema is certain to result, which is likely to cast the injection treatment into discredit in the eyes of the patients. The untoward result referred to above under case No. II was apparently due to the injection being made into the anal skin, or at the muco-cutaneous line.

BRONCHIECTASIS*

BY

DR. N. N. DEY, L. R. C. P., L. R. C. S. (ED.), L. F. P. S. (GLAS)

Krishnagar, Nadia

This is one of the forms of Bronchitis.

Barty King's classification is instructive.

I. Pure, e. g., chronic bronchitis, broncho-pneumonic, chronic penumonic, pneumonic and pleuritic.

II. Tuberculous.

III. Traumatic, e.g., Aneurism, tumour, foreign body and syphilis.

IV. Congenital, called bronchiectasis universalis (rare), is always unilateral and very rare.

Etiology.—The essential factor in inducing bronchiectasis is weakening of the wall of the bronchus; because the bronchial wall is then unable to withstand (*resist*) the pressure of air in severe spasms (*spells*) of coughing and in straining.

At times the mere weight of the accumulated mucus (*Secretion*) may be enough to distend the terminal tubules as evidenced by the compression of a bronchus by aneurysm.

King lays stress on pleural adhesions in the initial dilatation of the tubes.

Bronchiectasis seems to have increased after epidemics of influenza. Osler says that in consecutive cases of bronchiectasis in his ward in 1904–5 the influenza bacillas was isolated.

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* Read before the Krishnagar Medical Association and sent to the *Antiseptic* for publication.

Classification.—1. Chronic bronchitis by weakening the bronchial wall and atrophy of muscles and cartilages.

2. Contraction of lung tissue as in phthisis.

3. Contraction of a big bronchus, e.g., aneurysm, syphilitic contraction or cancer.

Sites.—At the apex generally in chronic phthisis; at the base in chronic pleurisy emphysema.

The mucus membrane is involved and sometimes there is a narrowing of the lumen. The chronic cases are usually met in old subject with Chronic bronchitis.

Histology.—In the mucus membrane of the affected bronchii pavement epithelium replaces the cylindrical epithelium. The muscular coat is stretched, atrophied and the fibres are separated. The elastic tissue is also much stretched and separated. In large saccular bronchiectasis and in certain number of the cylindrical forms the lining membrane is ulcerated owing to retained secretions. The contents of some of the larger bronchiectasis cavities are horribly foetid.

Bronchiectasis is more common in the lower lobes of the lungs. According to shapes :—

I. Cylindrical or fusiform.

II. Saccular or oval or globular.

Symptoms.—Vary according to intensity of disease. (a) Cough (b) Dyspnœa (c) Expectoration ; may be emaciation, and fever with cynosis and clubbing of fingers and other signs of venous congestion. The most marked character is the way in which the sputum is brought up. On coughing some ounces of mucopurulent generally offensive (foetid) secretion is all at once expectorated. The fœtid odour of the expectoration is due to Valerianic and Butyric acids, Sulphuretted Hydrogen etc.

In children, the acute Broncho-pneumonic forms of the disease are seen and may end fatally and show severe symptoms.

The character of the cough and expectoration as described above are to be seen in large saccular bronchiectasis.

Sometimes change of position will bring on a violent fit of coughing, probably due to some of the secretion flowing from the dilated to an unaffected bronchial tube.

The daily fit of coughing generally takes place in the morning. The expectoration is usually greyish or greyish brown, fluid, purulent with a peculiar acid, sometimes foetid, odour. Placed in a

conical glass the sputum separates into a thick granular layer below and a thin mucoid intervening layer above, which is capped by a brownish froth.

Microscopically the sputum consists of pus corpuscles, large crystals of fattyacids, often many and arranged in bunches and hæmatoidin crystals, which are sometimes found. Elastic fibres are seldom found, except where there is ulceration of the bronchial walls. T.B. are not found.

Nummular expectoration as is seen in phthisical cavities is not common. Hæmorrhage has been seen in 65% cases.

Arthritis may occur. There is a remarkable association of abscess of the brain with Bronchiectasis.

Physical signs of Bronchiectasis.—With cylindrical tubes not much fibrosed various small and medium rales are heared, particularly at the bases. Tubular breathing will be audible if there is consolidation of the intervening lung from collapse or chronic interstial pneumonia. The affected side is retracted, especially in the middle and lower parts, impaired resonance, coarse bronchial or cavernous breathing and creaking rales widely diffused. The opposite lung may be partly emphysematous to compensate with much contraction of the lung, the heart will be drawn horizontally to the affected side and the right ventricle will become dilated.

Diagnosis.- X-ray examination affords valuable aid in diagnosis. From phthisis bronchiectasis is differentiated by the following signs and symptoms which are found in phthisis and not in bronchiectasis.

(1) Bronchial breathing.
(2) Crepitations in the lungs generally.
(3) Apex first usually involved.
(4) Presence of fever.
(5) Marked emaciation.
(6) Night sweats.
(7) Generally no foetor in sputum.
(8) T.B. in sputum.

The diagnosis is easy in the extensive, seculated, unilateral types associated with interstitial pneumonia or chronic pleurisy.

Treatment.—Medicinal treatment is unsatisfactory as it is not possible to heal the cavities.

General.—Attend to general health and nutrition, empty dilatation of bronchi, diminish amount of catarrh, degree of fœtor and lastly prevent relapse. Fresh air and plenty of good food,

cod liver oil, iron tonics, Arsenic, Hypophosphites, Syrup Ferri Iodide etc.

Special.—Creasote baths are most beneficial. A room, say 7 feet square and 8 feet high, devoid of furniture, made air tight almost by closing up chinks with cotton wool. Creasote is poured into a metal dish containing water and vaporised, placed in the middle of the room on an iron tripod with a spirit lamp (regulated) underneath; the water and creasote being added as required. Eyes should be protected by tight-fitting goggles, nostrils plugged with cotton wool. A dressing gown worn and a towel protecting the hair from smell. The lamp should be gradually raised. Patient enters the chamber and stays for a few minutes to ½ an hour every other day at first, then daily for 1 or 2 hours and with the lamp raised, when the patient can bear it, sits directly over the dish and inhales the vapour.

Case I 1927—Brahmin Belpooker.

A male aged about 65 years with history of syphilis and symptoms simulating influenza about 5 years ago (saccular type) had chronic cough (bronchitis) and emphysema and much foetid and pussy expectoration in large quantities, easily brought up in the mornings. There was dyspnoea, emaciation, fever and cyanosis. It was treated by his village medical attendants as a case of phthisis. Most of the physical signs were found at the base. Sputum was examined. No T.B. found, no elastic tissue. Plenty of staphylo coccus. There were no night sweats.

Case II 1929—Male aged 45, Govindpur, near Soanadanga. Hindu. Chronic bronchitis and history of pleurisy (adhesions) fœtid mucopurulent expectoration, brought up easily in large quantities; fever and emaciation—no dyspnœa or cyanosis.

Cases & Comments

DYSENTERY AND ITS TREATMENTS

BY

M. B. RAMACHANDRA, RAU, M.B. & C.M.

Chief Medical and Sanitary Officer, Maharaja's Hospital, Pudukotta.

The object in writing this article is not because medical men do not know the treatment, but to emphasise more the importance of proper treatment at the very outset of the disease.

Text-books have described in detail and several medical practitioners have contributed articles on this subject in medical journals. In spite of this, I have seen much time being wasted by general practitioners by resorting to astringent drugs and injections of emetine hydrochloride. They think that emetine should be injected the moment dysentery cases are brought to them.

I could understand laymen ignoring the seriousness of the disease and resorting to all sorts of quack treatment and finally bringing the patient to a hospital in a hopelessly toxaemic condition —the patient being dull or comatose, with bad furred brown tongue, high temperature, and foul, fleshy smelling stools.

I have seen such conditions, in children and any amount of rational treatment at that late stage of toxaemia is bound to fail and has failed.

One such case is a boy of three years old, son of a schoolmaster developed dysentery and the father had him treated by an ayurvedic physician for about 5 or 6 days. I was called in to see the boy on the 7th day when he became fully comatose. The boy was in highly toxaemic condition with foul gangrenous smelling stools.

I told them the prognosis but any how I got the case admitted in the hospital and tried my level best to save the boy. The boy was in a comatose condition for about a week and then passed away in spite of anti-dysenteric serum injections and lavage of large intestines with rivanol solution.

There is no question about the diagnosis of this case and lavage and serum injections are the rational treatment. Of course, internally he was having saline and glucose. Destruction of cells has set in and he developed Kerotomalacia first in one eye and then in the other, resulting in complete shrivelling up of the eye balls, in spite of injections of ostelin.

If these treatments have been adopted early, surely the boy would have been saved. This is an instance where Indian medicine has been tried. There are other instances where medical men waste time by giving emetine injections and finally noting no improvements, resort to Anti Dysentery Serum injections with the result that most cases fail. So, in the case of children, as a rule, Bacilly Dysentery is more common than Amoebic Dysentery and in all cases of acute Dysentery, it is wise to give an injection of 5 to 10 c.c. of Anti-Dysenteric Serum and the Emetine injection separately.

By so doing, one gets control over the havoos of the disease, especially, in rural areas and in places where medical men have no chance for microscopes.

But where there are microscopes, a definite diagnosis can properly be made and then treatment started according to the nature of infection.

DIFFERENTIAL DIAGNOSIS OF DYSENTERIES.

Clinical.

Amœbic Dysentery.	*Bacillary Dysentery.*
(1) Insidious onset.	(1) Acute onset.
(2) There may be fever or not.	(2) Fever is more marked.
(3) Stools are fæcal in character with blood and mucus.	(3) Stools are watery, with large quantities of blood. Sometimes pure blood. Alkaline in re-action.
(4) Toxic symptoms are not more marked.	(4) Toxic symptoms are much more pronounced.
(5) Sporadic in nature.	(5) Always epidemic in nature.

Microscopic.

(1) Amoeba present engulfing R.B.C.	(1) Cellular exudate is much more marked.
(2) Charcot Layden Crystals are found.	(2) Macrophages are more marked and is characteristic of Bacillary Dysentery. Polymorpho nuclear Leucocytes, Epithelial cells and Fibrin found in stools.
(3) Pus cells are found but cellular exudate is not much.	
(4) R.B.C. is found in large numbers.	

As a rule in all actue Bacilly Dysentery, I have found the following very successful.

Treatment of acute Bacillary Dysentery.—The serum has often a marked effect upon the disease, hastening the cure, ameliorating symptoms, and reducing the mortality.

Therefore, in severe cases 20 c.c. of Anti Dysenteric Serum must be injected twice a day for the first two days and then, as the symptoms abate, one injection a day, for another two days. By

this there will be marked improvement in temperature and other general conditions. The injections may be stopped now. Internally Salines are prescribed until the motions become faeculent. There is generally considerable pain in these acute cases, and therefore a fomentation sprinkled with Laudanam should be applied to the abdomen and the tenesmus should be relieved by suppositories of Morphia. If these remedies fail, then hypodermic injections of Morphia and Atropine must be given.

Rectal lavage is an important necessity. The large bowel is washed first with warm Boric and then with Rivanol Sol. ½% This is done twice a day. Rivanol solution produces very good result.

After the acute stage is over we employ some astringent drugs such as Tannalbin 15 Gr. 4 times a day or Bismuth Subnitras 10 Gr. 4 times a day according to the nature of the case.

Diet.—The best diet is barley water, whey, orange juice, and glucose during the acute stage, later on, bread and coffee, and sago conjee, and gruel conjee may be tried.

Treatment in acute amoebic dysentery.—Hypodermic injections of Emetine Hydrochloride 1 Gr. in Sterile normal Saline or distilled water, should be given once a day until 6 injections are given. The seat of injections will be always painful for which hot fomentations are good.

By mouth I have found Castor Oil Emulsion with spirit anisi to mask the smell is good and if there is much pain Nepenthe 5 Minim for each dose is found very good. Morphia may be resorted to as before if necessary. To the abdomen hot water bag or fomentations sprinkled with Laudanam is good. Rectal lavage as before should be done twice a day.

Diet.—As stated above, barley water, whey, glucose, orange juice in the last acute stage and later on when the disease subsides, more free diet may be added.

A CASE OF CHYLOCELE.

BY

CAPT. SHYAM LAL, B.A.M.B., CIVIL SURGEON, BALLIA.

A case of Chylocele is so rarely seen that I venture to report the following case for the interest of the profession.

During my practice of about 19 years I never came across a case of Chylocele, though I had a chance of performing a good number of Hydrocele operations, and also had a chance of working in those areas of United Provinces, where Hydrocele is fairly common.

A Mohammadan male aged 35 was admitted into the District Hospital, Ballia on 15-1-31 for Hydrocele operation.

Duration.—3 years.

History.—The left side of the scrotum began to enlarge slowly, no pain in the beginning, slight pain, something like pricking needles inside the scrotum, for the last two years. Pain subsided in recumbent position, but increased on long standing or walking. Hydrocele was of the size of anordinary Bombay Mangoe—only of the left side. While operating, when I made an incision in the Tunica Vaginalis, I was astonished to find whitish fluid coming out, as I never saw Chylocele before.

First the idea struck me whether it might not be pus containing fluid, but soon it was discarded as there were no signs of pus formation or inflammation present and then the diagnosis of Chylocele was made.

The operation was completed like an ordinary Hydrocele operation.

The wound healed up by first intention, sutures removed on the 7th day. The patient was discharged as cured on 21-1-31.

A CASE OF ABSOLUTE SCOTOMA

BY

SISIR KUMAR DUTT, L.M.F.

Late clinical Assistant, Ophthalmic Department, Campbell Hospital, Bogra.

A young boy of 19 years one day came to me and complained that he used to see a black spot in his field of vision.

The duration of this phenomenon is about a year.

Previous History.—He suffered from Kala-azar long before and had some injections of Urea Stibamine and Soamine too. He gave nothing more as regards his illness.

His eyes were apparently normal. I thought it then to be a case of simple error of Refraction. I did Ophthalmoscopy and Retinoscopy. On my examination I found his Optic disc a little pale; but no vitreous opacity or any other abnormality was found. After Retinoscopy I prescribed him;

+ ·25 sp. with + ·25 Cyl. 90° axis, both for constant wear.

Then the black spot disappeared. The patient went away satisfied.

After about 2 months the patient again came to me and complained the same thing. I enquired about the history more particularly and came to know that he is a compositor in a press managed by himself and smokes too much. Now the case appeared to me as one of Lead Neuritis and did the following:—

I forbade him from doing his press work and also forbade him to smoke any more and prescriced the following remedies:—

℞

Tab. Pot. Iodide gr. V.
One tab. twice a day.

About 20 days after I again did Retinoscopy and gave him:
+ ·50 sp. with + ·25 cyl. 90° axis, both.
Now his vision is alright.

A CASE OF FRACTURE OF SKULL WITH INJURY TO THE BRAIN, ESCAPE OF BRAIN SUBSTANCE AND RECOVERY.

BY

A. S. DAWSON L. M. P.,

Kawa, Pegu Disrtict.

The patient a young Burman, Maung Tun Thein by name, 19 years of age, of the village Machekkalay, came to Kawa hospital at 6. 30. P. M. on 26-10-1930, with the injury described below.—

Briefly the history of the case is this.—Maung Tun Thein was assaulted about 11 A. M. on 26-10-1930 by another man with a stick of a fairly big size and he fell down unconscious on receipt of the blow on his head, but after 5 minutes (it is extraordinary) he recovered his senses and walked up a distance of half a mile to the village called Machekkalay from the place where he was assaulted. He was again sent from the same village to the place of assault i. e., the river bank which is again half a mile in distance and he was then taken to Kawa by a country boat and to reach the hospital he had to walk another two furlongs. All this took the whole day till at 6. 30. P. M. he arrived in the hospital at Kawa the same day.

He had the following injury,—One contused wound vertical in direction measuring 1½ inches in length ¼ inch in breadth deep down to the skull bone which was fractured to the extent of 2 inches by 1¾ inches lacerating the brain and the meninges to the extent of 2 inches by 1¾ inches; 8 pieces of bone were found depressed into the brain tissue. A piece of brain tissue ½ inch by ¼ inch was found to have escaped at the site of the injury, the wound being situated on the right side of the head 2 inches above the right eye brow. There were smaller pieces of brain lying loose in the base of the wound.

Operation.—The same day immediately on arrival, the patient was prepared in the usual way for trephining the skull, the original wound was enlarged, the indriven 8 pieces of bone measuring 1-¾ by ½ by 1/8 inch, 2-¾ by ¼ by 1/8 inch, 3-1 by ¼ by 1/8 inch. 4-1 by 1/8 by ¼ by 1/8 inch. 5-7/8 by ¾ by 1/8 inch, 6-7/8 by ¼ by 1/8 inch, 7-⅛ by ¼ by 1/8 inch, 8-7/8 by 1/8 inch, were removed together with the loose pieces of brain which was lacerated and the area was cleaned with "Hypertonic Saline Solution" and the wound was closed with a small drainage.

It is to be observed that he had fever 102°. F on admission; this evidently accounted for the sepsis contracted from covering the wound with a dirty rag which the patient had applied on receipt of the injury. The next day the dressings were found to be soaked with sanious discharge and the fever was 102.8° F. Antistreptococcal serum was administered intramuscularly 1500 units and was continued for two days. On the third day the following mixture was given.—

℞

Tinc. Ferri Perchlor	Min 5
Quinine sulph.	Grs 3
Mag. sulph	Drachm 1
Aqua	ad Oz 1
	for a dose

One dose every fourth hour.

The above treatment was continued for three days. The patient showed great improvement and he was thereafter given

℞

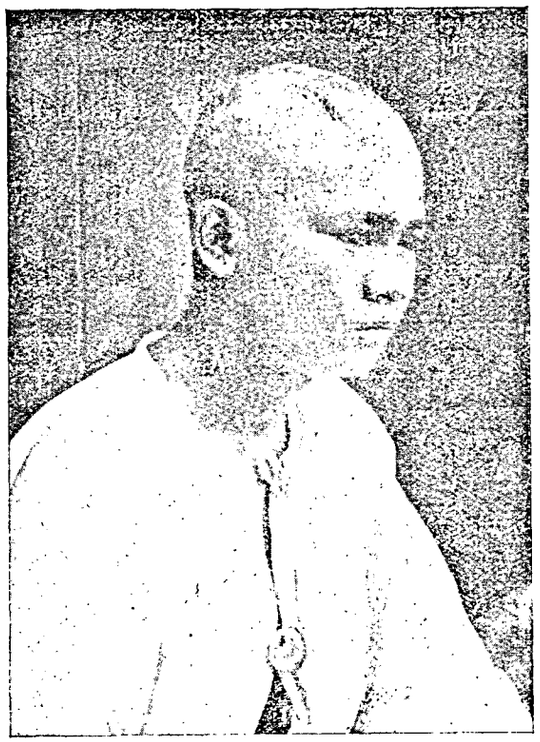
Tinc. Digitalis	Min 10
Liquor Adrenalin Hydr	Min 15
Aqua	ad Oz 1
	for a dose

Tds.

On the 8th day the fever came down. On 12-11-1930 he was given a tonic.

Ferriet Ammoniia Citras	Grs 10
Liquor Strych. Hydrochlor	Min 5
Syrupus simplex	Drm 1
Aqua	ad Oz 1

B.D.



This was continued for a week and the wound healed up completely on 20-12-1930.

It is very interesting to note that the patient was never unconscious during the time of his stay in hospital and did not exhibit any signs of mental affection, although the brain was lacerated and a piece of the brain escaped to the extent as described above and the recovery was an uneventful one.

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Cleansing of streets in Towns.
The Romances of healing by Dr. J. Venkatasamy Naidu, L. M. S., (Retd.)
Economic Hygiene by Dr. S. C. Nag., Barbheel T. E. Hospital, Bargong P. O. Assam.
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The Physician of the future
Noise and the Town Dweller.
Health News and notes.
Acknowledgment—Horlicks's Malted Milk Calender 1931.

Short articles of about 2000 words from you are also welcome.

The Antiseptic

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DIATHERMY IN GENERAL PRACTICE.

The term 'Diathermy' means heating through. This is achieved by passing an electric current of a special kind through the tissues of the body. This current as it passes along the tissues heats the tissues. The heat is confined not only to the skin, but enters through the parts, and the part exposed to the current gets an uniform elevation of temperature.

Originally when the diathermotherapy was started its use was confined only to special types of diseases, but the knowledge and experience gained in the recent years show that diathermy could be used on a larger scale to a variety of ailments. Diathermy may be divided into two main divisions namely medical and surgical. By 'medical diathermy' is meant the heating through of the body in diseases to a temperature insufficient to destroy the tissues or impair their vitality.

'Surgical diathermy' signifies the use of high frequency currents for heating of abnormal tissues through and through to a degree high enough to coagulate it or boil the fluids within it.

As has already been mentioned the therapeutic effects which follow the passage of diathermy current through the body are those of heat, but it differs from other methods of thermotherapy in that, the heating effects due to diathermy are produced not only on the part where it is applied, but through and through the tissues, and at the same time other parts of the body can be heated

to a considerable extent by convection. The therapeutic value of diathermy is due only to the production of heat and nothing else.

Among the therapeutic properties of diathermy may be mentioned, its influence in the relief of congestion, and chronic inflammation. The relief that is experienced may be explained to be doubtless due to the acceleration of the blood and lymph flow through the affected part. And owing to the flooding of these two fluids in the part, the absorption and removal of all inflammatory products are effected.

Diathermy produces active hyperæmia of the affected part, while the heat that is induced during its administration increases the power of the tissues to get rid of the offending organisms. This action is more marked when the lethal temperature for the offending organism is low. The best known example of this action is on the gonococcus. It is also believed that the lethal temperature of the pneumococcus, and some types of diphtheroid bacillus is low, and in these affections diathermy has been found of value by many workers.

For the relief of pain in any part of the body due to congestion of the part diathermy is of extreme value. Pain due to neuritis, muscular contractures, pain due to annal fissures are all either relieved or sometimes cured by judicious administration of diathermy. The relief is mostly due to the quieting of spasmodically contracting muscle, when it is present. A very good example of pain due to spasmodic contracture of muscle fibres is the pain in dysmenorrhoea of contraction type. In these cases the pain is alleviated during the attack and if the treatment is begun before the expected attack, the period usually passes off without pain.

High blood pressure is another condition that responds well to diathermy treatment; Its action is more marked in cases where the blood pressure is abnormally very high. The lowering of blood pressure in those cases are of course followed by relief of accompanying symptoms. The exact action of how the blood pressure is lowered cannot be said with any certainty though it is usually explained as due to the heat lessening the viscocity of the blood, therby lowering the peripheral resistance to the circulation and thus relieving the heart of its extra work.

Now and again we meet with patients under our treatment with temperature below normal. If in these cases general diathermy is administered it undoubtedly increases the body temperature, which often brings about a quick relief of malaise and discomfort.

After all is said, we should bear in mind, in all our therapeutic measures that nature is extremely beneficient in her endeavour to induce conditions favourable for healing, and all our attempts should be to imitate and aid her and never to supplant her.

ROCKEFELLER FOUNDATION—ANNUAL REPORT FOR 1929.*

The Rockefeller Foundation is well-known to be the largest Foundation of the kind in the whole world. The Annual Report of the Foundation for 1929 states that the Funds and Property of this Foundation amount to nearly 148 million dollars and that a little over 19 million dollars have been spent during the year 1929 for various purposes. As in previous years the Foundation spent large sums of money for works in its various divisions, (1) the International Health Division, (2) Medical Sciences, (3) Natural Sciences (4) Social Sciences and (5) Humanities.

An important item of expenditure will be found under Public Health Education. The First School of Public Health that the Rockefeller Foundation helped to found was at the Johns Hopkins' University. The recent such school to receive aid was the London School of Hygiene and Tropical Medicine, which forms a part of the University of London. This School has six departments, all fully equipped for both teaching and research purposes. The annual maintenance of the School, however, is borne by the British Government. In this School, Great Britain has an institution of the first rank for the promotion of Preventive Medicine.

Other European countries also received aid in this direction. The Institute of Hygiene at Prague in Czecho-Slovakia received aid. It was in this Institute, along with work in various other directions, a campaign against small-pox was undertaken some years ago. Since 1926 Czecho-Slovakia has had no small-pox.

Another central institute of Hygiene at Budapest, Hungary, was given a substantial building grant. A School for Nurses is also being aided at Budapest.

Another institution to receive similar aid was the Central Institute of Hygiene at Angora, Turkey. This institution will provide sera and vaccines for the whole country and will also train the Public Health Personnel.

These Institutes and Schools of Hygiene have not only aided local public health work by providing highly trained Health Officers but also highly trained experts capable of doing research

* A Review by Tirumurti B.A., M.B. & C.M., D.T.M.H. Vice-Chancellor Andrah University.

work and competent to occupy important administrative posts, to direct the National Health activities.

A few Institutions received limited support to their Public Health curriculam. In Trinidad, at St. Augustine, the Foundation contributed to the support of a chair of sanitation and tropical hygiene in the Imperial College of Tropical Agriculture; and in China, at the Peiping Union Medical College, the Professor in charge of the Department of Hygiene and Public Health was paid by the Foundation.

In the State of Peiping there has been established the First Midwifery School with the help of the Foundation. There is a programme to develop one high Government School of this sort in each of the Provinces of China. At Suva in Fiji, one of the members of the Faculty is supported in the School of Public Health which has been established there.

Practical training to Health Officers in field work has been given by organizing Health Demonstrations and short courses lasting a number of weeks or months in what are known as local demonstration units in United States, and in Europe, certain malaria stations in Corsica, Italy, and Spain are used for a like purpose, that is, for the training of Health Officers for practical malaria work. In various other parts of the world, the Foundation is contributing to promote Health Centres and Demonstrations.

In addition to aiding Medical and Public Health Education and Institutes of Research, the Foundation also conducts a Fellowship Programme, by which deserving Medical Graduates are helped to specialise in various subjects of the Medical curriculum and of Public Health. In the field of Public Health, during 1929, 187 fellowships (14 Resident Fellowships chiefly limited to Central Europe, and 143 Travelling Fellowships) were offered. Of these, 60 were from the countries in Europe, 24 from the United States, 37 from other parts of North and South America and from the West Indies, but only 16 from the Far East including Phillipines, Ceylon, China and India.

These Fellowships are granted only on the condition that the Government of the country which recommends the applicants should undertake to employ the selected men upon the termination of the Fellowships in their own Public Health Services.

The Foundation aided high-placed Health Officials in various parts of the world to visit the United States and other countries. 11 such visitors came to United States and 16 others visited other centres of health interest and public health training in Europe. Also the International interchanges of Public Health personnel

under the auspices of the League of Nations are receiving support from Rockefeller Foundation.

During the year under report, considerable research work was done in yellow fever in the Laboratory at Lagos, Nigeria, in West Africa, which was established by the Foundation four years ago. To the list of eminent men working under Rockfeller Foundation auspicies, who gave their lives to researches in yellow fever, should be added the name of Dr. Paul Lewis, who died in June 1929 of yellow fever in Bahia, Brazil.

Researches in virus diseases, malaria, hook-worm disease, etc were as usual continued.

During 1929, assistance was given for Anti-Hook-worm programmes in the United States and in 14 other countries, by providing financial aid and lending the services of the foundation representatives to supervise the work. The Foundation recognises that in countries like Egypt, India and Java, pioneer work in hook-worm control is still badly required.

Another important feature is the diagnostic service in many Public Health Laboratories, which received aid from the Foundation, which lent, also the services of their representatives to assist in developing the service. Grants of Fellowships for advanced study to young men who aspire for future posts in such laboratories were given.

In Denmark the Central Health Administration received grant of funds to the Bureau of Epidemiology to enable it to secure the services of an expert. In Ceylon, the services of a Sanitary Engineer were provided towards organizing a division of Sanitary Engineering. In Central America, a Sanitary Engineer of the Foundation helped in planning and carrying out projects in Sanitary Engineering and anti-malarial drainage.

The National Department of Health in Brazil received grants for Nursing Education and for organizing a division of Public Health Nursing. In France aid is being continued to the Central Bureau of Nurses attached to the Ministry of Labori-Hygiene and Social Welfare. In 1929, a programme of intensive Health Education was prepared by the Schools of Java. A Health Museum was opened in Batavia. In Jamaica, Health Education, Anti-Hook-worm activities, and the Epidemiological study of Tuberculosis were aided during the year. The support to a Tuberculosis study clinic in Kingston was continued.

In 1929, the Rockefeller Foundation aided in various ways the local health activities in 18 foreign countries and in United States.

In China, a new Health Demonstration was started in the district of Kao-chiao. This was the first attempt in China to develop organized rural health work under Chinese auspicies. Such practical Health Demonstrations in specially selected rural centres are sure to receive popular appreciation.

In the State of Mysore, India, an experimental health unit has been supported in the town of Mandaya including the surrounding rural area of 152 villages. This Demonstration of organized Rural Health work will, it is hoped, be extended throughout the Province. A measurable improvement in the Public Health in the State of Mysore will be assured in a few years, if such Demonstration centres can be established in a number of other places.

The Foundation's field staff in India made a malaria survey of the State of Savant-wadi, India, early in 1929. A malaria laboratory has been established in this place.

"The Foundation enters upon Public Health Work only on invitation of the governmental authorities of the country in which the work is to be done, or, in the case of certain health education projects, in co-operation with established University centres. The authorities undertake to bear an increasing share of the cost of the work and at the end of a specified period to take it over and carry it on. The Foundation is not committed to any one Government or locality. It can co-operate in different parts of the world on the same problem under widely varying conditions, so that, as the years go on, valuable informatlon as to methods, procedures, and results can be obtained. It is the search for basic and scientifically established information of this sort that characterises the Foundation's efforts, no matter what particular disease happens to be under consideration."

The aims, objects and the methods of the Foundation in the division of Public Health may not be known to many people in this country and for their information the above quotation from the 1929 report has found its place here.

108 Fellows, who were drafted from 33 countries, were supported by the Foundation in the year 1929. Out of these 14 Fellowships were given to Japan, 12 to Haiti, 11 to Siam, 8 to Syria, the other countries getting between one and three. India was not fortunate enough to secure more than 3 Fellowships. Temporary aid to Departments of Medical Schools in various countries was given, although no school in India received any such aid. Officers of the Foundation continued to collect information on conditions of Medical Education in various parts of the world: Information regarding Veterinary Education and Research in Canada was undertaken. The importance of comparative pathology in the advancement of knowledge of human medicine is well recognised by the Foundation.

For International Exchange of Information visits of Teachers and Administrators were arranged. 4 volumes of "Methods and Problems of Medical Education" were published by the Foundation in 1929.

Grant of Fellowships was continued for supplementary training of new graduates in medicine to equip them for specified positions as teachers or investigators, which were ear-marked for them on completion of their studies. Seven Departments in three schools of Ireland; and twelve Departments in eight schools of Italy received financial aid for the training of future teachers and investigators. Here is a lesson which India may well follow. Eighteen medical institutes were provided with medical literature in 1929.

Albany Medical College, Albany, New York; Kaiser Wilhelm Institute for Brain Research, Berlin, Germany; Yale Institute of Human Relations, New Haven, Connecticut; University of Rochester, Rochester, New York were given grants for certain specific purposes. A new form of assistance in the Medical Sciences was the grant of what is known as Fluid Research Fund, to the Yale University School of Medicine. These are unassigned sums for allocation by the authorities of the respective schools for research.

Payment was made to the All-India School of Hygiene and Public Health, Calcutta, for land, buildings and equipment and towards the salary of a Director and an Assistant Director during the period of development. Great many schools of nursing were given grants in 1929 towards the maintenance of their educaticnal activities. Thirty six Fellowships in Nursing were distributed between ten different countries.

NATURAL SCIENCES.

In the Natural Siences the Foundation maintains a rather extensive fellowship programme. 138 fellowships were given in these sciences in 1929. Grants were given for investigators in the Sciences underlying forestry and agriculture. A Sum of £ 50,000 was appropriated towards the development of the Bermuda Biological Station for Research. Another amount was appropriated for the formation of a Central Atlantic Oceanographic Station at Woods Hole, Massachusetts. Financial aid was given for the publication of the Biological abstracts for Biological Research to the Johns Hopkins' University; for Research work in biological sciences University of Chicago; for the marine Biological Station of the University of Paris; for the Chemistry Department of the Johns Hopkins' University; for research in the

Natural Sciences to the University of North Carolina: to Natural Science Departments of Chinese Universities; for Human Paleontological Research in Asia, entrusted to the Anatomy of the Peiping Union Medical College; for the study of Aurora Borealis in the Alaska Agricultural College and School of Mines at Fairbanks, Alaska; for the establishment of a Norwegain institute for Cosmic Physics; for the Field Museum of Natural History, Chicago; for the laboratory for Rock Analysis of the University of Minnesota; for researches in Light Velocity in the University of Chicago; etc., etc.

SOCIAL SCIENCES.

In the Social Sciences grants were given for the publication of the Social Science Abstracts and the Encyclopaedia of the Social Siences; for the Institute of Human Relations, Yale University National Bureau of Economic Research; Committee on Economic Research, Harward University; Department of Anthropology, at Sante Fe, New Mexico; Sociological Studies in the University of Hawaii; the Geneva Postgrauduate Institute of International Studies; the Institute of Pacific Relations; Study of Monetary and Banking Laws by the League of Nations; Research in International Law in the Harward University; Research on Social Trends in the United States; Research Bureau of the Welfare Council, New York City; Study of Compensation for Automobile Accidents, Columbia University; Survey of Crime and Criminal Justice in the Harvard University; School of City Planning, Harward University; Institute of Public Administration, University of California; School of Citizenship and Public Affairs, Syracuse University; etc., etc. 130 Fellowships were administered directly by the Foundation in 1922.

HUMANITIES.

In the Humanities the American Schools of Oriental Research and the American School of Classical Studies, University of Chicago for Studies in Comparative Philology, received aid for specific purposes. For grants in aid of research in the field of Humanistic Studies, the Foundation appropriated three hundred and seventy thousand dollars. British Museum and Bibliotheque Nationale, Paris, were given grants for publication of their Catalogues.

From the above, it is patent that Research in every field of Science is being actively helped by the Foundation. The wise and very careful administration of the available funds for the amelioration of human suffering by the extension of the fields of human knowledge could not have been better done. Every one interested in the utilization and administration of charitable endowments would be benefited from a perusal of the Report of the Foundation for 1929.

May India receive better consideration at the hands of the Directors of this Foundation is my fervent prayer, as there is a great deal of scope for the varied activities of the Foundation in this land!

Medical News and Notes

NOTES

BY

MAJOR LABERNADIE M.D.M.C., P.E,, (*Paris*)

Treatment of anal fissures by local injections of urea—quinine—

Reference has already been made to the good results obtained with high frequency current in the treatment of those painful lesions. But the latter is hardly obtainable in the field.

BENSAUDE, CAIN, LIEVRE have cured many patients injecting 0·2 c.c. or 0·50 c.c. of a 5% solution of double hydrochlorate of quinine and urea. The injections are made twice a week under the surface of the ulceration. Just then the pain is very sharp, but soon passes. The sore heals rapidly, by fibrosis. after 3 or 4 injections.—(*Soc. Med. Hop. Paris*—10 January 1930.)

Treatment of Typhoid fever by bacteriophage.

KUMBEMALE and BRETON report 3 complete recoveries out of 4 severe cases. From 20 to 70 minutes after every intravenous injection (1 to 2 cc), there has been a shock with a fit of fever followed by a momentary hypothermy; but the improvement went on progressively.—(*Presse Medical*—Mars 1930.)

Varicose ulcers cured by acetylcholine This new drug is found to be a vasodilatator, chiefly of the smallest arteries. So, it improves the nutrition of the skin in the area involved. 5% solution of hydrochlorate of acetylcholine: 2 cc. (=0·10 gramme) to be injected intramuscularly a day. The patient recovers in a few

days, at least in a few weeks, instead of months as by local treatment.

(DANIOV—*Ann, Derm, Syph.* March 1930.)

Intestinal parasites and pyrethrine. This principle obtained from the root of pyrethrum is highly anthelminthic and no toxic for the patient 10 mmgrams to be given 3 consecutive days.
(CHEVALIER—*Bull. Sc. Pharmacol.*—March 1930.)

Treatment of Tinea. by acetate thallium.

We know that the real, actual treatment is the radiotherapy by falling of the hair. But in the field the general fractitioner can get equal results with this very cheap salt of thallium given for O S.—(MONTPELLIER—*LIV. Congress Assoc. Fr. Av. Sc.—Alger*—April 1930)

Acute gonococcial arthritisis cured by anti-serum injected intravenously and into the affected article.—(THIERS—*Soc. Med. Hop. Lyon*—April 1930)

Antitoxic power of thermal waters In the recent years a good deal of investigations into this question has been made by many workers—PERRIN and (CUNOT agree with their views adding also new facts

Many french thermal waters given in injections increase the natural resistance of animals or man against poison or mineral (cu-salts) or organic (picrotoxine) or vegetal (spartcine, phalline) or animal (viper poison) or bacterial (tetanic, diphteric toxin).

In addition to this they have been found to be antianaphylatic to a certain extent.—(*Presse Medicale* May 1930)

Hemoclasic syndroms cured by the Hyposulphite of Magnesium. Against various diseases like hay-fever, spasmodic coryza, hypersensibility towards certain antigens, asthma, dyspnea, eczema purpura, uticaria and many rashs, BOISSEL uses successfully the hyposulphite of Mg—0·50 gramme tabloids: 4 to 6 a day; or a 16% solution 10 cc to be injected intramuscularly. Twice a week—No contraindications.—(*Presse Medicale.* May 1930).

Insomnia and hyperthyroidy—SABOURAUD states that want of sleep is often originated by unrecognizing slight hyperthyroidy. In those cases, a tabloid of hematothyroidine given

When writing to advertisers, please mention "The Antiseptic."

before retiring clears this tedious symptom up.—(*Press Medicale*—June 1930).

New treatment of pernicious anaemia—Long since, there has been a strong medical belief that this disease gets its etiology in the gastro intestinal tract—In spite of the results of whipple, the workers went on their investigations and Castle (Boston) has showed that stomacal insufficiency coexists almost always beside pernicious anæmia. So, the incomplete digestion cannot provide the blood with a certain principle indispensable to the erythrocytic regeneration.

(The good results of Whipple's Method are to be understood by the raw liver of young mammal's giving to the patient this principle ready-made) It is far more clever to train the affected stomach itself again in order it becomes able to turn the proteins of the food into this principle.

With this purpose, the patient is ordered to take pig raw stomach (or, better extracts in patent medicine).

This method has given in Europe and France results as good as those in America,—associated or alternated with whipple's Method and also alone directed.—(MOUZON—*PresseMedecale*—June 1930).

Modern treatment of Acne.—Dr. MIGNOT numbers : (a) for the sake of general medication—good hygiene, proper feeding and balanced diet; opotherapy if necessary. (b) locally : flower of brinstone as an ointment: cryotherapy; U. V. actinotherapy; radiotherapy; and, of course, staphilo—bacteriophage to be injected into the involved follicles.

This long enumeration shows evidently how stubborn is the illness.—(*Presse Medicale.* July 1930).

Autoserotherapy in chronic rheumatisms.—The blood of the patient itself injected subcutaneously every day or every second day gives obvious improvements.

To begin with 0·2/ cc and to increase carefully by 1 C. C. etc. (LE FLOCH.—*Presse Medicale*—April 1930).

Dengue.—A very striking paper of AUBIN (Podicherry) with charts proving that the exotic dengue and the mediterranean one are the same disease.—(*Presse Medicale*—April 1930)

Sores following goldtherapy.—Since the treatment of the tuberculosis by gold-salts was entered into the general practice, cutaneous and mucous reactions tended to be rather common—diffuse stomatitis. erythema purpura, urticaria. eczema.

But if lower doses administeaed as usual now, these lesions remain very rare.—*PresseMedicale*—LEBEUF, MOLLARD—Sept. 1930)

Whipple's Method by injection.—In certain cases the stomach of the patients is not able to accept the raw liver. At any rate, the improvement is slow.

By subcutaneous injections, the writers have got, in 2 weeks, the same result as in the 5 weeks long treatments per OS/.

In addition to this, after a course of injections, the per OS treatment is more effective and rapid.

At last, against severe cases or profound anæmia following grave hæmorrhagia, the treatment must be given intravenously.—(ACHARD and HAMBURGER—*Presse Medical* Sept. 1930).

NOTES

BY

COL: PROFESSOR FROILANO DEMELLO, NOAGOA.

Two cases of Polyneuritis due to alimentary intoxication L. Rumaud. J. Chardomeau, P. Rimbaud (*Archives de la Soc. des Sci Medlcales at Biologiques de Montpellier et du Languedoc Mediterraneen Fev* 1930) *1st case* M. 40 years old; after a meal of mutton intestines diarrhœa urticaria. Intestinal syndrom during 8 days. Fifteen days after neuralgias, paralysis of the inferior members, equinism (varus equin), pattelar & achillean reflexy abolished, hyperesthesia, slight muscular atrophy. Babinsky, Mendel negative. Left cubital paralysis. Arterial tension 14,8. Organs normal. Azotemiao, 44. R.W, negative.

2nd Case. Enteritis after a meal of oysters. Diarrhœa till 72 times in 24 hours. Such choleriform stage lasts for many weeks. Paralysis of inferior members. Total resolution of inferior muscles. Reflexes at supra, Sensibility normal. Left cubital paralysis. Mendel of hand positive.

In the first case no result of every treatment tried: in the second progressive amelioration under regime and electrical treatment.

Spontaneous rupture of spleen after malariotherapy Beckman (Acta chirurgcs Scandinavica LXVI 2-3 30-V-30):—

Woman. 26 years, with acute gonorrhœa, cervicitis and paramethritis having resisted to every treatment receives on 3rd August 1929 an intravenous injection of malarial blood. Good reaction. 15 days after, all signs of an internal haemorragy. Extrauterine pregnancy is diagnosticated. The operation shows that there is rupture of spleen. Splenectony Transfusion Cure.

Medical literature records 5 cases of this kind. There is no doubt that malaria has been the cause of this rupture. Histological examination showed general hyperplasy, intersticial haemorragies and necrose of many follicles.

Those using the method of Waggner jaureg should have in view the possibility of such accident which can be cured by a rapid splenectomy.

Spinal fluid in leprosy Molineli & Vaccarezza. *Revista de la Soc. Argentina de Biologia* V nos 6 & 7).

Studied in 69 lepers with the disease dating from one month to 23 years. Normal aspect, normal tension, normal rate of albumin, chlorures, glucose and urea, normal rates of leucocytes per m.m.c. reactions of Pandy and Nonne Appelt negative, reaction of colloidal gold of Lange negative and in 4 cases with slight modifications without any diagnostic meaning, Wassermann constantly negative despite having been positive in the blood of 17 cases, no Hansen bacillus.

Conclusion: no diagnostic or prognostic elements can be gathered from the study of spinal fluid in lepers.

Coxalgic attitude as a precocious sign of perinephretic phlegmon in children Deherripon & Lamoril (*Le Courrier Medical* 27. X. 29.

Child, 2 1/2 years old, coxalgic attitude of left of left leg tigh, on flexion & adduction. In the correspondent lombar region a perinephretic abcess, which promptly evacuated Cure.

The authors conclude that on the presence of a coxalgic attitude suddenly occuring on a child, the practitionner should, after passing in review all osteoarticular affections able to produce such morbid condition, think to the possibility of a perinephretic phlegmon and examine methodically the lumbar region.

On the Sero agglutination in Flexner dysentery. de Lavergne, Melnotte, Debenedetti. (*Compt Rend. Soc. Biol.* C III 1930 pag 1251).

Studies of the authors in a epidemy of dysentery due exclusively to Flexner bacillus.

Sera taken on patients from the 7th day. 44. Aggl.+1/2000 18,+1/1000 17,+1/500 1,+1/300 4,+1/200 1. No coagglutination with Shiga.

Sera of patients having shown mild attacks (diarrhoea). 14.+1/2000 3+1/1000 4,+1/500 4,+1/300 2,+1/200 1. No coaggl. with Shiga.

Sera of soldiers of the contaminated battalion, but apparently healthy+1/2000 3,+1/1000 10,+1/300 4. All others with

agglutination not superior to 1/50. Conclusion: Flexner infection may take the form of an inapparent infection.

Sera of individuals having suffered from dysentery 4 months before 3 with+1/2000 in July show+1/200 in November. 7 with 1/1000 in July show+1/200 in November. 1 with+1/500 in July shows+1/200 in November.

Sera of healthy individual not belonging to this locality 50 No one showed an agglutination superior to 1/50.

Conclusion: Agglutination till 1/200 or 1/300 is specific, however not indicating an actual disease.

Correspondence.

PARLAKIMIDI RESERACH SCHOLARSHIP.

SIR,

Anent the advertisement for applicants for research workers on human, animal or plant nutrition to work in the Government Research Institute, Coonoor, may I crave the hospitality of your journal to draw the attention of the authorities and the donor to a few plain facts? Medical institutions at present know and teach little of nutrition and dietetics, but it may not be congenial for them to have to admit the ignorance of them, so that an amateur studying the subject as a biological problem will form a totally different view from the professional physiologists. Again there are fashions in medicine, just as there are fashions in women's dress. What medical men as well as educated classes know and practice of nutrition or diet is to copy wholesale from the west and boast it as the best for any man, woman, or child in any clime. Thus children and the elders are fed with bottled milk, sweets, and confectionaries, tea, coffee and other unnatural stuffs. And the only restriction in diet in health or in disease he knows is "liquid foods with white sugar." The harm to teeth and body likely to result from such medical men's researches on Dietetics and nutrition will be sufficiently recognised.

Then again, when attempts are made on the part of a medical authority to find what is true and what is wrong, where there are conflicting theories with regard to the causation and prevention of any particular disease, such a batch is almost sure to be of a certain type and its proteges or workers are likely to be selected because they are of a similar type. So too the research work of their proteges may possibly be coloured to please the complexion

of those who boss over them. Thus research conducted in this way may well be expected to be unsatisfactory *ab initio*, and those who are to be treated under these conclusions, will have to suffer.

Therefore the only fairly satisfactory method of stimulating research, so far as that can be done by financial means, is to pay by results rather than by anticipation. Fortunately research workers are born, not made and enthusiasm for the unravelling of difficult problems is not to be seriously damped by authorities which will unwillingly oppose progress and reforms. Hence Government and the donor will do well to award the scholarships to suitable persons or authorities desirous of investigating this difficult problem of nutrition among Indians, preferably under Indian control.

MADRAS,
260, China Bazaar Road,
Dated 25th Decr. '30.

H. VENKAT RAO, L.M.&S.,
Principal,
MADRAS DENTAL COLLEGE.

To

THE EDITOR, *The Antiseptic.*

Sir,

Ref. case for diag: Antiseptic Nov: page. 785.

i. History is meagre. Go more fully. It is these cases who give history of Coryza what may be called flue (influenza) who have really suffered from insidious Encephalitis Lethargica. How many such cases we see in this country who give a history of just coryza and are full grown chronic encephalitics. Age of this patient which is very important is not given. Let it not be understood that Encephalitis Lethargica must start with To etc. Experience belies it, so do authors who have long experience. Or was it meningitis which is sometimes a complication may not have been coryza but other filterable virus? So far for the history.

ii. *Physical examination.*—The blood picture R. B.C. 8000000 and W. B.C. 22000 suggests Vagues' disease. Is the spleen enlarged? Or is it starting Leucocythaemiae? As the differential count 22000 is a high figure but not high enough, which variety of cell is preponderating? What is liver like?

Please note there is no criticism in my letter. Mine are suggestions put down, as I am too busy to go too much in detail. Over haul haemopoietic system.

Yours faithfully,

152, Brunts fieldplace,
Edinburgh,
Scotland.
7—12—30.

P. V. KARAMCHANDANI.

17

The following letter from Dr. D. D. Sathaye, F.R.C.P.S. (Glas.) & Dr. K. S. Ray, M.A., B.Sc. M.B., Ch.B. Hony. Secretaries, Indian Medical Association, Calcutta is published for the information of our readers :—

The Annual Medical Conference under the auspices of the Indian Medical Association will be held in March next, and we wish to bring to the attention of members of the Medical profession the scientific section of this conference.

We desire to draw particular attention to this section as it will be agreed that its success will depend upon the number and merits of the scientific papers read, and we hope that every member of the medical profession will be encouraged by the opportunity thus presented to put their views before the conference on points of scientific interest that concern the profession.

The Honorary Secretaries of the Indian Medical Association will be pleased to receive offers to read papers at the conference and will gladly supply any further particulars that may be required.

To

THE EDITOR, *Antiseptic*, *Madras.*

Dear Sir,

There are certain features in regard to the Indian Drugs Enquiry Committee which is now holding its sittings in Calcutta to which I should like to draw attention.

Whilst the desirability of such an enquiry will not be questioned, considerable apprehension prevails amongst the members of the independent section of the Indian medical profeesion. Somehow we feel that the findings of the committee will be used with the ulterior purpose of prejudicing the position of the infant drug industry in the country. It would have been much better in the first place to have helped this industry by means of bounties or tariffs as in the case of steel and cotton industries, or even encouraging the use of these products in Government hospitals and institutions and thus enabling it to find its feet in competition with foreign medical products, of which India is now the dumping ground. As it is the holding of this enquiry is likely to result in unfairly branding Indian products as inferior. Colour is lent to this apprehension by the fact that although it was as far back as 1927 that the resolution for the appointment of such a committee

was passed by the Council of State, it was not given effect to until only a month or two ago, when it was evident that a boycott of British medicines had been instituted and was gaining way. It is strange that for 150 years of British rule no such solicitude has been evidenced for the control of drugs in India. In 1929 out of Rs. 2,01,84,000 worth of drugs and medicines imported into India some Rs. 88,99,000 worth was imported from the United Kingdom, where, it should be noted, the Food and Drugs Act in existence there does not apply to drugs or foods exported to India from the U. K. We should have thought that in all these years, if there had been any real feeling for the people of India, some measures would have been instituted for the control of foods and drugs exported to India from the U.K.

The time for such an enquiry as the Chopra Committee seems particularly inopportune, considering the terrible state of the country at the moment—the fact that the legislatures are denuded of members who could justifiably be regarded as representatives of the people and when the rule is by ordinance.

There is also the question of funds, for it is improbable that in the present parlous condition of the finances of Government, when even educational and other grants such as those for medical relief are being withdrawn, any effect could be given to the findings of the committee, however good its recommendations might be. This is not the time to waste energy on mere academic issues. India has borne the burden of several enquiries and commissions of this nature and we do not know what the drain in money has been on the poor rate-payers. The present committee will entail a great deal of further expenditure and there is no warrant that in the present state of finances its recommendations would be given effect to. Standardisation of drugs and medicines would require the establishment of several test houses and elaborate laboratories and a large and expensive staff. It is uncertain that there would be no difficulty in finding suitable Indians for appointments in the superior staff, in which case the benefit of such appointments would accrue to the I.M.S., as additional reserve posts for that service. India has no wish to become the dumping ground of British unemployed in addition to being the dumping ground of the many lakhs worth of spurious British drugs and medicines.

In conclusion I would ask that these remarks should not be misunderstood. The independent medical profession is not averse to the control of standardisation of drugs in the country, a fact which has been indicated on several occasions and lately through

the Indian Medical Association, but it is certain that there is good ground for the above apprehension and the recent experience of Government's manoeuvres in regard to the Central Medical Research Institute and the reservation of a large proportion of the posts for the I.M.S. therein do not serve to infuse confidence. In any case the times are out of joint for the holding of such an enquiry as the Indian Drugs Enquiry Committee is now conducting.

Yours faithfully,

K. S. RAY.

The following Correspondence have been sent to us for publication.

I

INDIAN MEDICAL ASSOCIATION

From

DR. K.S. RAY, M.A., B. Sc., M.B.Ch. B. (Edin.),

Joint Hon. Secretary,
Indian Medical Association,
6A, Corporation Street,
Calcutta.

To

The Secretary,
Drugs Enquiry Committee,
1, Council House Street,
Calcutta.

Calcutta, 3rd January 1931.

Sir,

In pursuance of your request, I now offer the following comments in elaboration of my remarks on the Quinine Policy of the Government of India :—

In the first place, I would emphasise the terrible incidence of malaria in India. The ravage caused by this disease is enormous. The number of malaria cases treated at the hospitals and dispensaries in British Provinces during the year 1926–27 (vide Annual Report of the Public Health Commissioner with Government of

India 1927) is 8,398,775 and the incidence in the different provinces will be seen from the following table.

Provinces.	Year.	State-Public Local Fund & Private aided Dispensaries		State-Special & Railway Dispensaries		Private non-aided Dispensaries.
		Indoor	Outdoor	Indoor	Outdoor	Total.
Delhi	1926	2,478	192,331	234	3,364	nil 198,407
	1927	2,061	95,081	306	2,573	nil 100,021
Bengal Pres.	1926	6,315	1615,259	8450	151,121	384,512 2165,657
	1927	6,673	1576,110	7747	126,710	395,955 2113,095
Punjab	1926	6,663	1239,666	3825	251,693	15,114 1518,961
	1927	7,796	1088,053	2902	227,938	13,065 1339,754
Madras Pres.	1926	59,304	636,815	840	33,404	29,382 759,745
	1927	38,579	747,111	1024	25,134	23,936 83,578
Assam	1926	2,190	226,297	1931	20,082	7,534 258,034
	1927	2,310	232,882	1664	22,839	8,224 267,919
Bihar & Orissa	1926	3,060	725,696	1860	75,973	98,489 905,078
	1927	2,934	667,539	1774	66,348	96,451 835,046
Central Prov.	1926	2,513	215,122	931	39,231	32,407 290,204
	1927	2,664	213,814	846	36,890	33,352 287,566
United Prov.	1926	5,513	752,503	5797	103,017	100,690 967,220
	1927	4,959	719,594	5243	98,381	100,220 947,358
Bombay Pres.	1926	8,307	577,786	3581	92,282	112,944 794,900
	1927	8,319	609,972	4287	77,583	119,714 819,875
North West Frontier Prov.	1926	1,800	213,863	4659	43,731	12,249 276,302
	1927	1,671	195,878	3668	31,897	14,172 247,286
Burma	1926	13,940	219,055	4794	26,178	nil 263.967
	1927	15,776	246,348	4375	25,748	nil 292,247 –
Total	1926	114,083	6614,393	36902	840,076	793,321 8398.775
	1927	93,642	6392,382	33836	742,041	805,089 8085,951*

* Including 18,961 cases treated at subsidised dispensaries in United Provinces.

The actual number of cases, however, is much greater than indicated in the table if we take the figures of Native States and the cases treated outside the hospitals by private practitioners.

The high mortality from malaria (Bengal alone being responsible for 8 lacs a year) together with the temporary and permanent incapacity will show that the consequent economic loss must be stupendous.

The Royal Agricultural Commission was of opinion that both for the prevention and for the treatment of malaria a much wider distribution of Quinine is necessary (para 411) and the above figures show what an enormous quantity of quinine is needed for the treatment of malaria in India.

At present, the high price of quinine militates against this. Dr. Charles Bentley, the present Director of Public Health, Bengal, has declared that "Among the poorer classes very large numbers

would welcome the remedy at a reasonable price. I have been repeatedly assured by such people, that they would be too glad to use them, provided the cost be not beyond their means (vide Bentley's "Quinine Policy"—Public Health Department Publication, 1928, page 5.) That quinine is not consumed to such extent as would be helpful from the standpoint of helping the eradication of the disease is however not due to the apathy on the part of the people but their inability to buy—a fact which has been pointed out again and again by various Government agencies.

It would be interesting to compare the quinine consumed per head in the different countries. Whereas Italy consumes 16 grains of quinine per head and Greece 24 grains per head, in India the per capita consumption is only 3½ grains. In Bengal, division by division, Burdwan consumes 1·07 grain per capita, Presidency Division 1·31 grain, Rajshahi 1·07 grain, Dacca 1·50 grain and Chittagong Division 2·62 grains per head of population. These statistics compared with the previous figures of malaria incidence, again show how inadequate is the present distribution of quinine.

The members of Quinine Conference held at the Secretariat at Delhi on 3rd December, 1925 under the presidency of Mr. R. B. E. Ewbank, Deputy Secretary to the Government of India, Department of Education, Health and Land, unanimously recorded a resolution declaring that "The demand for quinine in this country is almost unlimited, provided that it is available at a price within the means of local Governments and consumers.

India consumes 160,000 lbs. of quinine per annum whereas according to Dr. Charles Bentley, if 100,000 lbs. of quinine is not consumed in Bengal alone no appreciable general effect is likely to be visible from its use".

Here I would remark that simply prevention of adulteration without at the same time reducing the cost in the price of quinine will not enable the masses of India, owing to their extreme poverty, to derive much benefit out of it. It is, therefore, essential to check profiteering as far as possible, and I shall now touch briefly on some of the main reasons which operate against the reduction in price of quinine.

Taking the average of five years, in the Government Chincona Plantations, Bengal, the growing of chincona gives the cost of quinine sulphate in the bark before extraction as being Rs. 5-3-0 per lb. For the same five years the cost of extracting quinine sulphate from the bark varied from Rs.2-to Rs. 3-6-0 per lb. Therefore, the total cost of manufacture of quinine sulphate for the period of five years has been Rs. 9. (vide Malaria Curse Cause & Cure, by Elizabeth, Duchess of Carnarvon p.p.20). Yet

in January 1926, the price of quinine sulphate was 26-per lb. and in 1930 it is Rs. 18 per lb.

It is nothing short of tragic that this sheer prefiteering should prevail in a commodity which is essential for world's health and happiness, in the interests of the Quinine Ring which controls and determines the world prices. As the result of the Quinine Convention of 1913, the world prices of quinine are determined by the Amsterdam Bureau and the majority of sales are made according to prices fixed up by this bureau. Small quantities of South American bark are, however, sold independently (vide Malaria Curse, Cause & Cure p. 22). It would seem the Indian Government has agreed to abide by this price arrangement principally to help the interests of Anglo-Dutch Planatation Co. which works in complete harmony with the Dutch Combine, the Kina Bureau. The Government can, if it wills, manufacture the entire amount of its quinine requirements. There are two Government-owned factories in India, one at Mungpoo in the Darjeeling district, Bengal, and the other at Nedu Vattam, near Ootacamund, in the Nilgiris. The Government agencies manufacture on the average 45000 lbs. of quinine, of which 17000 lbs. are manufactured at Mungpoo. The Mungpoo farm alone has at present a capacity of manufacturing 50000 lbs. of quinine per annum and in order to produce this amount about 1,000,000 lbs. of locally grown bark would be required. India exports on the average 6000,000 lbs. of bark annually. Shipments are made from Southern India (vide Handbook of Commercial Information for India, compiled by C.W.E. Cotton I.C.S. for Government of India; p. 316). India can grow more, much more chincona. The Director of the Botanic Survey of India in his report of 1928-29 emphatically declares that the difficulties of production of quinine in this country are soluble. Yet India imports annually some 60,000 lbs. of manufactured foreign quinine.

We find that the Government not only fixes its price almost at the level determined by the Amsterdam Bureau (thereby forcing the poorer classes to go without the only medicine that count in malaria) but also does nothing to replace the foreign importation of quinine by indigenous quinine. The excuse put forward by the Government is that, if the price is not fixed at a level approximating to the ring price quinine would be exported out of India. This lame and halting excuse will not bear scrutiny. The Government can, if it so chooses, impose a heavy export duty and thus prevent quinine going out of India. Moreover, if prevention of export is the only object in view, why does not Government spend the whole or part of the profit derived from sale of quinine upon antimalarial and other health activities ?

The recent Government report of the chincona plantations and factory in Bengal for the year 1929-30 shows that there has been a further increase in surplus stocks. The profit on the year's working amounted to Rs. 4,53,972. It would be of interest in this connection to refer briefiy to the discussion which took place over the Government stock of surplus quinine at a meeting of the Public Accounts Committee dated the 4th July 1930, when Mr. B. Das and Mr. Abdul Matin Chowdhury now a member of the Drugs Enpuiry Committee asked a number of questions with a view to emphasising the necessity of reducing existing stocks. As a result of discussion it was shown that the Government finds itself unable to dispose of these stocks to the provincial governments free of costs, owing to the stringency of Devolution Rules, while on their part the provincial governments find they cannot purchase quinine from the Central Government owing to lack of funds. Thus between the central and provincial governments stocks go for waste and suffering humanity receives little or no alleviation.

Mr. Bajpai, however, gave out the pious intention of the Government to convene a conference of representatives of the local governments as soon as the posititn of Government of India vis a vis the local governments are decided under the new constitution after the Round Table Conference. No worse case of procrastination would be cited, but in regard to the proposed quinine conference the statement made by Sir George Schuster is far from re-assuring. "It might be that the aftermath of the Round Table Conference is much more likely to bury this subject. Personally I am disappointed at this result and at the attitude of the provinces."

In conclusion, I would re-iterate the terrible incidence of malaria in this country, the inadequacy of the present supply of quinine, the high cost of quinine which prevents its greater use, and the urgent need for an entire change of the Goverement's quinine policy directed at once to lowering materially the cost of quinine, encouraging the use of the indigenous supplies and taking steps against adulteration. As a matter of fact, the tendency towards adulteration would be retarded by reduction in price.

Yours faithfully,

K. S. RAY,

Jt. Hon. Secretary.

II

From

THE JOINT HON. SECRETARY,

Indian Medical Association,

6A, Corporation Street, Calcutta.

To

THE SECRETAY,

Drugs Enquiry Committee,

1, Council House Street, Calcutta.

Calcutta, 17th December, 1930.

Sir,

We have the honour to acknowledge receipt of your circular letter dated the 2nd September 1930 with a copy of the questionnaire issued by your Committee for the members of the medical profession.

Our Association feels that whilst under other circumstances and in more favourable times the desirability of such an enquiry might be admitted, considerable misgiving prevails amongst the members of the independent section of the Indian medical profession as to its necessity at the present time. It is apprehended that some of the findings of this Committee will be used with the ulterior purpose of prejudicing the position of the infant drug industry in this country. This belief is strengthened by the fact that until now very little effort has been made by Government to help this industry by state aid towards manufacture or by supporting the consumption of the products by using them in Government hospitals. This indifferent attitude of the Government has been responsible for making India a good dumping ground for foreign drugs and preparations. It is widely believed that the nascent indigenous manufacturing concerns will not get justice through the Enquiry that has been set on foot and that many of them may be unjustly condemned. Colour is lent to this apprehension by the fact that although it was as far back as 1927 that the resolution for the appointment of such a committee has been passed by the Council of State it was not given effect to until a few months ago, when manifestations of a strong national desire for using indigenous preparations and drugs became noticeable. It is strange that for 150 years of British rule no such solicitude has been evidenced for the control of drugs in India. In 1929, out of Rs. 2,01,84,000 worth of drugs and medicines imported into India, medicines worth Rs. 88,99,000 came from the United Kingdom. It should be noted that though the Food and

Drugs Act in U. K. makes it compulsory to examine all drugs and food substance consumed in U. K.; the products for export to India are beyond the provisions of this Act. This apprehension is also to a certain extent supported by the fact that in the composition of the Drugs Enquiry Committee although a place could be found for a representative of a British firm no room could be found for a representative from an Indian manufacturing firm. Our Association apprehends that no useful purpose will be served by a committee constituted as it is, without properly qualified expert personnel to represent the various aspects of the chemical, pharmaceutical and biological drug trade.

In paragraph 3 of your letter under reference the following statement appears: "It is well known that many unscrupulous people realising that to analyse and standardise medicinal preparations requires experienced men and expensive and elaborate laboratory equipment, take advantage of this knowledge to carry out extensive adulteration, use inferior drugs, and in the case where raw material is expensive, purposely reduce the quantity tbat should be used in order to sell it at a low price. This is not only carried out in India but some European firms export medicines specially manufactured for the eastern bazaars". Our Association finds it difficult to accept this statement in the absence of accurate and proper evidence. If this had been the real state of affairs any effective control over them would mean the creation of well-equipped laboratories and test houses under the conduct of honest, impartial and competent men who enjoy the confidence of the public in different parts of India as a first and essential requisite. It is doubtful whether the Government would in the present state of financial distress be in a position to find money to give effect to the recommendations, which may be made in this behalf, in the near future. The detection and collection of samples etc. would require elaborate staff in addition to officers who wonld have to be employed in analysing and carrying on the standardisation of drugs and medicines in the different laboratories all over India. Whereas on the one hand, we do not find the picture as gloomy as depicted in your statement quoted above, we do not on the other, see our way to support a scheme of control organised under Government, particularly as their attitude towards Indian manufacturers is not likely to be sympathetic and unbiassed. Further, there are ample reasons to apprehend that a quasi-official controlling body created by official legislation should only introduce an engine of oppression in a field in which signs of healthy development are already noticeable. And when the proper time came it may be desirable to appoint a sympathetic

and enlightened, competent and interested controlling agency for the purpose of giving guidance and prompting the progress of the young concerns through co-ordination and co-operation.

As regards the question of Enquiry preliminary to control we are of opinion that the whole of the drugs and preparations trade should not be placed on one uniform level—there must be differential treatment for indigenous products including manufacture, from foreign products. The former should be carefully handled, nursed, helped, supported and encouraged in every way. No restricting or cramping or pruning devitalising legislation should be made applicable to them at this stage. Guidance is required and must be provided with sympathy.

As regards foreign products imported into India, an enquiry might be desirable. But, as we have shown the machinery required for giving effect to the findings and conclusions of the Enquiry would be extremely expensive and if formed under the prevailing circumstances, can hardly be expected to do justice to different parties concerned.

But the Association feels that the present political situation is not the proper time for introduction of legislation of such great importance. Before any legislative action is introduced, standards for the drugs should be set up and this can be done by the compilation of an Indian Pharmacopoeia by intensive research work. In the compilation of such a pharmacoepia: (1) Preparations taken from pharmacopoeias of other countries, (2) those indigenous medicines which have been already scientifically studied and standardised and can therefore be forthwith incorporated and (3) those indigenous medicines which have been found efficacious on clinical trial but which require further investigation. This means that a good deal of research work will have to be carried out to obtain the necessary knowledge about these preparations and to determine their standards of purity and efficacy. *Pari passu* with research work extensive testing of drugs prepared in or imported into India will have to be done in various testing laboratories in different parts of the country. To establish standards we shall have to study the methods developed by the various League of Nation Committees, American and German pharmacopoeias. as also of those in Great Britain. This means that we shall have to devote at least the first ten years of this scheme to study and to research with a view to gaining exact knowledge. When this is obtained we will have to think of legislative control. It will be seen, therefore, that no legislative control can be conceived for the

present. It has been stated by some that India has been made a dumping ground for adulterated and inferior quality of foreign medicines, but we have no exact knowledge of the state of affairs prevailing. We do not know what preparations are adulterated and to what extent and what preparations are understrength. Unless and until we have exact scientific information about it legislative control could not be justified. We would like to point out in this connection that in the composition of the Pharmacopoeia Committee there should be included all the available talents and special workers in the country and that it should not be an exparte committee haphazardly made like the present one.

Our association feels that owing to poverty a very great bulk of the population in the villages and small towns resort to the indigenous systems of treatment. Though statistics as to the quantity of the different kinds of drugs manufactured locally and consumed are not available, the figures of the imported drugs and medicines available show that the western systm of treatment can be resorted to by a small proportion of the population only It follows, therefore, that if any legislation is undertaken for ensuring the purity of drugs, it should not be confined to drugs used by one small section of thepopulation viz., those resorting to the Allopathic system of treatment only. As to how the drugs etc. prescribed or manufactured according to the indigenous systems of medicine could be tested, our Association has no suggestio ns to offer as they have practically no knowledge of these systems of medicines or of their pharmacopoeia.

Our Association is of opinion that the professien of pharmacy should be restricted to qualified persons. In this connection our Association is of opinion that there should be provision for the training of pharmaceutical chemists and pharmacologists because without such well-trained personnel, it would not be possible te utilise the enormous raw material that exists in India for the manufacture of drugs which are at present exported abroad and brought back to India in the form of finished products at high cost. Our Association believes that the best method of assuring the purity of drugs etc. at a cheap cost is by manufacturing them in this country with the help of trained staffs and under adequate supervision. Every possible means should be adopted to develop the pharmaceutical industry in this country, if necessary by bounties or protective tariffs. The various Universities in India may also be requisitioned for helping in the matter of training of pharmacists and pharmacologists. Pending the creation of the training facilities of these pharmacists and pharmacologists every effort should be made to improve the training of the compounder class.

In conclusion our Association would like to point out certain difficulties with regard to the drug trade in India. (1) There is no system of sampling of raw materials of good quality; the result is that the manufacturer does not know how much of finished product of the required potency he would expect from a certain supply of raw materials. It is the duty of the State to develop this line of vast indigenous drug trade. (2) Unnecessary restrictions and tortuous procedures are imposed by the Excise Department in certain provinces regarding the import of alcoholic medicinal preparations from other provinces. For example, the Governments of Bombay and Madras realise duty on all alcoholic medicinal preparations imported into their provinces and have developed intricate procedures in the issue of Import Permits and collection of duty on arrival at destination. It may be pointed out that in the case of alcoholic preparations imported into India from foreign countries, there is no restriction regarding the export from one province to another after the duty has been once paid at the port of landing. In this case alcoholic medicinal preparations manufactured in India have to work at a disadvantage when compared with similar foreign preparations introduced into India. Further, Indian made rectified spirits or absolute alcohol have been prohibited into the Punjab and restricted in C. P., U. P. and Bihar & Orissa. This is a great handicap for the manufacture.

In this connection our Association would like to point out that a liberal supply of duty-free alcohol should be allowed in all bonafide research laboratories engaged in medical research, if we conceive that it should be the aim of the Government to help the indigenous drug industry.

6A, CORPORATION STREET,
CALCUTTA,
26th December, 1930.

Yours faithfully,
K. S. RAY,
Jt. Hon. Secretary.

PROCEEDINGS OF SOCIETIES ETC.

Resolutions passed unanimously at a Meeting of the Promoters of the Indian Ambulance Society, held under the auspices of the Bombay Medical Union, on 16th October, 1930, at Alice Buildings, Hornby Road, Bombay, Dr. G. V. Deshmukh, M. D., (Lond.) F. R. C. S. (Eng.), L. M. & S. (Bom.), presiding :—

(1) This Meeting of Medical men and lay-men and women interested in the question of establishing an Indian Ambulance Society held under the auspices of the Bombay Medical Union resolves that the Indian Ambulance Society be and is hereby established.

(2) This Meeting further resolves that a Provisional Committee, with power to co-opt, be formed of the following members to draft a Constitution for the Society, and to submit the same at a meeting of the present promoters to be held within six weeks from to-day.

Dr. K. K. Dadachanji, Dr. (Mrs.) Dossibai J. R. Dadabhoy, M. D., Dr. Sir Nasarvanji Choksy, Kt., Drs. Jivraj. N. Mehta, Dinshaw M. Gagrat, R. C. Lam, Sorab J. Popat, D. D. Sathaye, M. V. Parulker, Gulamhusen V. Patel, S. R. Samsi, B. P. Shukla, and C. R, Athavle, and Messrs, Dinshaw E. Mahwa M. R. Patel, D. F. Kharas, A. B. Homavazir, and K. B. Godrez.

(3) This Meeting authorises the said Provisional Committee to accept in the name of the Society all gifts, subscriptions, donations, etc., from the public offered for furthering the objects of the Society, and to start work as early as possible, during the intervening period, prior to the adoption of a permanent Constitution for the Society.

(4) This Meeting appeals to the Public and the Press to support this self-help and humanitarian movement, and authorises the President to forward the foregoing resolutions to the sympathisers with the objects of the Society.

Book Reviews

Tropical Medicine by Alfred C. Reed, M. D., Professor of Tropical Medicine within the George William Hopper Foundation for Medical Research of the University of California. Published by J. B. Lippincott Co., 16, John St., Adelphi, London.– Price 25/-

The need for fresh writings on diseases in the tropics is increasingly asserting itself for the reason of their importance in general medicine and more, for the valuable observations that are being made every day by investigators engaged in that field. Dr. Alfred C. Reed, M.D., has successfully attempted to bring out a neatly compiled handy edition of "Tropical Medicine in the United States" that is bound to be of great value to students of Tropical Medicine.

The author in his preface has defined tropical medicine as "Practice of medicine in hot climate which is not limited solely to those diseases peculiar to hot climate which are very few" and yet the book has not found a place for diseases like Enteric and Pneumonia that are profoundly modified by tropical conditions. The book does not claim to be an exhaustive treatise on tropical diseases, but that is just the reason that should commend itself to readers for the book has not omitted any of the salient and recent observations on the subject that are presented in a concise and readable form. For a student of the University who is being initiated into the medical study no very exhaustive discussions or possibilities are of any avail and as the author puts it "The vast literature of Tropical Medicine has been drawn on systematically but for purposes of practical use to the clinician rather than for thorough annotation." He further adds "Not a monographic or an exhaustive text book but a useful clinical pocket guide has been our aim." From this point of view the book should specially appeal to the university student. As a referance for a post graduate student or as a guide to a practitioner the book has its limitations. The purpose of the author again was to "Present a serviceable guide to the Physician in the United States in his contact with Tropical Medicine." In view of the above claim it is a bit difficult to explain the author's dealing with a wide spread disease like Filariasis in eight lines with reference

to its treatment as also others like amoebiasis in a far too meagre a manner with regard to treatment.

Dr. Reed has very correctly taken cognisance of the important contribution made at the School of Tropical Medicine at Calcutta as the Antimony test for the diagnosis of Kala Azar, the alkaline treatment of Malaria etc. Presumably the size of the book prevented the author from including some more of the more important treatment brought to light by the Tropical Indian Research Institutes such as the Vaccine treatment in Filariasis, Kurchi substitute for Emetine, the Phage treatment of Cholera etc.

Anyhow Dr. Reed's attempt to deal in a concise form the subject of Tropical Diseases is a refreshing change form the familiar substantial editions of Castellani, Manson Bahr, Stitt etc. The book should be received with greetings.—Dr. Iswariah M.B.B.S.

Bulletin No. 4 of 1929 from the Institute for Medical Research, Federated Malay States Kualalumpur.—Dr. C. Russel Amies, in this Bulletin, after reviewing the literature on the "Suspension-Stability of the Blood" or what is now known as "Erythrocyte Sedimentation," describes the original Technique employed by Rubino. This original Rubino Technique was found to be defective in that the strength of Formalin used for the standard sheep cell suspension, was capable of causing lysis of the cells. This naturally vitiated the results.

To remedy this defect, preliminary experiments with different strengths of Formalin were carried out. Ultimately it was found that a 6% solution was the best. The author then describes his own modification of the original Technique. He does not seem to have realised the value of using a graduated pippette as employed by Dr. Muir in his special technique. It is needless to say that the use of a graduated pippette renders the readings more accurate and facilitates comparison of the results obtained by different workers. In serological tests of this kind, which depend upon several variable factors, it is all the more essential that a standard uniform technique, giving, as far as possible, accurate results should be used.

While describing the nature of the controls kept for this experiment, the author, comments on the difficulty of classifying lepers. While he regards Dr. Muir's classification, as excellent for most purposes, he criticizes it on the ground that it fails to take into account the degree of tissue response to the invading organism. The Reviewer regrets he cannot lend his support to this view of the author. In the Reviewer's humble opinion, the author has failed to adequately grasp the fundamental basis of Dr. Muir's classification.

That Dr. Muir's classification is based only upon the degree of tissue response to the invading organism, will become evident when one considers the fact that the No. of M. Laprae present in a case, at any time, is largely determined by the natural resistance of the affected individual. The higher the natural resistance, the lesser is the No. of M leprae present. It is evident, then, that the No. of M leprae present in a case is by itself a true criterion of the natural resistance, or tissue response factor. Such being the case it is rather difficult to understand, how a classification based upon the natural resistance factor could be regarded as ignoring the tissue response to the invading organism. To render the classification more accurate, the actual phase of the disease, the patient is passing through, may be added. It is now well known that there are chiefly 3 phases of leprosy at any of its several stages (*viz.*) the quiescent, the Reacting and the Resolution. These terms are self expressive.

The use of different methods of classification, by different workers, on the same subject renders it very difficult, to compare their results.

Finally, analysing the results of the test, the author, very cautiously proceeds to assess the value of the test as a diagnostic means. He studiously avoids making any exaggerated claim for this test. The reviewer fully agrees with the author, in his views, concerning the utility of the Rubino Reaction, as a means of ascertaining the progress of a case under treatment and also as a criterion of the degree of tissue breakdown caused by the treatment. But he believes that the same information can be obtained by the much simpler technique of Dr. Muir, which requires no sheep cells suspension nor involves any tedious laboratory procedure, but only the blood of the patient, a graduated pippette with some citrated Saline, a test tube and two syringes and such simple appliances are all that are necessary. Further, the technique of Dr. Muir can be carried out in any mofussil dispensary or any small clinic, an advantage, not inconsiderable in a country like India, where laboratory facilities in the mofussil are almost nil.

The chief advantage of the use of formalinised sheep's cell suspension and the patient's serum, seems to be the elimination of the "Fibrinogen factor" in the Erythrocyte Sedimentation Test. For Research workers in Leprosy and for Serologists, the author's modified technique is a valuable help indeed. But, for the ordinary leper clinics and small asylums in this country, the technique of Dr. Muir, still remains as the easiest one.

The author has also carried out experiments to determine the actions of:—(i) Formaldehyde, (ii) Heat and (iii) acids and alkalies, on the Rubino Reaction. The results of these experiments,

have served to clear up a lot of misgivings about the influence of these factors, on the Erythrocyte Sedimentation.

Although the Reviewer cannot agree with the author's statement that a positive Rubino Reaction, affords an indication of the probable presence of Leprosy, still, he considers that a distinct contribution to the Serology of Leprosy, has been made by the author's modified Rubino Technique.—*Dr. G. R. Rao, D.T.M.*

Bulletin No. 5 of 1929 from "The Institute for Medical Research, Federated Malay States, at Kualalumpur." Observations on some factors influencing the Infectivity of Malarial Gamete carriers in Malaya to Anopheles maculatus.—It is a matter of common knowledge that only those who have mature Gametocytes (Sexual forms) of the Malarial parasites, in their blood, are capable of infecting the local carrier species of Anopheline mosquitoes. But it is not known with any certainty as to how many Gametocytes must be present in a C. M. M. of the blood before the mosquito can be infected. Does treatment with Quinine influence this infectivity? When is it safe to discharge a patient from the Hospital, after he has been treated for an attack of malarial fever? Does the infectivity date vary with the three species of malarial parasites? These are some of the questions which have not been satisfactorily answered so far. Dr. R. Green of the Malaria Research Division from the Institute for Medical Research, Kualalumpur, Federated Malay states, has attempted to answer these questions in this Bulletin.

It must be obvious to anyone, that, for a satisfactory answer to these questions, accurate and well controlled experiments with suitable cases are a prime essential. And Dr. Green, details in this Bulletin the various experiments carried out by him.

These experiments were carried out between February and August, 1929. Using Laboratory-bred, A. Maculatus, a proved readily transmitting species, and patients with fairly large numbers of gametocytes of any of the three species in their peripheral blood, the following data were obtained :—

(i) No. of Gametocytes—(a) per 100 leucocytes and (b) per C. M. M. of blood, by Sintins' fowl corpuscles method.

(ii) Proportion of male to female gametocytes and the proportion of young and abnormal forms.

(iii) Presence of Trophozoites and their relative proportion to Gametocytes,

(iv) History of previous quinine treatment--results checked by urine examination.

(v) The condition of the patient at the time of feeding.

(vi) Haemoglobin percentage; splenic enlargement and the blood group of patients selected for the experiments.

1130 mosquitoes, fed once only on these patients on 113 occasions, were disssected and examined on the 7th day for Oocysts and on the 16th to the 18th days for Oocysts and sporozoites. Of these mosquitoes, 890 or 77 % took a good blood meal—a very good testimony to their preference for human blood. 3·8 % of these fed mosquitoes died before dissection could be carried out. 847 of them were ultimately dissected and examined and the results tabulated.

Briefly stated, while cases which successfully infected the mosquitoes had an average No. of (i) 142·3 Gametocytes per C.M.M. of blood, in the case of P. vivax (B. T.), (ii) 97·5 in the case of P. malaria (Q) and (iii) 1281·0 in the case of (M.T.) Plasmodiun Falciparun, respectively, those that failed to infect the mosquitoes showed an average No. of (i) 177·3 Gametocytes per C.M.M. of blood in the case of B.T., (ii) 76·4 in the case of Quartan and (iii) 414·9 in the case of malignant tertian, respectively.

Except in the case of P. vivax (B.T.) no definite relationship was found between the sexes of the Gametocytes in the infective (positive) and Noninfective (negative) cases. In B.T. cases, excess of females over males, was found to lessen the infectivity to mosquitoes. In M.T. cases, with Gametocytes approaching the minimum infective limit, a high proportion of young or abnormal forms was found to lessen the infectivity. Fever in the host at the time of feeding appears to have had no appreciable effect on the infectivity. Concomitant presence of Trophozoites did not affect the infectivity of the Gametocytes. The Blood picture of the cases did not influence the infectivity, as anaemic patients were as infective as persons with normal Haemoglobin percentage.

No definite relationship was found to exist between the size of the spleen and the No. of Gametocyte carriers and this clearly proves that the spleen rate will not be of much use in survey work, as a criterion of the infectivity of the affected population towards the local anophelines. Neither a high leucocyte count, nor the blood group of the host had any effect whatever in his infectivity to mosquitoes.

As regards the influence of Quinine on the infectivity of patients, Dr. Green's findings may be summarised as follows:—

(1) Previous administration of the usual doses of Quinine, up to 24 hrs. prior to the feeding, did not affect the viability of P. vivax gametocytes. Probably, continued administration of quinine

may effect a rapid reduction in the no. of gametocytes so as to render quinine of some Epidemiological value.

(2) In the case of P. malaria or quartan, quinine administration up to 2 hrs. prior to the feeding by mosquitoes, did not affect viability of the gametocytes. Although a slightly longer period of treatment with quinine is considered necessary, still, the hope is expressed that quinine will have some Epidemiological value, even in infections with this species of the malarial parasites.

Adequate stress is laid upon the desirability of carrying out further Research work, to determine the Epidemiological value of quinine in B. T. and quartan infections at least. Until such work is completed, no minimum periods of treatment could be laid down.

(3) In the case of M. T. infections, 10 grs. of quinine, thrice a day, did not seem to influence, to any appreciable degree, the no. of gametocytes in the peripheral blood. The rate of reduction appeared to be very slow and irregular. Patients, receiving and absorbing full 30 grs. of quinine in a day, were still found to be infective to the mosquitoes, up to the 16th day, and quinine administration up to 2 hrs. prior to the mosquito feeding, did not affect the viability of the gametocytes.

The remaining pages are devoted to a discussion of the practical applications of the results observed. Taking the minimum no. of gametocytes, in a c. m. m. of the blood, for infectivity, as—10 for P.vivax, 27 for P. malaria and 42 for M. T. respectively what standard of blood examination is necessary to determine the infectivity, or otherwise, of a particular case? In answer to this question, the author suggests that no patient should be discharged from the hospital, until his thick blood films, taken on 3 alternate days and examined for 5 minutes each time by a competent observer shows no gametocytes.

But in the case of crescent carriers, (M. T. infections) a combination of 0.01 grms. of Plasmoquine with V grs. of quinine, per kilo of body weight, is recommended, in view of the well-known gametocyticidal effect of Plasmoquine on the crescents.

A false sense of security engendered by the so called complete courses of Quinine treatment rendering a patient uninfective, can no longer be justified, in view of the contrary results obtained by Dr. R. Green. And it is well that he has sounded a very valuable note of warning to all optimists who believe in the superior epidemiological value of Quinine.

Finally, Dr. Green deals with the very interesting question of the practicability of reducing infections by controlling the Gametocyte carriers. There is no gainsaying the fact that such a method is highly desirable, in view of the fact that Antilarval measures are comparatively costlier and more difficult to carry out in vast rural areas. The United Fruit Co. Ltd., in central America, seem to have already adopted this, as an anti malarial measure, as is evident from their insistence on every patient becoming gameto cyte-free, before discharge from hospital is permitted.

As in some parts of India, M. T. malaria seems to be prevalent throughout the year, in the F.M.S. also; and a tricoloured chart showing the presence of greater or lessor no. of potentially infective crescent carriers, throughout the year, is also appended. Similar charts for all the Endemic and Hyperendemic areas, in this country, not only showing crescent carriers, but also the carriers of the gametocytes of the other two species as well, are yet to be drawn up and the Reviewer hopes that some Research worker, in malaria, will do this, at no distant date.

Very instructive appendices, at the end of the Bulletin deal with :—

(i) The Technique of parasite counts and methods of staining blood fibres. (ii) Mosquito dissections. and (iii) The associated finding of interest in the mosquito dissections. A very interesting finding was the presence of Oocysts of both the tertians, in a batch of mosquitoes dissected, which were allowed to feed on a patient with the mixed B.T.&M.T. infection, showing the gametocytes of both, in his blood, Clinical experience will, of course, bear out this finding.

The Entomologist of the Institute, Mr. B. A. R. Gater, contributes an appendix dealing with the Technique of breeding in the Laboratory pure specimens of A maculatus and using such Laboratory-bred pure specimens in experimental work.

This Bulletin, the Reviewer regards, marks a definite contribution to the literature on malaria, as so many of its predecessors from the same Institute have done.

To Research workers in Malaria, to medical men of al classes and to those who are in any way concerned with Public Health administration, this Bulletion is a sine qua non. There is only one thing the Reviewer disagrees with, (viz)., the use of the term "Gametes" for the sexual forms of the parasites found in man. He would personally, in accordance with the rules of nomenclature in Protozoology, prefer to use this term, to denote the sexual forms found in mosquitoes. This comparatively insigni-

ficant mistake does not in any way detract from the merit of the report.

Lastly, a fairly comprehensive Bibliography, containing 40 references to original papers has added to the value of this Bulletin. Research-workers in malaria, are further indebted to the author of this Bulletin for the very valuable discussion of the work of previous observers in the field. Dr. R. Green's Report, in short, it is no exaggeration to say, is a model of what a Report on Malarial Research work should be.

As Dr. Green's conclusions are very important, they are given below, precisely as they appear in the Bulletin, for the information of the readers of *The Antiseptic*.

CONCLUSIONS

(i) A. maculatus, is susceptible to infection with P. falciparum and P. vivax; and is capable of transmitting both subtertian and Benign Tertian malaria. Oocysts, but no sporozoites were found in the case of P. malariae, and no conclusion is made regarding the transmission of Quartan malaria by this mosquito.

(ii) The stated minimum no. of gametes necessary to infect A. maculatus, may be regarded as a guide, in deciding whether a patient is capable of infecting this mosquito. Five minutes examination of a thick blood film from the patient, should be sufficient to determine this point.

(iii) Factors in the Gamete carrier, other than numerical, as described, taken singly or collectively, appear to be of little practical value when deciding whether a patient is infective to mosquitoes.

(iv) If a thorough microscopical examination of the blood is not possible, patients with sub-tertian malaria, while undergoing Quinine treatment, may be regarded as potentially infective of A maculatus up to the sixteenth day.

(v) The viability of the Gametes of P. falciparum is not affected by past or recent Quinine treatment. As distinct from reducing the no. of Gametes in the blood, it is somewhat doubtful whether in addition, Quinine affects the viability of the Gametes of P. vivax and P. malariæ.—*G.R.R.*

Preparations and Inventions

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Acknowledgements

HORLICKS'S MALTED MILK CALENDAR 1931

We acknowledge with thanks the receipt of a beautiful Calendar for 1931 issued by the Horlick's Malted Milk Co., Ltd. It is a highly coloured night scene from Akbar's life at Fatehpur Sikri, the episode in which, using the device of rainbow-coloured lights, Akbar sought to convey in this striking manner a lesson in statesmanship to representatives of the various races and religions of his vast Empire.

The picture portrays the ideal of a united and free India as an integral part of the British Empire that is to emerge from the efforts of the Round Table Conference and forestalls the dawn of an Era of good-will, co-operation and prosperity in the place of

distrust, disunion and trade depression witnessed during the unhappy year 1930 that had just ended.

We wish this calendar is kept in every home as a momento of the New Era of liberty for India that marks the New Yar 1931.

NESTLE'S AND ANGLO-SWISS CONDENSED MILK EXPORT CO'S CALENDAR FOR 1931..

We have received this excellent pictorial calendar for review and we take this opportunity of thanking the firm for this courtesy. In this calendar Lord Sri Krishna is depicted with this consorts, as partaking butter churned from fresh cow's milk and no more appropriate theme can be thought of to illustrate the nourishing qualities of 'Nestle's And Anglo-Swiss Condensed Milk'. It is really a calendar worthy of being hung up in the drawing room of every Indian to stimulate a strong and irresistable desire in him to feed this children always with fresh cow's milk or in its absence a pure substitute such as Nestles'.

NOTICE.

THE INTERNATIONAL HOSPITAL CONGRESS 1931 IN VIENNA.

There took place, a few days ago, under the presidency of Professor Dr. Tandler, Managing Town Councillor, the establishment of the executive committee for the Second International Hospital Congress. This important meeting in which physicians and hospital experts from all states of the world are to take part, will be held from 8 th to 14 th June 1931 at Vienna. Further, it was decided to arrange, concurrently with this Congress, a great International Hospital Exhibition. The Secretarial work as well as the management of the exhibition, which was initiated by the International Hospital Committee, has been entrusted to the Vienna Fair.

The official opening of the Congress will take place, on the 8th June, 1931, in the Court Palace (Hofburg), the sittings of the congress are to be held in the Fair Palace. It is hoped, on the part of the Congress manager, that the forthcoming Vienna meeting will be favoured by as numerous and distinguished an international attendance as the First International Hospital Congress, held in 1929 in Atlantic City.

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